International Customers

To place orders
Phone: +49 6221 13840-0
Fax: +49 6221 13840-10

Or contact your local distributor
For more information please visit www.serva.de

Customer Care
Phone: +49 6221 13840-47
Fax: +49 6221 13840-10

Technical Service
Phone: +49 6221 13840-44
Fax: +49 6221 13840-54
E-Mail: tech.service@serva.de

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German Customers

To place orders
Phone: 06221 13840-0
Fax: 06221 13840-10
Toll Free Phone: 0800 7378246
Toll Free Fax: 0800 7378247

Customer Care
Phone: 06221 13840-46
Fax: 06221 13840-10

Technical Service
Phone: 06221 13840-44
Fax: 06221 13840-54
E-Mail: tech.service@serva.de
Catalog 2018

That’s new
Our intention is to add innovative products to our portfolio constantly for your research needs:
• Protein extraction kits for rapid isolation of membrane, cytoplasmic and nuclear proteins from mammalian tissues and cells
• Cell-based assays for apoptosis and cell proliferation/viability like XTT or Sulforhodamine B
• Enzymes like recombinant PNGase F or Lysyl Endopeptidase
• Ultrapure reagents for UHPLC-MS analysis like acetonitrile and water
• Biochemicals for nucleic acid purification like recombinant Proteinase K or BlueZol for RNA isolation
• Electrophoresis gel and blot documentation: SERVA Musketeer is an all-in-one solution for UV/VIS, fluorescence and chemiluminescence applications

Our services
Benefit from SERVA’s expertise in development and manufacturing, know-how and technical competence. This is our platform of outstanding customer services – All you need to succeed:
• Educational: workshops, seminars, webinars
• Instrument qualification: IQ/OQ/PQ
• Sample-to-result development: customer specific gel electrophoresis applications
• Customized reagents: sourcing, larger pack sizes, production of buffers and solutions

About us
SERVA products are present in your labs worldwide - the bench is our playground. The company’s commitment „Serving Scientists“ is your invitation to the BlueWorld: explore our products, innovations and services. SERVA fulfills highest standards in quality management to deliver consistent product performance and continuity of supply. SERVA is ISO certified and committed to working safety and environmental protection.
### Acetic acid

**Acetic acid 100 % analytical grade**

(Glacial acetic acid)

C₂H₄O₂ • M 60.05 • CAS [64-19-7]

DANGER

H₂26-H₃14  GGVSE/ADR 8 II UN2789  IATA 8 II UN2789  EINECS 200-580-7

Assay (GC)

Density (20 °C)  1.05

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>45633.01</td>
<td>1 L</td>
<td></td>
</tr>
<tr>
<td>45633.02</td>
<td>2.5 L</td>
<td></td>
</tr>
</tbody>
</table>

### Acetic acid 100 % for LC-MS

CAS [64-19-7]

DANGER

H₂26-H₃14  EG-Index 607-002-00-6  GGVSE/ADR 8 II UN2789  IATA 8 II UN2789  EINECS 200-580-7  HS 29152100

Additive for eluent phase for LC-MS.

Assay (GC)

Refractive index (20 °C)  1.3711 - 1.3731

Water (KF)  ≤ 0.1 ppm

Residue on evaporation  ≤ 5 ppm

Transmittance

254 nm  min. 30.0 %

260 nm  min. 80.0 %

270 nm  min. 95.0 %

280 nm  min. 97.0 %

Metal Compounds

Al  max. 0.05 ppm

Fe  max. 0.2 ppm

Na  max. 0.5 ppm

Ca/K/Mg  max. 0.1 ppm

### Aceton

research grade

(2-Propanone; Dimethylketone)

C₃H₆O • M 58.08 • CAS [87-66-1]

DANGER

H₂25-H₃19-H₃36  EG-Index 606-001-00-8  GGVSE/ADR 3 II UN1090  IATA 3 II UN1090  EINECS 200-662-2

WGK 1 L  HS 29141100

Assay (GC)

Density (20 °C)

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<tbody>
<tr>
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### Acetonitrile for HPLC

C₂H₃N • CAS [75-05-8]

DANGER

H₂25-H₃02-H₃12-H₃19-H₃32  MAK/TRK 20 ml/m³; 34 mg/m³  EG-Index 608-001-00-3  GGVSE/ADR 3 II UN1648  IATA 3 II UN1648  EINECS 200-835-2  HS 29269070

Assay (GC)

Density (20 °C)  0.782 - 0.783

Absorbance

220 nm  max. 0.007 AU

254 nm  max. 0.005 AU

Fluorescence (quinine)

365 nm  max. 0.5 ppb

450 nm  max. 0.5 ppb

UHPLC gradient peak

210 nm  max. 0.2 mAU

Drift at 254 nm  max. 2 mAU

Test LC-MS TIC (50 – 2000 m/z)

ES (+)

Sensitive impurities (reserpine)  max. 30 ppb

Metal Compounds

Na/K/Ca  max. 50 ppb

Al/Fe/Mg  max. 20 ppb

Microfiltered, 0.1 µm

### Acetonitrile for UHPLC-MS

CAS [75-05-8]

DANGER

H₂25-H₃02-H₃12-H₃19-H₃32  EG-Index 608-001-00-3  GGVSE/ADR 3 II UN1648  IATA 3 II UN1648  EINECS 200-835-2  HS 29269070

Assay (GC)

Refractive index (20 °C)

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### N-Acetyl-D-glucosamine

research grade

(2-Acetamido-2-deoxy-D-glucose)

C₉H₁₅NO₆ • M 221.2 • CAS [10036-64-3]

EINECS 233-115-1  WGK 1  HS 29241900

Storage temperature +2 °C to +8 °C

Assay (HPLC)

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<tr>
<td>45634.02</td>
<td>2.5 L</td>
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### 2-Acetamido-2-deoxy-D-glucose

see 10290 N-Acetyl-D-glucosamine, page 2

### ABTS

see 14364 2,2'-Azinobis(3-ethylbenzthiazoline-6-sulfonic acid)-2NH₄-salt, page 15

www.serva.de
Acrylamide 2X
see 35072 SERVA Violet 17, page 137
see 21005 Eosin Y·Na-salt, page 49

Acid Red 87
see 33429 Ponceau S, page 98

Acid Red 14
see 14410 Azorubin, page 15

Acid Red 19
see 34597 Fuchsin acid, page 55

Acrylamide 2X research grade
C₃H₅NO·M · M, 71.1 · CAS [79-06-1]

DANGER
H301-H312-H315-H317-H339-H340-H350-H361f-H372 · Muta. 1B, Carc. 1B, Repr. 2 · MAK/TRK 0.03 mg/m³ · EG-Index 616-003-00-0 · GGVS/ADR 6.1 III UN3426 · IATA 6.1 III UN3426 · IATCA 6.1 III UN3426 · EINECS 217-173-7 · WGK 3L · HS 29241900

Storage temperature +2 °C to +8 °C

Quality of analytical grade, applicable to all electrophoresis techniques. Recrystallized. Polymerizing time: max. 30 min (3 mM TEMED / 3 mM APS, 15 % gel).

Assay (HPLC)
min. 99.0 %

A 290 nm
max. 0.5 (5 %)

pH
5.0 - 8.0 (5 %)

Conductivity (µS)
max. 20 (40 %)

Content of free acrylic acid
max. 0.002 %

Cat.No. Size
10674.02 100 g
10674.03 1 kg

Acrylamide 4X analytical grade
C₃H₅NO·M · M, 71.1 · CAS [79-06-1]

DANGER
H301-H312-H315-H317-H339-H340-H350-H361f-H372 · Muta. 1B, Carc. 1B, Repr. 2 · MAK/TRK 0.03 mg/m³ · EG-Index 616-003-00-0 · GGVS/ADR 6.1 III UN3426 · IATA 6.1 III UN3426 · IATCA 6.1 III UN3426 · EINECS 201-173-7 · WGK 3L · HS 29241900

Storage temperature +2 °C to +8 °C

Quality of analytical grade, applicable to all electrophoresis techniques. Recrystallized. Polymerizing time: max. 30 min (3 mM TEMED / 3 mM APS, 15 % gel).

Assay (HPLC)
min. 99.0 %

A 290 nm
max. 0.5 (5 %)

pH
5.0 - 8.0 (5 %)

Conductivity (µS)
max. 20 (40 %)

Content of free acrylic acid
max. 0.002 %

Cat.No. Size
10676.02 100 g
10676.03 1 kg

Acrylamide 4X molecular biology grade
C₃H₅NO·M · M, 71.1 · CAS [79-06-1]

DANGER
H301-H312-H315-H317-H339-H340-H350-H361f-H372 · Muta. 1B, Carc. 1B, Repr. 2 · MAK/TRK 0.03 mg/m³ · EG-Index 616-003-00-0 · GGVS/ADR 6.1 III UN3426 · IATA 6.1 III UN3426 · IATCA 6.1 III UN3426 · EINECS 201-173-7 · WGK 3L · HS 29241900

Storage temperature +2 °C to +8 °C

DNase and RNase: non-detectable. Special quality for use in molecular biological applications as well as all electrophoresis techniques.

Assay (GC)
min. 99.0 %

A 290 nm
max. 0.6 (5 %)

pH
5.0 - 8.0 (5 %)

Conductivity (µS)
max. 20 (40 %)

Content of free acrylic acid
max. 0.002 %

Cat.No. Size
10678.02 100 g
10678.03 1 kg

Acrylamide 4X Solution (40 % w/v)

DANGER
H302-H312-H315-H317-H339-H340-H350-H361f-H372 · Muta. 1B, Carc. 1B, Repr. 2 · GGVS/ADR 6.1 III UN3426 · IATA 6.1 III UN3426 · IATCA 6.1 III UN3426 · EINECS 201-173-7 · WGK 3 · HS 38220000

Storage temperature +2 °C to +8 °C

Solution contains 40 % (w/v) highly purified acrylamide in deionized water.

A 290 nm
max. 0.6 (5 %)

pH
6.0 - 8.0 (5 %)

Conductivity (µS)
max. 100

Content of free acrylic acid
max. 0.003 %

Cat.No. Size
10677.01 1 L

Acrylamide/Bis Solution, 19:1 (40 % w/v), 5 % C

DANGER
H302-H312-H315-H317-H339-H340-H350-H361f-H372 · Muta. 1B, Carc. 1B, Repr. 2 · GGVS/ADR 6.1 III UN3426 · IATA 6.1 III UN3426 · IATCA 6.1 III UN3426 · EINECS 201-173-7 · WGK 3 · HS 38220000

Storage temperature +2 °C to +8 °C

Solution of acrylamide and N,N'-methylene bisacrylamide (Bis) in deionized water. Convenient to use, reduced risk of neurotoxic acrylamide dust in the air. Applicable to all electrophoresis techniques.

A 290 nm
< 0.7 (5 %)

pH
6.0 - 8.0 (5 %)

Conductivity (µS)
< 100

Content of free acrylic acid
< 0.03 %

Cat.No. Size
10679.01 500 ml
10679.02 4 x 500 ml
10679.03 1 L
**Acrylamide/Bis Solution, 29:1 (30 % w/v), 3.3 % C**

![DANGER]

Muta. 1B, Carc. 1B, Repr. 2
GGVSE/ADR 6.1 II UN2811
IATA 6.1 III UN3426
WGK 3
HS 38220000
Storage temperature +2 °C to +8 °C

Solution of acrylamide and N,N'-methylene bisacrylamide (Bis) in deionized water. Convenient to use, reduced risk of neurotoxic acrylamide dust in the air. Applicable to all electrophoresis techniques.

- A 290 nm: < 0.7 (5 %)
- pH: 6.0 - 8.0 (5 %)
- Conductivity (µS): < 100
- Content of free acrylic acid: < 0.03 %

**Cat.No.** | **Size**
--- | ---
10687.01 | 500 ml
10687.02 | 4 x 500 ml
10687.03 | 1 L

---

**Acrylamide/Bis Solution, 29:1 (40 % w/v), 3.3 % C**

![DANGER]

Muta. 1B, Carc. 1B, Repr. 2
GGVSE/ADR 6.1 III UN3426
IATA 6.1 III UN3426
WGK 3
HS 38220000
Storage temperature +2 °C to +8 °C

Solution of acrylamide and N,N'-methylene bisacrylamide (Bis) in deionized water. Convenient to use, reduced risk of neurotoxic acrylamide dust in the air. Applicable to all electrophoresis techniques.

- A 290 nm: < 0.7 (5 %)
- pH: 6.0 - 8.0 (5 %)
- Conductivity (µS): < 100
- Content of free acrylic acid: < 0.03 %

**Cat.No.** | **Size**
--- | ---
10680.01 | 500 ml
10680.02 | 4 x 500 ml
10680.03 | 1 L

---

**Acrylamide/Bis Solution, 37.5:1 (30 % w/v), 2.6 % C**

![DANGER]

Muta. 1B, Carc. 1B, Repr. 2
GGVSE/ADR 6.1 III UN3426
IATA 6.1 III UN3426
WGK 3
HS 38220000
Storage temperature +2 °C to +8 °C

Solution of acrylamide and N,N'-methylene bisacrylamide (Bis) in deionized water. Convenient to use, reduced risk of neurotoxic acrylamide dust in the air. Applicable to all electrophoresis techniques.

- A 290 nm: < 0.7 (5 %)
- pH: 6.0 - 8.0 (5 %)
- Conductivity (µS): < 100
- Content of free acrylic acid: < 0.03 %

**Cat.No.** | **Size**
--- | ---
10688.01 | 500 ml
10688.02 | 4 x 500 ml
10688.03 | 1 L

---

**Actinase E**

See 30635 Pronase E from Streptomyces griseus min. 6.0 DMC-U/mg, page 100

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**Actinomycin D**

Crystal, research grade
(Dactinomycin, Actinomycin C)
CAS [50-76-0]

![DANGER]

H300
GGVSE/ADR 6.1 II UN2811
IATA 6.1 III UN3426
EINECS 200-063-6
WGK 3
HS 29419000
Storage temperature +2 °C to +8 °C

Chromopeptide with antibiotic activity. Contains 2 cyclic peptides bound to the chromophoric phenoxazone ring. Binds specifically to the minor groove of the DNA double helix, and thus prevents it from being a template for RNA synthesis. Antineoplastic agent which inhibits the growth of rapidly dividing cells. Induces apoptosis in cancer cells. Used as a selective agent in cell culture.

Purity: min. 95.0 %

**References:**

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**Activated Charcoal**

See 30890 Norit® A, page 90

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**Adaptor for Microtube Rotors 0.2 ml**

HS 84211970

Microtube adaptor for BlueSpin Mini and BlueSpin Cryo microcentrifuge.

**Cat.No.** | **Size**
--- | ---
10710.01 | 5 mg
10710.02 | 25 mg

---

**Adaptor for Microtube Rotors 0.5 ml**

HS 84211970

Microtube adaptor for BlueSpin Mini and BlueSpin Cryo microcentrifuge.

**Cat.No.** | **Size**
--- | ---
BS-A02 | 24 pieces

---

**Adenine**

Analytical grade
(6-Aminopurine)
CAS [135-13-1]

![DANGER]

H301
GGVSE/ADR 6.1 III UN2811
IATA 6.1 III UN2811
EINECS 200-796-1
WGK 1
HS 29335995

Assay (titr.) 98.0 - 102.0 %

**Cat.No.** | **Size**
--- | ---
10739.02 | 25 mg

---

**Adenosine**

Research grade
(9-β-D-Ribofuranosyladenine)
CAS [267-2.4]

![DANGER]

EINECS 200-389-9
WGK 1
HS 29389090

Assay (HPLC) min. 97.0 %
Water (Loss on drying) max. 0.5 %

**Cat.No.** | **Size**
--- | ---
10770.02 | 25 g
Ade PRODUCTS A - Z

**Adenosine-5'-diphosphate-Na₂-salt research grade**

(C₆H₁₀N₅O₇P·Na₂)₇H₂O · M 471.2 · CAS [16178-48-6]

EINECS 240-314-7  WGK 1  HS 29389090

Storage temperature -15 °C to -25 °C

WGK 1  EINECS 240-314-7  HS 29389090

Assay (HPLC) min. 98.0 %

ATP max. 1.0 %

Water (KF) max. 7.0 %

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<tr>
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<td>10800.03</td>
<td>5 g</td>
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**Adenosine-5'-phosphate-Na₂-salt analytical grade**

(C₆H₁₀N₅O₇P·Na₂)₇H₂O · M 551.2 · CAS [4578-31-8]

EINECS 224-961-2  WGK 1  HS 29389090

Storage temperature +2 °C to +8 °C

WGK 1  EINECS 224-961-2  HS 29389090

Assay (HPLC) min. 95.0 %

Water (KF) max. 25.0 %

<table>
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**Adenosine-5'-triphosphate-Na₂-salt cryst. research grade**

(C₆H₁₀N₅O₇P·Na₂)₇H₂O · M 551.1 · CAS [987-65-5]

EINECS 213-579-1  WGK 1  HS 29389090

Storage temperature -15 °C to -25 °C

WGK 1  EINECS 213-579-1  HS 29389090

Assay (HPLC) min. 95.0 %

Water (KF) max. 25.0 %

<table>
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<tr>
<td>10920.04</td>
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**Adhesive tape**

HS 39269097

33 m x 9 mm x 0.15 mm. Especially suitable as spacer in the preparation of thin layer gels using the flap technique.

<table>
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**Adogen 464**

see 37076 Trioctylenmethyamine chloride, page 168

**ADP**

see 10800 Adenosine-5'-diphosphate-Na₂-salt, page 5

**AEBSF-HCl research grade**

(C₈H₁₀FNO₂S·HCl)  M 239.7 · CAS [30827-99-7]

WGK 1  HS 29214900

Storage temperature +2 °C to +8 °C

Irreversible inhibitor of thrombin and other serine proteases (e.g. chymotrypsin, kallikrein, plasmin, proteinase K, trypsin). Inhibits by acylation of the active site of the enzyme. AEBSF is water-soluble and much less toxic than PMSF and DFP. Aqueous solutions are stable between pH 5 - 6; limited stability above pH 7.5.

Assay (HPLC) min. 98.0 %

References:
2. Marwardt, F. et al. (1973) Thrombosis Res. 2, 343-348

<table>
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**Agar Agar SERVA powder analytical grade**

CAS [8002-18-0]

EINECS 232-658-1  WGK 1  HS 13023100

Highly purified. Suitable for immunodiffusion.

Gel strength (g/cm², 1.5 % gel) min. 600

Point of solidification 39 - 43 °C

A 1 cm/1,5 % in water (60 °C) 430 nm max. 0.5

525 nm max. 0.45

Loss on drying max. 10.0 %

Ash max. 4.0 %

pH in water (60 °C) 6.0 - 7.0

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**Agar Agar SERVA High Gel-Strength powder research grade**

CAS [8002-18-0]

EINECS 232-658-1  WGK 1  HS 13023100

Choice quality for in vitro culture of plants or bacteriology, no turbidity with phosphates.

Gel strength (g/cm², 1.5 % gel) min. 700

Point of solidification 32 - 35 °C

A 1 cm/1,5 % in water (60 °C) 430 nm max. 0.2

525 nm max. 0.1

Loss on drying max. 10.0 %

Ash max. 4 %

pH 1.5 % in water (60 °C) 6.0 - 8.0

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<tr>
<td>11396.04</td>
<td>5 kg</td>
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**Agar Agar SERVA Kobe I in stripes, research grade**

CAS [9002-18-0]

EINECS 232-658-1  WGK 1  HS 13023100

Threadlike, bleached; tested for use in nutrient media.

Gel strength (g/cm², 1.5 % gel) > 400

Point of solidification 30 - 40 °C

A 1 cm/1,5 % in water (60 °C) 430 nm max. 0.5

525 nm max. 0.45

Loss on drying max. 25.0 %

Ash max. 6.5 %

pH 1.5 % in water (60 °C) 5.0 - 8.0

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**Agar Agar SERVA Kobe I powder, research grade**

CAS [9002-18-0]

EINECS 232-658-1  WGK 1  HS 13023100

Choice quality for bacteriology.

Gel strength (g/cm², 1.5 % gel) min. 800

Point of solidification 35 - 43 °C

A 1 cm/1,5 % in water (60 °C) 430 nm max. 0.5

525 nm max. 0.45

Loss on drying max. 15.0 %

Ash max. 1.5 %

pH 1.5 % in water (60 °C) 6.0 - 8.0

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**Agar Substitute**

see 22168 Gelrite®, page 57
**Aga**

**Agarose SERVA 3:1** molecular biology grade
CAS [9012-36-6]
EINECS 232-731-8 \(^*\) HS 39139000

Unique mixture of agarose formulated for high resolution of small (10 bp - 1000 bp) DNA, RNA and PCR fragments. High purity for low background. There is no need to weigh the agarose reducing the hands-on-time to < 1 min. Optimized gel strength for easy-to-handle gels. Special quality tested for applications in molecular biology. Manufactured using an innovative organic solvent-free manufacturing process.

- **Gelling temperature (1.5 %)**: max. 36 °C
- **Gel strength (1.5 %)**: min. 650 g/cm²
- **Electro endosmosis (EEO)**: ≤ 0.1

<table>
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<td>11385.02</td>
<td>100 g</td>
</tr>
</tbody>
</table>

**Agarose SERVA FastSolve Tablets, 0.5 g/Tablet**
CAS [9012-36-6]
EINECS 232-731-8 \(^*\) HS 39139000

Fast dissolving, multi-purpose agarose tablets delivered in a convenient blister pack. The tablets are made of standard melting point agarose for high resolution of DNA and RNA (100 bp – ≥ 30 kb) with high clarity and low background. Ideal for digestion by agarase enzymes, making it very easy to recover or to analyse large DNA fragments by cloning or other enzymatic applications. Special tested quality for applications in molecular biology.

- **Gelling temperature (1.5 %)**: 34 - 38 °C
- **Gel strength (1.5 %)**: > 1100 g/cm²
- **Electro endosmosis (EEO)**: 0.05 - 0.13

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>11407.01</td>
<td>200 tablets</td>
</tr>
</tbody>
</table>

**Agarose SERVA research grade**
CAS [9012-36-6]
EINECS 232-731-8 \(^*\) WGK 1 \(^*\) HS 39139000

Agarose with low EEO for analytical and preparative gel electrophoresis and blotting of DNA/RNA fragments > 500 bp. Highly efficient recovery of DNA fragments at low temperature for subsequent in-gel manipulations like restriction analysis or ligation reactions. Special quality tested for applications in molecular biology.

- **Gelling temperature (1.5 %)**: max. 31 °C
- **Gel strength (1.5 %)**: > 200 g/cm²
- **Electro endosmosis (EEO)**: 0.05 - 0.14

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
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<td>100 g</td>
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<td>11382.02</td>
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<tr>
<td>11382.03</td>
<td>500 g</td>
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</tbody>
</table>

**Agarose SERVA Wide Range** molecular biology grade
CAS [9012-36-6]
EINECS 232-731-8 \(^*\) HS 39139000

For analytical and preparative electrophoresis and blotting of DNA/RNA fragments between 250 and 23,000 bp, PCR products, preparation of plasmids, screening and cleaning. Tested for applications in molecular biology.

- **Gelling temperature (1.5 %)**: 34 - 39 °C
- **Gel strength (1.5 %)**: min. 1200 g/cm²
- **Electro endosmosis (EEO)**: ≤ 0.13

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
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<tbody>
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</tr>
<tr>
<td>11406.03</td>
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</table>

**Agarose SERVA for DNA Electrophoresis** research grade
CAS [9012-36-6]
EINECS 232-731-8 \(^*\) WGK 1 \(^*\) HS 39139000

For analytical and preparative electrophoresis of DNA fragments between 1000 and 20,000 bp. Each lot is tested for the absence of EcoRI inhibition.

- **Gelling temperature (1.5 %)**: 34 - 39 °C
- **Gel strength (1.5 %)**: min. 1700 g/cm²
- **Electro endosmosis (EEO)**: ≤ 0.13

<table>
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<tbody>
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<td>11404.07</td>
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<td>11404.05</td>
<td>1 kg</td>
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</table>

**Agarose SERVA Low Melting** research grade
CAS [9012-36-6]
EINECS 232-731-8 \(^*\) HS 39139000

For analytical and preparative nucleic acid electrophoresis of DNA/RNA fragments > 500 bp. Highly efficient recovery of DNA fragments at low temperature for subsequent in-gel manipulations like restriction analysis or ligation reactions. Special quality tested for applications in molecular biology.

- **Gelling temperature (1.5 %)**: max. 31 °C
- **Gel strength (1.5 %)**: > 1100 g/cm²
- **Electro endosmosis (EEO)**: 0.05 - 0.14

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
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<td>11406.02</td>
<td>25 g</td>
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</table>

**Agarose SERVA Premium** molecular biology grade
CAS [9012-36-6]
EINECS 232-731-8 \(^*\) WGK 1 \(^*\) HS 39139000

Manufactured using an innovative organic solvent-free manufacturing process. For efficient separation of DNA/RNA fragments > 500 bp, best for in-gel enzymatic processing like restriction analysis, ligation reactions, PCR and others. Ideal for digestion by agarase enzymes, making it very easy to recover or to analyse large DNA fragments by cloning or other enzymatic applications. Special tested quality for applications in molecular biology.

- **Gelling temperature (1.5 %)**: 24 - 28 °C
- **Gel strength (1.5 %)**: > 500 g/cm²
- **Electro endosmosis (EEO)**: ≤ 0.12

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
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<td>23 g</td>
</tr>
<tr>
<td>11382.02</td>
<td>100 g</td>
</tr>
</tbody>
</table>

**Agarose SERVA Premium Low Melting** molecular biology grade
CAS [9012-36-6]
EINECS 232-731-8 \(^*\) HS 39139000

For analytical and preparative gel electrophoresis of DNA/RNA fragments > 500 bp, recovery of DNA fragments for further modifications (restriction analysis, ligation reactions), blotting of nucleic acids. Special quality tested for applications in molecular biology.

- **Gelling temperature (1.5 %)**: 34 - 38 °C
- **Gel strength (1.5 %)**: > 200 g/cm²
- **Electro endosmosis (EEO)**: 0.05 - 0.14

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>11382.01</td>
<td>23 g</td>
</tr>
<tr>
<td>11382.02</td>
<td>100 g</td>
</tr>
</tbody>
</table>

www.serva.de
Agarose SERVA for PCR molecular biology grade
CAS [9012-36-6]
EINECS 232-731-8 | WGK 1 | HS 39139000
For analytical and preparative electrophoresis of PCR and DNA fragments > 40 bp and < 1000 bp; special quality tested for applications in molecular biology. High gel strength for better handling and enhanced visibility due to improved clarity of the gel.
Gelling temperature (1.5 %) 28 - 34 °C
Gel strength (1.5 %) > 600 g/cm²
Electro endosmosis (EEO) ≤ 0.12

Agarose SERVA for PCR Low Melting molecular biology grade
CAS [9012-36-6]
EINECS 232-731-8 | WGK 1 | HS 39139000
For analytical and preparative electrophoresis of PCR and DNA fragments > 40 bp and < 1000 bp. Special quality tested for applications in molecular biology. Best for fine resolution at agarose concentrations ranging from 1.8 % up to 4.5 %. Best for in-gel enzymatic processing. Ideal for digestion by agarase enzymes. Easy to recover small DNA fragments for subsequent analysis or for enzymatic modifications.
Gelling temperature (1.5 %) ca. 26 °C
Gel strength (1.5 %) > 200 g/cm²
Electro endosmosis (EEO) ≤ 0.10

Agarose SERVA High EEO
CAS [9012-36-6]
EINECS 232-731-8 | WGK 1 | HS 39139000
Special preparation for immunoelectrophoresis (esp. precipitation) with relatively high electroendosmosis and low gelling point.
Gelling temperature (1.5 %) 34 - 39 °C
Gel strength (1.5 %) > 1300 g/cm²
Electro endosmosis (EEO) 0.23 - 0.27

Agarose SERVA Standard EEO
CAS [9012-36-6]
EINECS 232-731-8 | WGK 1 | HS 39139000
Standardized preparation for most uses in electrophoresis, esp. for immunoelectrophoresis (immunodiffusion) and zone electrophoresis.
Gelling temperature (1.5 %) 34 - 38 °C
Gel strength (1.5 %) > 1100 g/cm²
Electro endosmosis (EEO) 0.16 - 0.19

Agarose SERVA Neutral for IEF
CAS [9012-36-6]
EINECS 232-731-8 | WGK 1 | HS 39139000
Premium grade for isoelectric focusing. Chemically treated agarose to neutralize residual negative charge sites, virtually eliminating electroendosmosis.
Gelling temperature (1.5 %) 36 - 43 °C
Gel strength (1.5 %) > 800 g/cm²
Electro endosmosis (EEO) 0

Agarose SERVA Tablets, 0.5 g/Tablet molecular biology grade
CAS [9012-36-6]
EINECS 232-731-8 | WGK 1 | HS 39139000
Agarose pressed into tablets of 0.5 g each. For analytical and preparative electrophoresis of DNA fragments between 200 and 20,000 bp. Special quality tested for applications in molecular biology.
There is no need to weigh the agarose. Just simply disperse the requested number of tablets in running buffer for 5 minutes at room temperature and then heat the suspension in a microwave until the material is dissolved.
The achieved gel volume per tablet for different agarose concentrations is listed below:

<table>
<thead>
<tr>
<th>% agarose</th>
<th>gel volume/tablet</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 %</td>
<td>100.0 ml</td>
</tr>
<tr>
<td>0.75 %</td>
<td>145.0 ml</td>
</tr>
<tr>
<td>1.0 %</td>
<td>200.0 ml</td>
</tr>
<tr>
<td>1.5 %</td>
<td>280.0 ml</td>
</tr>
<tr>
<td>2.0 %</td>
<td>320.0 ml</td>
</tr>
</tbody>
</table>

Agarose pressed into tablets of 0.5 g each.

Ala see 11482 L-Alanine, page 7
L-Alanine research grade, Ph. Eur.
CAS [9048-46-8]
Mr 89.1
C,H,N, O
Hydroxy acid produced by L-amino acid decarboxylase from pyruvic acid and ammonium ions. For use in bacteriology and tissue culture.
Assay (titr.) 98.5 - 101.0 %
Heavy metals (Pb) max. 10 ppm

References:
Alb

■ Albumin Bovine

cryst. lyophil.

(BSA)
M₇₀ ca. 67 000 • CAS [9048-46-8]
EINECS 232-936-2 • WGK 1 • HS 35029020
Storage temperature +2 °C to +8 °C

The purest form of our bovine albumins. Manufacturing includes a proprietary heat-shock fractionation process, ion exchange treatment and triple sequential crystallization, resulting in an extremely pure product. Best suited for use in highly sensitive systems requiring consistent protein background and as standard for protein quantification and molecular weight determination. As well used as hapten carrier for antibody production, as stabilisator of enzymes and other sensitive biopolymers and in diverse molecular biology applications. Crystal form simplifies handling and weighing.

<table>
<thead>
<tr>
<th>Assay (CAF)</th>
<th>pH (7 % in H₂O)</th>
<th>Moisture (KF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>min. 99.0 %</td>
<td>5.0 - 5.4</td>
<td>max. 5.0 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1 g</td>
</tr>
<tr>
<td>11920.05</td>
<td>5 g</td>
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<tr>
<td>11920.04</td>
<td>10 g</td>
</tr>
<tr>
<td>11920.06</td>
<td>50 g</td>
</tr>
</tbody>
</table>

■ Albumin Bovine Fraction V, pH 7.0

standard grade, lyophil.

(BSA)
M₇₀ ca. 67 000 • CAS [9048-46-8]
EINECS 232-936-2 • WGK 1 • HS 35029020
Storage temperature +2 °C to +8 °C

Manufactured by a proprietary heat-shock fractionation process, using caprylic acid as an albumin stabilizer. Standard quality for many applications: protein standard, growth promoter in serum-free media for the cultivation of animal cells, supplement in microbiological nutrient media, diluent/stabilizer in diagnostic systems and of isolated enzymes, peptides or antibodies as well as blocking agent to prevent non-specific absorption in immunoassays like Western Blots, ELISA systems.

<table>
<thead>
<tr>
<th>Assay (CAF)</th>
<th>pH (7 % in H₂O)</th>
<th>Moisture (KF)</th>
<th>IgG</th>
</tr>
</thead>
<tbody>
<tr>
<td>min. 98.0 %</td>
<td>6.8 - 7.2</td>
<td>max. 5.0 %</td>
<td>not detectable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
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<tr>
<td>11930.02</td>
<td>25 g</td>
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<tr>
<td>11930.03</td>
<td>100 g</td>
</tr>
<tr>
<td>11930.04</td>
<td>500 g</td>
</tr>
</tbody>
</table>

■ Albumin Bovine Fraction V, pH 5.2

standard grade, lyophil.

(BSA)
M₇₀ ca. 67 000 • CAS [9048-46-8]
EINECS 232-936-2 • WGK 1 • HS 35029020
Storage temperature +2 °C to +8 °C

Produced by a modification of the Cohn procedure, including a proprietary heat-shock method and further purification steps by extensive membrane dialysis and filtration. Suitable as protein standard, in ELISA and blotting techniques, as diluent/stabilizer in diagnostic systems and stabilizer for isolated enzymes, peptides or antibodies.

<table>
<thead>
<tr>
<th>Assay (CAF)</th>
<th>pH (10 % solution)</th>
<th>Protease</th>
</tr>
</thead>
<tbody>
<tr>
<td>min. 98.0 %</td>
<td>6.5 - 7.5</td>
<td>max. 0.005 U/mg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
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<td>25 g</td>
</tr>
<tr>
<td>11943.02</td>
<td>100 g</td>
</tr>
<tr>
<td>11943.03</td>
<td>500 g</td>
</tr>
</tbody>
</table>

■ Albumin Bovine Modified Cohn Fraction V, pH 5.2

lyophil.

(BSA)
M₇₀ ca. 67 000 • CAS [9048-46-8]
EINECS 232-936-2 • WGK 1 • HS 35029020
Storage temperature +2 °C to +8 °C

Produced by a modification of the Cohn procedure, including a proprietary heat-shock method and further purification steps by extensive membrane dialysis and filtration. Suitable as protein standard, in ELISA and blotting techniques, as diluent/stabilizer in diagnostic systems and as stabilizer for isolated enzymes, peptides or antibodies.

<table>
<thead>
<tr>
<th>Assay (CAF)</th>
<th>pH (10 % solution)</th>
<th>Protease</th>
</tr>
</thead>
<tbody>
<tr>
<td>min. 98.0 %</td>
<td>6.5 - 7.5</td>
<td>max. 0.005 U/mg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
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<tr>
<td>11924.02</td>
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</tr>
<tr>
<td>11924.03</td>
<td>100 g</td>
</tr>
<tr>
<td>11924.04</td>
<td>500 g</td>
</tr>
</tbody>
</table>

■ Albumin Bovine Modified Cohn Fraction V, pH 7.0

lyophil.

(BSA)
M₇₀ ca. 67 000 • CAS [9048-46-8]
EINECS 232-936-2 • WGK 1 • HS 35029020
Storage temperature +2 °C to +8 °C

Produced by a modification of the Cohn procedure, including a proprietary heat-shock method and further purification steps by extensive membrane dialysis and filtration. Suitable as protein standard, in ELISA and blotting techniques, as diluent/stabilizer in diagnostic systems and in serology and as stabilizer for isolated enzymes, peptides or antibodies.

<table>
<thead>
<tr>
<th>Assay (CAF)</th>
<th>pH (10 % solution)</th>
<th>Protease</th>
</tr>
</thead>
<tbody>
<tr>
<td>min. 98.0 %</td>
<td>6.5 - 7.5</td>
<td>max. 0.005 U/mg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
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<td>25 g</td>
</tr>
<tr>
<td>11943.02</td>
<td>100 g</td>
</tr>
<tr>
<td>11943.03</td>
<td>500 g</td>
</tr>
</tbody>
</table>

www.serva.de
Albumin Bovine Fraction V, Protease-Free lyophil.

(BSA)  
Mₐ ca. 67 000 CAS [9048-46-8]  
EINECS 232-936-2 WGK 1 HS 35029020  
Storage temperature +2 °C to +8 °C  
Manufactured by a proprietary heat-shock fractionation process; double heated to insure inactivation of proteolytic activity. Excellent for protease sensitive immunoassays, for stabilisation of proteins and enzymes in buffers and before lyophilization. Stabilizer for long-term storage of highly diluted antibodies. Blocking agent to prevent non-specific binding of proteins in immunoassays like Western Blots, ELISA systems.

Assay (CAF)  
Protease (Casein hydrolysis)  
min. 98.0 %  
pH (7 % in H₂O)  
6.8 - 7.2  
Moisture (KF)  
max. 5.0 %  
IgG  
not detectable

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
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</tr>
<tr>
<td>11926.03</td>
<td>100 g</td>
</tr>
<tr>
<td>11926.04</td>
<td>500 g</td>
</tr>
</tbody>
</table>

Albumin Bovine Fraction V, Fatty Acid-Free lyophil.

(BSA)  
Mₐ ca. 67 000 CAS [9048-46-8]  
EINECS 232-936-2 WGK 1 HS 35029020  
Storage temperature +2 °C to +8 °C  
Produced by a proprietary heat-shock/solvent fractionation process. Suitable for in vitro binding and transport studies and in diagnostic systems.

Assay (CAF)  
min. 98.0 %  
pH (7 % in H₂O)  
6.8 - 7.2  
Total lipids (mg/g)  
max. 2  
Fatty acids (mg/g)  
max. 0.2  
Moisture (KF)  
max. 5.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
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<tr>
<td>11932.02</td>
<td>25 g</td>
</tr>
<tr>
<td>11932.03</td>
<td>100 g</td>
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</tbody>
</table>

Albumin Bovine Fraction V, Protease and Fatty Acid-Free diagnostic grade, lyophil.

(BSA)  
Mₐ ca. 67 000 CAS [9048-46-8]  
EINECS 232-936-2 WGK 1 HS 35029020  
Storage temperature +2 °C to +8 °C  
Highly purified albumin, especially designed for protease-sensitive immunoassays, such as RIA and EIA. Suitable as protein standard, diluent, enzyme stabilizer. Can be used also in hybridization and nucleic acid based assays as well as in fatty acid sensitive cell culture systems.

Assay (CAF)  
min. 98.0 %  
pH (10 % in H₂O)  
6.5 - 7.5  
Protease  
max. 0.005 U/mg  
Fatty acids  
max. 0.01 %  
IgG  
not detectable

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
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<tr>
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<tr>
<td>11945.03</td>
<td>100 g</td>
</tr>
<tr>
<td>11945.04</td>
<td>500 g</td>
</tr>
</tbody>
</table>

Albumin Bovine Fraction V, pH 7.0 Life Science grade, lyophil.

(BSA)  
Mₐ ca. 67 000 CAS [9048-46-8]  
EINECS 232-936-2 WGK 1 HS 35029020  
Storage temperature +2 °C to +8 °C  
Highly purified albumin ideal for use in biotechnology, cell culture, diagnostics, research and other Life Science applications. First isolated by a proprietary heat shock/organic solvent process and further purified by non-solvent based methodologies to reduce IgG and endotoxins to very low levels. Contains > 90 % monomeric albumin that retains many of the binding, transfer and physical properties of native albumin.

Assay (CAF)  
pH (1 % in 0.15 NaCl)  
max. 98.0 %  
Moisture (Lod)  
max. 0.005 %  
Heavy metals  
max. 20 ppm  
IgG  
max. 0.01 %  
Mycoplasma  
not detected  
Viral agents  
not detected

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>11946.02</td>
<td>10 g</td>
</tr>
</tbody>
</table>

Albumin Bovine Fraction V, pH 7.0 microbiological grade, lyophil.

(BSA)  
Mₐ ca. 67 000 CAS [9048-46-8]  
EINECS 232-936-2 WGK 1 HS 35029020  
Storage temperature +2 °C to +8 °C  
Manufactured by a proprietary heat-shock fractionation process, using caprylic acid as albumin stabilizer. The product is furthermore solvent-treated and thoroughly diafiltered. Specially developed for the growth of leptospira, treponemas and other fastidious microorganisms such as mycobacteria, trypanosomes, other protozoans etc.

Assay (CAF)  
pH (7 % in H₂O)  
min. 98.0 %  
6.5 - 7.2

<table>
<thead>
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<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
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<tr>
<td>11934.02</td>
<td>25 g</td>
</tr>
<tr>
<td>11934.03</td>
<td>100 g</td>
</tr>
</tbody>
</table>

Albumin Bovine cell culture grade

(BSA)  
Mₐ ca. 67 000 CAS [9048-46-8]  
EINECS 232-936-2 WGK 1 HS 35029020  
Storage temperature -15 °C to -25 °C  
Cohn Analog = registered trademark of Proliant Biologicals, USA.

Assay (CAF)  
min. 96.0 %  
pH (10 % in H₂O)  
6.5 - 7.5  
Endotoxins  
max. 3 EU/mg

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
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<tr>
<td>47330.02</td>
<td>25 g</td>
</tr>
<tr>
<td>47330.03</td>
<td>100 g</td>
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</tbody>
</table>

Alb PRODUCTS A - Z
## Albumin Bovine Low Endotoxin biotechnology grade

**(BSA)**  
M<sub>c</sub>. ca. 67 000  
EINECS 232-936-2  
Storage temperature -15 °C to -25 °C  
Tested negative for mycoplasma and the bovine viruses BVD, IBR, P13, Adeno, Parvo, Rabies, Reo and Bluetongue, in accordance with 9 CFR 113. Suitable as growth promoter in serum-free media for the cultivation of animal cells and as supplement in microbiological media.

<table>
<thead>
<tr>
<th>Assay (CAF)</th>
<th>pH (7 % in H&lt;sub&gt;2&lt;/sub&gt;O)</th>
<th>Moisture (KF)</th>
<th>Endotoxin (LAL)</th>
<th>IgG</th>
<th>Cat. No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>min. 97.0 %</td>
<td>5.0 - 6.0</td>
<td>0 - 8.0 %</td>
<td>max. 10 EU/mg</td>
<td>not detectable</td>
<td>47321.01</td>
<td>25 g</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>47321.02</td>
<td>100 g</td>
</tr>
</tbody>
</table>

## Albumin Bovine Fraction V, Very Low Endotoxin lyophilised

**(BSA)**  
M<sub>c</sub>. ca. 67 000  
EINECS 232-936-2  
Storage temperature -15 °C to -25 °C  
Manufactured by a proprietary heat-shock fractionation process, using caprylic acid as an albumin stabilizer. The production process includes steps to ensure low endotoxin and IgG levels. Tested negative for mycoplasma and the bovine viruses BVD, IBR, P13, Adeno, Parvo, Rabies, Reo and Bluetongue, in accordance with 9 CFR 113. Especially designed as nutrient in serum-free cell culture media. Suitable in perfusion media for hormone response studies and as hapten carrier for antibody production.

<table>
<thead>
<tr>
<th>Assay (CAF)</th>
<th>pH (7 % in H&lt;sub&gt;2&lt;/sub&gt;O)</th>
<th>Moisture (KF)</th>
<th>Endotoxin (LAL)</th>
<th>Cat. No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>min. 98.0 %</td>
<td>6.8 - 7.2</td>
<td>max. 5.0 %</td>
<td>max. 2 EU/mg</td>
<td>47324.02</td>
<td>5 g</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>47324.03</td>
<td>25 g</td>
</tr>
</tbody>
</table>

## Albumin Bovine Fraction V, Very Low Endotoxin, Fatty Acid-free lyophilised

**(BSA)**  
M<sub>c</sub>. ca. 67 000  
EINECS 232-936-2  
Storage temperature -15 °C to -25 °C  
Manufactured by a proprietary heat-shock fractionation process, followed by treatment to lower fatty acids and lipids. The production process includes steps to ensure low endotoxin and IgG levels. Tested negative for mycoplasma and the bovine viruses BVD, IBR, P13, Adeno, Parvo, Rabies, Reo and Bluetongue, in accordance with 9 CFR 113. Especially designed as growth factor in albumin supplemented culture media for animal cells and microorganisms. Excellent growth medium supplement for hybridomas and the production of monoclonal antibodies. Suitable for in vitro binding and transport studies.

<table>
<thead>
<tr>
<th>Assay (CAF)</th>
<th>pH (7 % in H&lt;sub&gt;2&lt;/sub&gt;O)</th>
<th>Total lipids (mg/g)</th>
<th>Fatty acids (mg/g)</th>
<th>Moisture (KF)</th>
<th>Endotoxin level (LAL)</th>
<th>Cat. No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>min. 98.0 %</td>
<td>6.8 - 7.2</td>
<td>max. 2</td>
<td>max. 0.2</td>
<td>max. 5.0 %</td>
<td>max. 2 EU/mg</td>
<td>47299.02</td>
<td>1 g</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>47299.03</td>
<td>5 g</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>47299.04</td>
<td>25 g</td>
</tr>
</tbody>
</table>

## Albumin Bovine, 30 % Solution, Polymer Enhanced

**(BSA)**  
M<sub>c</sub>. ca. 67 000  
WGK 1  
HS 35029020  
Storage temperature +2 °C to +8 °C  
Higher avidity exclusively controlled through pure albumin polymerisation. Does not contain artificial avidity enhancers or high molecular weight aggregation potentiators (e.g., PVP, gum acacia, or dextran). Does not contain caprylic acid or other stabilizers. IgG not detectable. Suitable as diluent/stabilizer in various RIA and EIA test systems, for various serological reagents, and for cross-matching procedures and antibody screening or titration.

<table>
<thead>
<tr>
<th>Protein (Bluret)</th>
<th>pH</th>
<th>NaCl (coulometric titrator)</th>
<th>Preservative (sodium azide)</th>
<th>Cat. No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 - 31 g/dL</td>
<td>7.2 - 7.4</td>
<td>0.6 - 0.7 g/dL</td>
<td>0.08 - 0.12 g/dL</td>
<td>11937.02</td>
<td>100 ml</td>
</tr>
</tbody>
</table>

## Albumin Egg lyophilised

**(Ovalbumin)**  
M<sub>c</sub>. ca. 45 000  
HS 35021110  
Storage temperature -15 °C to -25 °C  
Suitable as cell culture supplement that functions as a carrier protein for fatty acids, growth factors, trace minerals and protects cells from damage both physically and by binding toxins. Diluent/stabilizer for antisera, enzymes, and sensitive biopolymers in order to maintain particular properties. Each lot is tested and found to be negative for antibodies to HIV-1, HIV-2, HCV, HTLV-1, HTLV-2 and HBsAg, for syphilitic serology and for HIV-1 and HCV RNA.

<table>
<thead>
<tr>
<th>Total protein</th>
<th>HSA purity</th>
<th>pH (10 % in H&lt;sub&gt;2&lt;/sub&gt;O)</th>
<th>Cat. No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 92.0 %</td>
<td>&gt; 97.0 %</td>
<td>6.5 - 7.4</td>
<td>11841.01</td>
<td>1 g</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11841.02</td>
<td>5 g</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11841.03</td>
<td>25 g</td>
</tr>
</tbody>
</table>

## Albumin Human lyophilised

**(HSA, Human serum albumin)**  
M<sub>c</sub>. ca. 67 000  
EINECS 278-333-8  
WGK 1  
HS 35029020  
Storage temperature +2 °C to +8 °C  
Especially designed as growth factor in albumin supplemented culture media for animal cells and microorganisms. Excellent growth medium supplement for hybridomas and the production of monoclonal antibodies. Suitable for in vitro binding and transport studies.

<table>
<thead>
<tr>
<th>Total protein</th>
<th>HSA purity</th>
<th>pH (10 % in H&lt;sub&gt;2&lt;/sub&gt;O)</th>
<th>Cat. No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 92.0 %</td>
<td>&gt; 97.0 %</td>
<td>6.5 - 7.4</td>
<td>11877.01</td>
<td>1 g</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11877.02</td>
<td>5 g</td>
</tr>
</tbody>
</table>

## Alcian Blue 8 GS

**(Alcian Blue 8GX)**  
C.I.74240  
EINECS 278-333-8  
WGK 2L  
HS 32041900  
Copper phthalocyanine dye. Stain for glycoproteins in electron microscopy (1). In electrophoresis (2, 3). For determination of glycosaminoglycans (4, 5). Higher avidity exclusively controlled through pure albumin polymerisation. Does not contain artificial avidity enhancers or high molecular weight aggregation potentiators (e.g., PVP, gum acacia, or dextran). Does not contain caprylic acid or other stabilizers. IgG not detectable. Suitable as diluent/stabilizer in various RIA and EIA test systems, for various serological reagents, and for cross-matching procedures and antibody screening or titration.

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>11841.01</td>
<td>1 g</td>
</tr>
<tr>
<td>11841.02</td>
<td>5 g</td>
</tr>
<tr>
<td>11841.03</td>
<td>25 g</td>
</tr>
</tbody>
</table>

## Aliquat® 336

see 37076 Triocetylmethylammonium chloride, page 168
Alkaline Phosphatase from calf intestine

**CA. 3000 U/mg protein (ca. 60 U /μl) solution**

(Orthophosphoric monoester phosphohydrolase (alkaline optimum))

EC 3.1.3.1. • M. ca. 140 000

**DANGER**

H334 • WGK 1 • HS 3507900

Storage temperature -2 °C to +8 °C

Especially suitable for the preparation of EA-conjugates. Further dialysis is unnecessary (1). In 50 % glycerol, containing 5 mM Tris, 5 mM MgCl₂, 0.1 mM ZnCl₂, pH 7.0.

**Unit definition**: 1 U catalyzes the hydrolysis of 1 μmole of 4-nitrophenil phosphate per minute at 37 °C, pH 9.8 (DEA buffer) (6).

**Activity in other units**: ca. 1100 U/mg at 25 °C, pH 9.6 (glycine buffer)

**Substrates for Alkaline Phosphatase**:

- 4-Nitrophenyl phosphate·Na₂-salt (cat.no. 30770)
- Phenolphthalein diphosphate·Na₄-salt (cat.no. 32050)
- Naphthol-AS-MX-phosphate (cat.no. 30002)
- Naphthol-AS-BI-phosphate (cat.no. 29988)
- 5-Bromo-4-chloro-3-indoxyl-phosphate-p-toluidine-salt (BCIP)
- N-(2-Aminoethyl)-benzenesulfonic acid hydrochloride (Tricaine; MS 222)
- Iron
- Chelating agents (e.g. EDTA, EGTA)

**For anesthetization of fish and other cold-blooded animals.**

**Assay (HPLC)**

min. 99.9 %

**References**:


Alu-Gel-S suspension research grade sterile

(Aluminum hydroxide C₁ᵥ)

HS 29183000

Ph. Eur. 1.3 % in water. Pyrogen free (as assayed in the supernatant), aged, salt-free.

**Aluminum content**: 5.9 - 7.1 mg/ml

**Iron**: max. 15 ppm

**References**:


Aluminium silicate

see 14515 Bentonite-SF, page 16

Amido Black 10 B

(Acid Black 1; Naphthalene Black B; Naphthol Blue Black B; Buffalo Black NBR)

C₁₁H₉N₂O₃S·Na₂ • M. 616.5 • CAS [60-32-2] • EINECS 212-956-8

For irreversible protein staining on membranes and for protein quantification of solutions containing detergents.

**λ max.** (0.001 % in H₂O) 620 ± 4 nm

**References**:


Amidosulfobetaine-14

see 20757 ASB-14, page 14

Amidosulfobetaine-16

see 20758 ASB-16, page 14

2-Amino-2-(hydroxymethyl)-1,3-propanediol

see 37180 Tris(hydroxymethyl)aminomethane, page 169

2-Amino-2-(hydroxymethyl)-1,3-propanediol

see 37181 Tris(hydroxymethyl)aminomethane, page 169

5-Amino-2,3-dihydro-1,4-phthalazinedione

see 28085 Luminol, page 77

**L-2-Amino-3-(indolypropionic acid)**

see 37422 L-Tryptophan, page 172

**L-2-Amino-3-methylbutyric acid**

see 38064 L-Valine, page 174

**L-2-Amino-5-ureido valeric acid**

see 17311 L-Citrulline, page 33

**6-Amino-n-hexanoic acid**

see 12548 e-Aminocaproic acid, page 11

**3-Aminobenzoic acid ethyl ester-methanesulfonate pure**

Highly active inhibitor of fibrinolysin and chymotrypsin (1). Plasmin inhibitor in fibrinogen determinations (2). As well suitable as sample buffer component for Blue Native and Clear Native PAGE and component of semi-dry blotting buffer.

**References**:


**D(-)-α-aminoethylpenicillin**

see 13398 Ampicillin-Na-salt, page 13

**e-Aminocaproic acid analytical grade**

(6-Amino-n-hexanoic acid)

C₆H₁₃NO₂ • M 131.2 • CAS [866-32-2] • EINECS 200-469-3 • WGK 1 • HS 29225000

**References**:


**4-(2-Aminomethyl)benzene sulfonloy fluoride hydrochloride**

see 12745 AEBSF-HCl, page 5

**4-(2-Aminomethyl)benzenesulfonylfluoride-HCl**

see 31682 PEFABLOC® SC, page 93
### Ammonium acetate

**molecular biology grade**

C$_2$H$_7$NO$_2$  | CAS [631-81-8]

Ammonium acetate can be used instead of sodium acetate for precipitation of nucleic acids. In general, for precipitation of DNA a 7.5 M stock solution and for RNA a 3 M stock solution are used. DNase/RNase not detected.

Assay (ltr.) min. 97.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39750.01</td>
<td>500 g</td>
</tr>
</tbody>
</table>

#### Ammonium acetate solution, 7.5 M

**molecular biology grade**

C$_2$H$_7$NO$_2$  | CAS [631-81-8]

7.5 M stock solution (ammonium acetate, cat. no. 39750: 578.1 g/l) for precipitation of DNA. Short oligonucleotides and free dNTPs do not coprecipitate with DNA when precipitated with NH$_4$OAc. Two consecutive precipitation steps are enough to remove 99 % of free dNTPs. DNase/RNase not detected.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39750.01</td>
<td>500 g</td>
</tr>
</tbody>
</table>

### Ammonium chloride

**molecular biology grade**

NH$_4$Cl  | CAS [12125-02-9]

WARNING

H302-H319

Assay (ltr.) min. 99.5 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39751.01</td>
<td>1 L</td>
</tr>
</tbody>
</table>

### Ammonium formate for LC-MS

CAS [540-69-2]

WARNING

H302-H315-H335

Additive for eluent phase for LC-MS.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39752.01</td>
<td>500 g</td>
</tr>
</tbody>
</table>

### Ammonium sulfate

**molecular biology grade**

(NH$_4$)$_2$SO$_4$  | CAS [7783-20-2]

DNase/RNase not detected.

Assay (ltr.) min. 99.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39753.02</td>
<td>1 kg</td>
</tr>
</tbody>
</table>

### Ammonium molybdate

**analytical grade**

(NH$_4$)$_6$Mo$_7$O$_24$·4H$_2$O  | CAS [12054-85-2]

WARNING

H302

Suitable for the determination of phosphate and arsenate.

Assay (ltr.) 1.0 - 8.30 % as MoO$_3$

Phosphate max. 0.0005 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>13370.01</td>
<td>100 g</td>
</tr>
</tbody>
</table>

### Ammonium persulfate

**analytical grade**

(APS; Ammonium peroxodisulfate)

(NH$_4$)$_2$S$_2$O$_8$  | CAS [7727-54-0]

DANGER


For use in electrophoresis. Polymerisation catalyst. Oxidizing agent of copper, for separation of manganese und chrome.

Assay (ltr.) min. 99.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>13375.01</td>
<td>50 g</td>
</tr>
<tr>
<td>13375.05</td>
<td>250 g</td>
</tr>
</tbody>
</table>

### Ammonium persulfate

**electrophoresis grade**

(APS; Ammonium peroxodisulfate)

(NH$_4$)$_2$S$_2$O$_8$  | CAS [7727-54-0]

Polymerisation catalyst for acrylamide/bisacrylamide polymerisation. Application proved for standard and high resolution electrophoresis techniques.

Assay (ltr.) pH 5 % in water min. 99.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>13376.01</td>
<td>50 g</td>
</tr>
<tr>
<td>13376.02</td>
<td>250 g</td>
</tr>
</tbody>
</table>

### Ammonium persulfate

**analytical grade**

(NH$_4$)$_2$SO$_4$  | CAS [7783-20-2]

Suitable for enzymology.

Assay (ltr.) min. 99.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>13378.01</td>
<td>1 kg</td>
</tr>
</tbody>
</table>

### Ammonium sulfate

**analytical grade**

(NH$_4$)$_2$SO$_4$  | CAS [7783-20-2]

Suitable for enzymology.

Assay (ltr.) min. 99.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39753.02</td>
<td>1 kg</td>
</tr>
</tbody>
</table>

### AMP

see 10883 Adenosine-5’-phosphate-Na$_2$-salt, page 5

### Ampholytes

see 42902 SERVALYT®-2-4, page 143
- **Ampicillin Na-salt**
  - Molecular biology grade, Ph. Eur.
  - Semi-synthetic derivative of penicillin.
  - D(-)-aminophenylacetamido[penicillanic acid; D(-)-aminobenzylpenicillin](6-[D(-)-aminophenylacetamido]penicillanic acid; D(-)-aminobenzylpenicillin)
  - Formula: C_{16}H_{18}N_{3}O_{4}S·Na
  - Mr: 371.4
  - CAS: [69-52-3]
  - WGK 1
  - EINECS 200-708-1
  - DANGER
  - H317-H334
  - WARNING
  - H302-H373
  - HS 29053100
  - Contains 0.17 g L-aspartic acid and 0.18 g L-glutamic acid in 50 ml water.
  - Recommended for general use with SERVALYT G
  - Anode Fluid 3 for IEF

- **Ampicillin trihydrate**
  - Research grade, Ph. Eur.
  - Semi-synthetic derivative of penicillin.
  - D(-)-aminophenylacetamido[penicillanic acid; D(-)-aminobenzylpenicillin]
  - Formula: C_{16}H_{18}N_{3}O_{4}S·3H_{2}O
  - Mr: 403.5
  - CAS: [7177-48-2]
  - WGK 1
  - EINECS 200-709-7
  - DANGER
  - H317-H334
  - WARNING
  - H302-H373
  - HS 29053100
  - Semi-synthetic derivative of penicillin. Inhibitor of cell wall synthesis in E. coli. Soluble 1 part in 150 parts H_{2}O as well as in diluted acids and bases, insoluble in alcohol.
  - Assay (Bltr.): 96.0 - 100.5 %
  - References:
    41, 457-63

- **Anneurin**
  - see 36020 Thiamine-HCl, page 166

- **Anion Exchangers**
  - see 41010 DOWEX® 1×2 (50-100 mesh), page 46

- **Annexin V-AP Apoptosis Detection Kit**
  - HS 38220000
  - Storage temperature +2 °C to +8 °C
  - Annexins are a family of calcium-dependent phospholipid-binding proteins, which bind to phosphatidylserine (PS). Externalization of phosphatidylserine residues in the outer plasma membrane of apoptotic cells allows detection via Annexin V. Once the apoptotic cells are bound with labelled Annexin V, they can be visualized with fluorescent microscopy or cytometry.
  - Since loss of membrane integrity is a pathognomonic feature of necrotic cell death, necrotic cells will stain with specific membrane-impermeant nucleic acid dyes such as propidium iodide. The membrane integrity of apoptotic cells can be demonstrated by the exclusion of these dyes.
  - Content: 500 μl Annexin V-AP, 50 ml 10x Binding Buffer, 500 μl propidium iodide

- **Annexin V-Biotin Apoptosis Detection Kit**
  - HS 38220000
  - Storage temperature +2 °C to +8 °C
  - Annexins are a family of calcium-dependent phospholipid-binding proteins, which bind to phosphatidylserine (PS). Externalization of phosphatidylserine residues in the outer plasma membrane of apoptotic cells allows detection via Annexin V. Once the apoptotic cells are bound with labelled Annexin V, they can be visualized with fluorescent microscopy or cytometry.
  - Since loss of membrane integrity is a pathognomonic feature of necrotic cell death, necrotic cells will stain with specific membrane-impermeant nucleic acid dyes such as propidium iodide. The membrane integrity of apoptotic cells can be demonstrated by the exclusion of these dyes.
  - Content: 500 μl Annexin V-Biotin, 50 ml 10x Binding Buffer, 500 μl propidium iodide

- **Annexin V-FITC Apoptosis Detection Kit**
  - HS 38220000
  - Storage temperature +2 °C to +8 °C
  - Annexins are a family of calcium-dependent phospholipid-binding proteins, which bind to phosphatidylserine (PS). Externalization of phosphatidylserine residues in the outer plasma membrane of apoptotic cells allows detection via Annexin V. Once the apoptotic cells are bound with labelled Annexin V, they can be visualized with fluorescent microscopy or cytometry.
  - Since loss of membrane integrity is a pathognomonic feature of necrotic cell death, necrotic cells will stain with specific membrane-impermeant nucleic acid dyes such as propidium iodide. The membrane integrity of apoptotic cells can be demonstrated by the exclusion of these dyes.
  - Content: 500 μl Annexin V-FITC, 50 ml 10x Binding Buffer, 500 μl propidium iodide

- **Anti-Corrosive Additive, 4x concentrated**
  - WARNING
  - HS 39392.03
  - Contains 0.17 g L-aspartic acid and 0.18 g L-glutamic acid in 50 ml water.
  - Recommended for general use with SERVALYT® PRECOTES®

- **Anopheles**
  - see 39901 DOWEX® 1×2 (50-100 mesh), page 46

- **Anode Fluid 3 for IEF**
  - HS 38220000
  - Storage temperature +2 °C to +8 °C
  - Contains 0.17 g L-aspartic acid and 0.18 g L-glutamic acid in 50 ml water.
  - Recommended for general use with SERVALYT® PRECOTES®
**Applicator Strips 2 x 3.5**

HS 39269097

19 slots, 100 mm long.
For sample application using flat bed techniques with gel layers of up to 0.5 mm thickness. Silicone rubber, length 100 x 6 x 1 mm, 19 sample slots: 2 x 3.5 mm, distance of slots: 3 mm, sample volume 5 - 10 µl.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>42914.01</td>
<td>6 pieces</td>
</tr>
</tbody>
</table>

**Applicator Strips 3.5 x 2**

HS 39269097

43 slots, 240 mm long.
For sample application using flat bed techniques with gel layers of up to 0.5 mm thickness. Silicone rubber, length 240 x 6 x 1 mm, 43 sample slots: 3.5 mm x 2 mm, distance of slots: 2 mm, sample volume 5 - 10 µl.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>42899.01</td>
<td>3 pieces</td>
</tr>
</tbody>
</table>

**Applicator Strips 3.5 x 2**

HS 39269097

15 slots, 100 mm long.
For sample application using flat bed techniques with gel layers of up to 0.5 mm thickness. Silicone rubber, length 100 x 6 x 1 mm, 15 sample slots: 3.5 x 2 mm, distance of slots: 3 mm, sample volume 5 - 10 µl.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>42915.01</td>
<td>6 pieces</td>
</tr>
</tbody>
</table>

**Applicator Strips Kit**

HS 39269097

Contains 1 each of cat. nos. 42899, 42899, 42914, 42915

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>42937.02</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

**Aprotinin from bovine lung**

(Trypsin inhibitor from bovine lung; Trasylol®)

Mₐ ca. 6500

Activity in other units: min. 3 Ph. Eur. Units (PEU)/mg, based on dried substance.

Purity (HPLC) min. 98.0 %

References:

**ARALDITE® Accelerator DY 964**

see 36975 2,4,6-Tris(dimethylaminomethyl)phenol, page 169

**ARALDITE® CY 212**

see 13825 Renlam® M-1, page 114

**L-Arginine base**

(Arg L-2-Amino-5-guanidinovaleric acid)

C₆H₁₄N₄O₂ • M 174.2 • CAS [74-79-3]

WARNING
H319 • EINECS 200-811-1 • WGK 1L • HS 29224985

Assay (titr.) 1 IU (inhibitor unit) inhibits 1 U trypsin as defined by in vitro inhibition of fibrinolytic activity in blood samples (1).

Activity in other units: min. 98.0 %

Heavy metals (Pb) max. 10 ppm

<table>
<thead>
<tr>
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<th>Size</th>
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</thead>
<tbody>
<tr>
<td>13909.03</td>
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<td>13909.02</td>
<td>100 g</td>
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</table>

**L-Arginine-HCl**

(Arg HCl, L-2-Amino-5-guanidinovaleric acid hydrochloride)

C₆H₁₄N₄O₂ • HCl • M 210.7 • CAS [1119-34-2]

EINECS 214-275-1 • WGK 1 • HS 29224985

Assay (titr.) 98.5 - 101.0 %

Heavy metals (Pb) max. 10 ppm

<table>
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**ASB-14 research grade**

(Amidossulfobetaine-14; 3-[N,N-Dimethyl-3-myristoylaminopropylammonio]propanesulfonate)

HS 34021900

Zwitterionic detergent. Useful for solubilizing proteins for 2D analysis. ASB-14 shows better protein solubilization properties than CHAPS, by which the identification of previously undetected membrane proteins was enabled.

CMC 8 mM (20 – 25 °C)

Purity (HPLC) min. 98.0 %

References:

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**ASB-16 research grade**

(Amidossulfobetaine-16; 3-[N,N-Dimethyl-N-(3-palmitamidopropyl)ammonio]propane-1-sulfonate)

HS 34021900

Zwitterionic detergent. Useful for solubilizing proteins for 2D analysis. ASB-16 shows better protein solubilization properties than CHAPS and in some cases than ASB-14, resulting in improved detection of membrane proteins by 2D electrophoresis.

CMC 8 mM (20 – 25 °C)

Assay (HPLC) min. 98.0 %

References:

<table>
<thead>
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<th>Size</th>
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<tr>
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<tr>
<td>20758.01</td>
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ASB-C7BzO research grade
(C7BzO: 3-(4-Heptyl)phenyl-3-hydroxypropyl-dimethylammoniopropanesulfonate; 3-(4-Heptylphenyl-3-hydroxypropyl(dimethyiammoniumsulfobetaine) HS 34021900
Zwitterionic detergent. Useful for solubilizing and stabilizing integral membrane proteins by disrupting aggregates. Especially well-suited to protein extraction for proteomic applications.
Assay (HPLC) min. 96.0 %
References:

L-Ascorbic acid cryst. research grade, Ph. Eur.
(Vitamin C)
C6H7O6·Na Mr ca. 176.1 EINECS 200-735-9
Inhibitor of β-N-acetylaminoaminidase (1).
Assay (titr.) min. 99.0 - 100.5 %
[a] 20 °C/D (c=10 % in water) +20.5 ° to + 21.5 °
Heavy metals (Pb) max. 10 ppm
References:

L-Ascorbic acid-Na-salt research grade, Ph. Eur.
(Sodium-L(+)-ascorbate)
C6H7O6·Na Mr 188.1 EINECS 200-291-6
Inhibitor of l-lactase and β-galactosidase (1).
Assay (titr.) 99.0 - 101.0 %
Heavy metals (Pb) max. 10 ppm

L-Asparagine·monohydrate research grade, Ph. Eur.
(Asn; L-2-Aminosuccinic acid)
C4H8N2O3·H2O Mr 133.1 EINECS 250-396-6
Min. 60 000 IU/g. Main component Bacitracin A. Bactericidal activity requires divalent cations like Zn++ (1); peptide antibiotic; inhibitor of peptidoglycan synthesis.

L-Aspartic acid research grade, Ph. Eur.
(Asp; L-Aminosuccinic acid; L-2-Aminobutenedioic acid)
C4H7NO4 Mr 176.1 CAS [3567-69-9]
Ph. Eur.
Assay (titr.) 98.5 - 101.5 %
Heavy metals (Pb) max. 10 ppm

ATP
see 10920 Adenosine-5’-triphosphate-Na+-salt, page 5

Aureolic acid
see 29803 Mithramycin A, page 84

Auxins
see 26181 Indole-3-acetic acid, page 71

Avicel PH 101®
see 14204 Cellulose microcrystalline ca. 0.05 mm, page 27

Avicel PH 105®
see 14205 Cellulose microcrystalline ca. 0.02 mm, page 27

2,2’-Azinobis(3-ethylbenzthiazoline-6-sulfonic acid)-2NH4·salt crystal, analytical grade (ABTS)
C18H16N4O6S4·2NH4 Mr 548.69 EINECS [30931-67-0]
WARNING
H315-H317-H335
Chromogen for peroxidase in enzyme-linked immunoassay (ELISA) (1). For laccase and angiotensin I-converting enzyme assay (2).
TLC: one spot
References:

Azorubin pure
(Acid Red 14; Chromotrope FB)
C14H12N4O7·2NH3 Mr 417.94 EINECS 215-786-2
WARNING
H315-H317-H335
A 1 cm/λ max. (0.001 % in water) 514 - 522
A 1 cm/λ max. (0.001 % in water) min. 0.4

16-BAC
see 14836 Benzylidimethyl-n-hexadecyl ammonium chloride, page 17

Bacitracin research grade, Ph. Eur.
(Bacidrin; Ginebatine)
M₄ ca. ca. 1422 EINECS [1405-87-4]
WARNING
H315-H317-H335
Bactericidal activity requires divalent cations like Zn⁺⁺ (1); peptide antibiotic; inhibitor of peptidoglycan synthesis.
References:

Basic Blue 17
see 36693 Toluidine Blue O salt, page 167

Basic Blue 9
see 29198 Methylene Blue, page 82

Basic Green 4
see 28335 Malachite green oxalate, page 78

Basic Red 2
see 34598 Safranin O, page 115

Basic Red 5
see 30305 Neutral Red, page 88

Basic Red 9
see 31627 Pararubins, page 92

www.serva.de
Basic Violet 14
see 21916 Fuchsin basic, page 55

Basic Violet 3
see 27335 Crystal Violet, page 37

Bathocuproine disulfonic acid·Na₂-salt
analytical grade
(2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline disulfonate)
C₂₆H₁₈N₂O₆S₂·Na₂
Mr 564.6
CAS [52698-84-7]
EINECS 258-111-7
WGK 1
HS 2933980

Copper detection in polyacrylamide gels.
Assay (titr.) min. 98.0 %

References:

Cat.No. Size
14470.02 1 g
14470.03 5 g

Bayol F research grade
(Paraffin oil, low viscosity; Bayol 35)
HS 27101985

BCA Protein Assay Macro Kit
DANGER
H334 | HS 38220000
Storage temperature +2 °C to +8 °C

The assay bases on the bichinchoninic acid method (1). Proteins reduce alkaline Cu(II) to Cu(I). Bichinchoninic acid forms a purple complex with Cu(I) with an absorbance maximum at 562 nm. The absorbance is directly proportional to protein concentration.

• Fast and sensitive assay: linear detection range from 25 – 1000 μg protein/ml
• Easy to use: contains ready-to-use reagents and protein standard
• Compatible with many detergents
• Less binding variation between different proteins than Bradford assay

References:

Cat.No. Size
14500.01 100 ml
14500.02 1 L

BCA Protein Assay Micro Kit
DANGER
H334 | HS 38220000
Storage temperature +2 °C to +8 °C

The assay bases on the bichinchoninic acid method (1). Proteins reduce alkaline Cu(II) to Cu(I). Bichinchoninic acid forms a purple complex with Cu(I) with an absorbance maximum at 562 nm. The absorbance is directly proportional to protein concentration.

• Fast and sensitive assay: linear detection range from 0.5 – 20 μg protein/ml
• Easy to use: contains ready-to-use reagents and protein standard
• Compatible with many detergents
• Less binding variation between different proteins than Bradford assay

References:

Cat.No. Size
39228.01 250 tests
39228.02 500 tests

BCIP see 15247 5-Bromo-4-chloro-3-indolyl-phosphate-p-toluidine-salt, page 24

BCIP-Na₂ see 15259 5-Bromo-4-chloro-3-indolyl-phosphate-Na₂-salt, page 23

BasPRODUCTS A - Z

BCIP/NBT Ready-To-Use Substrate
for immunohistochemistry and blotting
HS 38220000
Storage temperature +2 °C to +8 °C

Single component substrate solution for detection of alkaline phosphatase in immunohistochemical, in situ hybridization and blotting procedures. A very fine blue-purple precipitate will be localized at sites of AP activity on tissue sections. Purple bands or dots will be visible at the sites of AP activity on membranes.

Contains a proprietary enhancer and a non-toxic stabilizer, which guarantee a highly sensitive and consistent performance of the substrate.

Cat.No. Size
15246.01 100 ml

BDMA see 14835 Benzyl dimethylamine, page 17

BEEM capsules 5.2 mm for EM-Embedding
HS 39239000
Polyethylene with pyramidal tip and polyethylene cover.

BEEM capsules 8.0 mm for EM-Embedding
HS 39239000
Polyethylene with pyramidal tip and polyethylene cover.

Bentonite-SF research grade, NF
(Aluminium silicate; Montmorillonite)
CAS [1302-78-9]
EINECS 215-108-5
WGK 1
HS 25081000

Emulsifier and adsorbent for proteins and viruses. Conforms to NF in its gel-forming capacity. For detoxification use a 2 % aqueous suspension. Suitable for the removal of cyanate in urea solutions.

Water content
min. 99.0 %
max. 15.0 %

References:

Cat.No. Size
14515.02 2.5 kg

Benzamidine·HCl research grade
C₇H₈N₂·HCl
Mr 156.62 (anhydr.)
CAS [1670-14-0]
EINECS 216-795-4
WGK 1
HS 29252900

Potent inhibitor of thrombin and trypsin.
Assay (titr.) min. 99.0 %

Water content
max. 15.0 %
min. 99.0 %

References:

Cat.No. Size
14525.01 5 g
Ben Products A - Z

Benzyldimethylamine research grade
(BDMA; N, N-Dimethylbenzylamine)
C₇H₁₅N • M 135.2 • CAS [103-83-3]

**DANGER**
H₂26-H302-H312-H332-H412
EG-Index 612-074-00-7 • GGVSE/EADR 8 II UN2619 • IATA 8 II UN2619 • EINECS 203-149-1 • WGK 2 L • HS 29214900

Catalyst of very low viscosity for epoxy-polyester embedding in electron microscopy.

**References:**

Betaine cryst. research grade
(N-Triethylglycine hydroxide)
C₇H₁₅NO₂ • H₂O • M 135.2 • CAS [17146-86-0]

**EINECS** 209-684-7 • **WGK** 1 L • **HS** 29229000

Assay (titr.) min. 99.0 - 101.0 %
Heavy metals (Pb) max. 10 ppm

**Bind-Silane**
see 28739 3-Methacryloxypropyltrimethoxysilane (Bind-Silane), page 81

**BIO-5000 Plus VIS Gel Scanner**
HS 90278017

The BIO-5000 Plus VIS Gel Scanner is a dual platform scanner specially designed for scanning of electrophoresis gels and blots by visual detection. It is equipped with energy-saving LEDs and an optical CCD whose resolution is up to 4,800 dpi. The range of the optical density is between 0.05 and 3.77 OD providing a smarter way to capture differences among each layer of scanned electrophoresis gels.

With a built-in auto-focus function, BIO-5000 Plus is capable of shifting the focal length to the best position automatically for images of top quality. By the design of the Emulsion Direct Image Technology (E.D.I.T.) and holders for electrophoresis gels, it is convenient to put your BIO-5000 Plus in operation and lowers the risk of mutual infection in experiments. Therefore, BIO-5000 Plus is the best choice of scanning electrophoresis gels.

- Leak-free holder for scanning wet electrophoresis gels in transmission mode
- Scanning of stained blot membranes in reflection mode
- Energy-saving LEDs as light source
- Short warm-up times
- CCD image sensor
- Resolution up to 4,800 dpi
- Dynamic range over approx. 3.7 O.D. units
- Auto-focus for highest image quality
- Easy-to-use scanning software
- Scanning area up to 216 mm x 254 mm

**Specifications:**

- **Scanning Modes**
  - Color and grayscale, single scanning pass
  - True 48-bit color
  - 16-bit grayscale (85,536 shades of gray)

- **Scanning Area**
  - Reflective: max. 216 x 356 mm
  - Transmission: max. 216 x 254 mm

- **Linearity**
  - 3.7 O.D.

- **Resolution**
  - 4,800 dpi x 9,600 dpi

- **Interface**
  - Hi-Speed USB 2.0

- **Dimension**
  - 385 x 158 x 567 mm

- **Weight**
  - 12 kg

**Cat.No.** | **Size**
---|---
14992.02 | 250 g
**Bis[2-hydroxyethyl]-2-amino-ethansulfonic acid**

**analytical grade**

(BES)

EINECS 233-465-5  HS 9224985

\[ pK_a = 7.15 \] Buffering substance (1).

**Assay (titr.)**

A 1 cm/10 % in water

280 nm

min. 99.0 %

max. 0.1

max. 5 ppm

Loss on drying

Iron (Fe)

Lead (Pb)

pH 10 % in water

pKa 20

9.4 - 10.4

6.46

**References:**


- **Cat. No.**
  - 15108.01
  - 15108.02
  - 15108.03

- **Size**
  - 100 g
  - 250 g
  - 500 g

---

**Bistris**

**see 15107 2-[Bis(hydroxyethyl)amino]-2-(hydroxymethyl)-1,3-propanediol, page 18**

**Blank FocusGel**

Size: 250 x 115 x 0.65 mm

HS 38220000

Storage temperature +2 °C to +8 °C

To perform IEF, Blank FocusGels are equilibrated in the ampholyte mixture of choice with or without urea prior to electrophoresis.

**Blank FocusGel 24S**

Size: 250 x 115 x 0.65 mm

HS 38220000

Storage temperature +2 °C to +8 °C

24 slots for 25 μL. To perform IEF, Blank FocusGels are equilibrated in the ampholyte mixture of choice with or without urea prior to electrophoresis.

**Blank PRECOTES**

**PAG layer 300 μm, Size 125 x 125 mm**

DANGER

H340-H350  HS 38220000

Storage temperature +2 °C to +8 °C

Blank PRECOTES™ were developed by SERVA to provide a versatile solution to perform isoelectric focusing (IEF) of any pH range. Blank PRECOTES™ are thin (0.3 mm) polyacrylamide gels cast onto GEL-FIX support film that contain only BisTris buffer pH 6.5. They are given the prefix »blank« to indicate that they are (almost) «empty» gels with a matrix that can be adapted to anything the user wants it to be. Blank PRECOTES™ are equilibrated in the ampholyte mixture of choice prior to electrophoresis. Shelf-life of Blank PRECOTES™ is at least 12 months, either as blank gels (without ampholyte) or in the equilibrated form (with ampholyte, without urea).

**REFERENCES**


<table>
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**Bis[acylamido)methane**

see 29186 N,N'-Methylene bisacrylamide 4X, page 82

**Bis[acylamido)methane**

see 29195 N,N'-Methylene bisacrylamide 2X, page 82

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**Bisbenzimide H 33258**

**research grade**

(Hoechst 33258; 2-[2-(4-Hydroxyphenyl)-6-benzimidazolyl]-6-(1-methyl-4-piperazyl)-benzimidazole trihydrochloride)

\[ C_{25}H_{24}N_{6}O \cdot 3HCl \] Mr 533.88

**CAS [23491-45-4]**

WARNING

H315-H319

EINECS 245-690-6

WGK 1

HS 29335995

Storage temperature +2 °C to +8 °C

For DNA fluorescence labelling of vital and fixed nuclei (1, 2). Specific chromosome banding patterns (3, 4, 5).

**Assay (HPLC)**

Water

min. 98.0 %

max. 20.0 %

Heavy metals

Iron (Fe)

Lead (Pb)

pH 10 % in water

pKa 20

min. 99.0 %

max. 0.1

max. 3 ppm

9.4 - 10.4

6.46

**References:**


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**Bis(hydroxyethyl)-2-amino-ethansulfonic acid**

analytical grade

(EINECS 233-465-5  HS 9224985)

\[ pK_a = 7.15 \] Buffering substance (1).

**Assay (titr.)**

A 1 cm/10 % in water

280 nm

max. 0.1

max. 0.08

Loss on drying

max. 1.0 %

Heavy metals

max. 5 ppm

**References:**


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**Bis(hydroxyethyl)imino-tris(hydroxy methyl)methane**

analytical grade

(Bis(hydroxyethyl)iminio-tris(hydroxy methyl) methane; BISTRIS)

\[ C_{8}H_{19}NO_{5} \] Mr 209.24

**CAS [6976-37-0]**

**WGK 1**

**HS 29221985**

Buffering substance (1).

**Assay (titr.)**

A 1 cm/10 % in water

280 nm

Iron (Fe)

Lead (Pb)

pH 10 % in water

pKa 20

min. 99.0 %

max. 0.1

max. 5 ppm

9.4 - 10.4

6.46

**References:**


<table>
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<tr>
<th>Cat. No.</th>
<th>Size</th>
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<tbody>
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<td>100 g</td>
</tr>
<tr>
<td>15107.04</td>
<td>250 g</td>
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</tbody>
</table>

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**Bis(benzimidazolylamine)benzimidazole**

**Benzyochromone trihydrochloride**

**trioverene**

**Bis(benzimidazolylamine)benzimidazole trihydrochloride**

\[ C_{10}H_{16}N_{2}O_{3}S \] Mr 244.3

**CAS [25491-45-4]**

**WARNING**

H315-H319

EINECS 245-690-6

WGK 1

HS 2933995

Storage temperature +2 °C to +8 °C

For DNA fluorescence labelling of vital and fixed nuclei (1, 2). Specific chromosome banding patterns (3, 4, 5).

**Assay (titr.)**

Heavy metals

98.5 - 100.5 %

max. 10 ppm

**References:**


<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>15090.01</td>
<td>100 mg</td>
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</table>

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**Bisacrylamido)methane**

**see 29186 N,N'-Methylene bisacrylamide 4X, page 82**

**Bisacylamido)methane**

**see 29195 N,N'-Methylene bisacrylamide 2X, page 82**
Blank PRECOTES™ PAG layer 300 µm, Size 245 x 125 mm

DANGER
H340-H350-H361 • HS 38200000
Storage temperature +2 °C to +8 °C

Blank PRECOTES™ were developed by SERVA to provide a versatile solution to perform isoelectric focusing (IEF) of any pH range. Blank PRECOTES™ are thin (0.3 mm) polyacrylamide gels cast onto GEL-FIX™ support film that contain only BiTris buffer pH 6.5. They are given the prefix «blank» to indicate that they are (almost) empty gels with a matrix that can be adapted to anything the user wants it to be. To perform IEF, Blank PRECOTES™ are equilibrated in the ampholyte mixture of choice for 30 minutes prior to electrophoresis. Resolution is at least as good, sometimes found even superior, compared to the results obtained with gels of <cast-in> ampholytes. Shelf-life of Blank PRECOTES is at least 12 months, either as blank gels (without ampholyte) or in the equilibrated form (with ampholyte, without urea).

PRECOTES is a registered trademark of SERVA.

Blank PreNets™ PAG layer 300 µm, Size 125 x 125 mm
HS 38220000
Storage temperature +2 °C to +8 °C

Blank PreNets™ gels are prepared with Net-Fix cast into the polyacrylamide matrix adding mechanical stability to the thin gel layer. Net-Fix™ is an inert polyester net activated to bind polyacrylamide. After electrophoresis, the gel is easily lifted from its film support (non-binding) and transferred to the membrane of choice, no tearing or damage will occur when handling the thin layer due to the stabilizing effect of the built-in Net-Fix™. Both methods, semi-dry transfer and tank transfer, are applicable. Transfer using a semi-dry blotter is usually completed within 30 minutes. Handling of PreNets™ is identical in all steps to operating PRECOTES™, including staining using a semi-dry blotter.

Shelf-life of Blank PreNets is at least 12 months, either as blank gels (without ampholyte) or in the equilibrated form (with ampholyte, without urea).

PreNets is a trademark of SERVA.

Bleomycin-sulfate lyophil, pure
(Blenoxane)
CAS [9041-93-4]

DANGER
H302-H332-H350-H360 • HS 29419000 • EINECS 232-925-2
Storage temperature +2 °C to +8 °C

Chemistry and action of bleomycin: Group of glycopeptide antibiotics from Streptomyces verticillus with antineoplastic properties by inhibition of DNA synthesis: reacts with DNA and causes breaks in the nucleotide chain.

References:

Blue tetrazolium chloride see 35950 Tetrazolium Blue-chloride, page 166

BlueBlock PF (10x) for Blotting
HS 38200000

Protein-free, polymer-based blocking reagent, delivered as a 10x concentrate.

To achieve a good signal-to-noise ratio, it is important to block nonspecific antibody binding sites on the transfer membrane. Protein based blocking solutions like skim milk or BSA solutions may not only block unspecific binding sites, but mask as well specific binding sites. With BlueBlock, the specific binding sites remain accessible while nonspecific reactions are suppressed, thus leading to an increase in signal intensity. It is suitable for colorimetric and chemiluminescence detection systems.

BlueBlot Semi-Dry Blotter SD11
HS 90272000
For fast and gentle electrotransfer of proteins in Western Blots. The BlueBlot semi-dry blotter forms a homogeneous electrical field that guarantees fast and efficient transfer of proteins from gel to membrane. As associated with semi-dry blotting compared to tank blotting less heat is generated for gentle protein transfer. It is fast and requires less buffer. By applying the Xpress Blotting Buffer (cat. no. 42661) semi-dry transfer of high and low molecular weight proteins is done fast and efficient within 15 minutes. Moreover, all common continuous and discontinuous buffer systems can be applied without any limitations.

Anode is made from platinum-covered steel net, cathode is made from a stainless steel plate. The springmounted anode allows blotting of thicker gels and gel stacks. To avoid air bubbles within the blotting system the cathode carries drill holes to transport gas generated by the electro-chemically blotting process from inside to outside. The electrodes are built into a stable acrylic housing that is resistant to 10 % ethanol and easy to clean. The long-lasting electrodes can be dismounted and cleaned separately. The BlueBlot semi-dry blotter has a blotting area of 11 cm x 11 cm. The electrode sets BB-E11 (11 cm x 11 cm) and BB-E17 (17 cm x 17 cm) are obtainable separately and fit into the same basis unit. With the 17 cm x 17 cm electrode set up to 8 mini gels can be blotted simultaneously.

Platinum-covered steel net as anode
• Spring-mounted anode for blotting stacks
• Stainless steel plate as cathode
• Blotting area: 11 cm x 11 cm
• Deployable for thicker gels and blotting stacks
• Dimensions: 31 cm x 23 cm x 11 cm
• Weight: 3 kg

BlueBlot Semi-Dry Blotter SD17
HS 90272000
For fast and gentle electrotransfer of proteins in Western Blots. The BlueBlot semi-dry blotter forms a homogeneous electrical field that guarantees fast and efficient transfer of proteins from gel to membrane. As associated with semi-dry blotting compared to tank blotting less heat is generated for gentle protein transfer. It is fast and requires less buffer. By applying the Xpress Blotting Buffer (cat. no. 42661) semi-dry transfer of high and low molecular weight proteins is done fast and efficient within 15 minutes. Moreover, all common continuous and discontinuous buffer systems can be applied without any limitations.

Anode is made from platinum-covered steel net, cathode is made from a stainless steel plate. The springmounted anode allows blotting of thicker gels and gel stacks. To avoid air bubbles within the blotting system the cathode carries drill holes to transport gas generated by the electro-chemically blotting process from inside to outside. The electrodes are built into a stable acrylic housing that is resistant to 10 % ethanol and easy to clean. The long-lasting electrodes can be dismounted and cleaned separately. The BlueBlot semi-dry blotter has a blotting area of 11 cm x 11 cm. The electrode sets BB-E11 (11 cm x 11 cm) and BB-E17 (17 cm x 17 cm) are obtainable separately and fit into the same basis unit. With the 17 cm x 17 cm electrode set up to 8 mini gels can be blotted simultaneously.

Platinum-covered steel net as anode
• Spring-mounted anode for blotting stacks
• Stainless steel plate as cathode
• Blotting area: 17 cm x 17 cm
• Deployable for thicker gels and blotting stacks
• Dimensions: 31 cm x 23 cm x 11 cm
• Weight: 3 kg

www.serva.de
**BlueBlot Semi-Dry Blotter SD26**

HS 90272000

For fast and gentle electrotransfer of proteins in Western Blots.

For more information please refer to BlueBlot Semi-Dry Blotter SD11.

The BlueBlot semi-dry blotter has a blotting area of 24 cm x 26 cm.

- Platinum-covered steel net as anode
- Spring-mounted anode for blotting stacks
- Stainless steel plate as cathode
- Blotting area: 24 cm x 26 cm
- Deployable for thicker gels and blotting stacks

---

**BlueMarine**

**BlueMarine** 100

HS 90272000

Gel format 7 x 10 cm for quick analysis of up to 28 samples. Contains main unit, 1 removable UV transparent gel tray (7 x 10 cm), 2 gel casting gates, 1 comb (1.0 mm, 8 samples).

**Operational Data**

- Maximum operating voltage: 300 V
- Maximum operating current: 200 mA
- Approx. gel volume (5 mm gel): 35 ml
- Possible comb positions: 2
- Maximum of loadable samples: 28
- Electrode separation: 18 cm
- Recommended volts per cm: 14 - 140

---

**BlueMarine** 200

HS 90272000

Gel formats 15 x 15 cm or 15 x 20 cm for best resolution or high throughput analysis. Contains main unit, 1 removable UV transparent gel tray (15 x 20 cm), 1 removable UV transparent gel tray (15 x 15 cm), 2 gel casting gates, 2 combs (1.0 mm, 16 samples).

**Operational Data**

- Maximum operating voltage: 500 V / 500 V
- Maximum operating current: 300 mA / 300 mA
- Approx. gel volume (5 mm gel): 115 ml / 150 ml
- Possible comb positions: 2 / 4
- Maximum of loadable samples: 62 / 124
- Electrode separation: 28.5 cm / 28.5 cm
- Recommended volts per cm: 20 - 200 / 20 - 200

---

**BlueMarine** HTS

HS 90272000

Gel format 17.5 cm x 19.2 cm for high resolution long runs of single samples or analysis of complete 96-well microtiter plates. By changing the left/right orientation of the comb you can position the sample wells one upon the other or shifted to each other.

Contains main unit, 1 removable UV transparent gel tray, 2 aluminum gel casting gates, 6 aluminum combs with 17 sample wells.

**Operational Data:**

- Maximum operating voltage: 500 V
- Maximum operating current: 300 mA
- Approx. gel volume (5 mm gel): 160 ml
- Possible comb positions: 6
- Maximum of loadable samples: 102
- Electrode separation: 28.5 cm
- Recommended volts per cm: 20 - 200 V
- Dimensions (W x L x H): 19.5 x 38 x 80 cm

---
BlueMarine™ HTS Casting Adaptor
HS 90272000
Casting stand to hand cast agarose gels for BlueMarine™ HTS electrophoresis chamber (cat. no. BM-HTS).

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-HTS-CA</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

BluePower Control Kit V1.0
HS 90272000
The BluePower Control Kit connects the SERVA BlueLine™ Power Supply with a Windows computer (Win 98 and higher) via an USB-serial converter and a documentation software. It has basically two functions:
1. Monitoring of voltage, current, and power during the time course of an electrophoretic run
2. Loading, storage, and documentation of multistep power supply settings
The Power Supply Control Kit can be used with all SERVA BluePower power supplies.

Content:
High-speed USB-serial converter, gender changer for serial port, USB stick containing: software, application programs; instruction manual.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP-PCSV01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

BluePower™ 1500x4 Power Supply
HS 90272000
BluePower™ 1500x4 is designed for high voltage applications delivering 1500 V, 400 mA and 300 W. Applications like SDS-PAGE, submarine electrophoresis can be performed as well. 4 x 2 outlets, programmable.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP-1500X4</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

BluePower™ 3000x4 Power Supply
HS 90272000
BluePower™ 3000x4 is designed for high voltage applications (isoelectric focusing, DNA sequencing) delivering 3000 V, 200 mA and 300 W. Other applications (SDS PAGE, submarine electrophoresis) can be performed as well. 4 x 2 outlets, programmable.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP-3000X4</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

BlueSlick™
DANGER
H225-H319-H336 MAK/TRK 500 mg/m³; 200 ml/m³ for isopropanol GGVSE/ADR 3 II UN1993 IATA 3 II UN1993
WGK 1 HS 38220000
Non-toxic BlueSlick™ is the alternative to silane-containing products and is non-irritant to eyes. It can be handled outside of a fume-hood. Suitable to all applications in electrophoresis (DNA sequencing, SDS PAGE, IEF PAGE). It does not affect the separation. Supplied in a safety spray bottle made from PE, free of propellant (CFC). One spray dose dispenses a quantity of 0.7 ml BlueSlick™ reagent. BlueSlick™ coating will last for 3 to 4 electrophoresis applications. Ready-to-use reagent for treatment of glass plates; non-toxic, prevents adhesion of gels to glass.

BlueSlick is a trademark of SERVA.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>42500.01</td>
<td>250 ml</td>
</tr>
</tbody>
</table>

BlueSpin Mini
HS 84211970
The BlueSpin Mini is a compact benchtop microcentrifuge for all kinds of sample preparations and molecular biology experiments. The strong steel layered door has an automatic door release and an auto-lock function during spinning. The patented unique air-flow design minimizes heat and noise generation (< 56 dB). The included autoclavable 12-hole rotor is sealed with an O-ring lid. Speed and remaining time are displayed on the LCD screen. The BlueSpin Mini sounds an alarm at over-speed and over-heat.

- 13,500 rpm (12,300 g) max.
- Rotor with 12 places for tubes from 0.2 - 2.0 ml (adaptors included)
- Optional: PCR rotor for four 8-well strips (tube capacity 0.2 ml);
  6,000 rpm / 1,850 g max
- Time setting t < 30 min, „PULSE“ key for quick run
- Dimensions (W x D x H, mm): 208 x 245 x 145
- Weight w/o rotor: 4.4 kg

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BS-MINI</td>
<td>1 piece</td>
</tr>
</tbody>
</table>
BlueSpin Cryo

The BlueSpin Cryo is a compact refrigerated microcentrifuge for all kinds of temperature sensitive sample preparations and molecular biology experiments. The strong steel layered door has an automatic door release and an auto-lock function during spinning. The fast cool down function reaches 4 °C within 5 minutes. A compressor cut-off minimizes frosting during opened door. Temperature, speed and remaining time are displayed on the LCD screen. The BlueSpin Cryo sounds an alarm over imbalance, over-speed and over-heat. Select a 24- or 30-hole autoclavable rotor for 1.5/2 ml tubes with O-ring sealed-lid, optional adaptors for 0.5 ml or 0.2 ml microtubes are available. A PCR rotor for eight 8-well strips (tube capacity 0.2 ml) is also available. For safety, the installed rotor is automatically identified.

- 17,000 rpm (27,237 xg) max.
- Time setting t < 100 min or continuous, „PULSE“ key for quick runs
- Program memory for up to 100 programs
- Temperature range from -20 °C up to +40 °C
- Noise level ≤ 56 dB
- Dimensions (W x D x H): 310 x 620 x 265 mm
- Weight w/o rotor: 43 kg

BlueVertical PRiME™ Casting Stand

HS 90272000

The BlueVertical PRiME™ Casting Stand is a casting system to cast one or two vertical mini gels to be operated with the BlueVertical PRiME™ electrophoresis chamber (BV-104). It consists of a casting base with a rubber seal and a core unit to hold the glass plate sandwich in position. 1.0 mm spacers, combs and glass plates (plain, notched) have to be ordered separately.

Ordering information for casting accessories:

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BV-10-1.0</td>
<td>Comb, 1.0 mm, 10 wells</td>
</tr>
<tr>
<td>BV-12-1.0</td>
<td>Comb, 1.0 mm, 12 wells</td>
</tr>
<tr>
<td>BV-15-1.0</td>
<td>Comb, 1.0 mm, 15 wells</td>
</tr>
<tr>
<td>BV-10-1.5</td>
<td>Comb, 1.5 mm, 10 wells</td>
</tr>
<tr>
<td>BV-12-1.5</td>
<td>Comb, 1.5 mm, 12 wells</td>
</tr>
<tr>
<td>BV-15-1.5</td>
<td>Comb, 1.5 mm, 15 wells</td>
</tr>
<tr>
<td>BV-GP-N</td>
<td>Glass plates, notched (d), 3.0 mm glass</td>
</tr>
<tr>
<td>BV-GP-1.0</td>
<td>Glass plates with spacers (1.0 mm), plain (d), 3.0 mm glass</td>
</tr>
<tr>
<td>BV-GP-1.5</td>
<td>Glass plates with spacers (1.5 mm), plain (d), 3.0 mm glass</td>
</tr>
</tbody>
</table>

BlueVertical® PRiME™ Mini Slab Gel Unit

HS 90272000

The BlueVertical® PRiME™ is a dual mini tank system to operate one or two precast gels. It accomodates SERVAgel® TG PRIME™, all other types of SERVAgel™ and all other commercially available precast gels with an outer cassette dimension of 10 x 10 x 0.7 cm. The fixture of the inner core unit has been re-engineered to provide four robust clamps (two on both sides) that fix two precast gel cassettes properly and tightly in their correct position. This ensures that the inner buffer chamber is leak-free separated from the outer buffer compartment.

Separation of proteins by SDS PAGE, native PAGE and IEF can be carried out as well as separation of nucleic acids. The outer buffer tank works as heat sink (passive cooling by buffer), sufficient for most applications mentioned above. You may run two SERVAgel® TG PRIME™ simultaneously at 300 Volt. The run will be completed in about 35 minutes without warming up the buffer significantly. If additional cooling is required (e. g. for IEF applications), a magnetic stirrer can be applied to help circulation of buffer fluid. The unit consists of an outer buffer tank and the inner core running unit. Mounting of precast gels does not require any tedious clamping but is a matter of seconds. The outer buffer tank is made from rugged transparent acrylic – watch your gel while running! A safety lid closes the top, giving the unit a very compact and robust design. Little bench space is required. The unit is, of course, in accordance with the European safety guidelines (CE mark). When quality becomes an issue – choose BlueVertical™ PRiME™.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BV-104</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

BlueZol Lysis reagent for cells and tissues

DANGER

HS 38220000

Storage temperature +2 °C to +8 °C

BlueZol is a ready-to-use reagent for the isolation of total RNA from various biological materials such as animal and plant tissues, cell culture and bacterial cells.

Homogenisation or lysis of a biological sample in BlueZol leads to a separation into three phases: an aqueous upper phase, an organic lower phase and an interphase. The RNA remains in the aqueous phase and its purification is followed by precipitation in isopropyl alcohol. The highly effective RNase inhibitory property of BlueZol protects the integrity of the RNA during lysis and results in the isolation of high-quality RNA. The purified RNA is ideal for any downstream applications such as RT-PCR, in vitro translation, Northern Blotting, RNase protection assays or dot blot hybridization.

BlueZol can be used for the simultaneous isolation of RNA, DNA and protein from one sample. The DNA remains in the interphase and the proteins in the organic phase. After purification DNA can be used for PCR and Southern Blotting and the proteins for Western Blotting.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39808.01</td>
<td>100 ml</td>
</tr>
</tbody>
</table>
Boric acid analytical grade
H₃BO₃, M, 61.83, CAS [10043-35-3]

DANGER
H360F ▶ Repr. 1B ▶ MAK/TRK 0.5 mg/m³ ▶ EG-Index 005-007-00-2 ▶ EINECS 233-139-2 ▶ WGK 1 ▶ HS 2810090

Assay (btr.) 99.0 - 100.5 %
Heavy metals (Pb) max. 15 ppm

Cat.No. Size
15165.02 250 g
15165.01 1 kg

Boric acid electrophoresis grade
H₃BO₃, M, 61.83, CAS [10043-35-3]

DANGER
H360F ▶ Repr. 1B ▶ MAK/TRK 0.5 mg/m³ ▶ EG-Index 005-007-00-2 ▶ EINECS 233-139-2 ▶ WGK 1 ▶ HS 2810090

Boric acid is used to prepare TBE buffer, the most frequently used buffer for DNA/RNA electrophoresis (1). Application tested quality for electrophoresis.

Assay (btr.) 99.0 - 100.5 %
Heavy metals (Pb) max. 15 ppm

References:

Cat.No. Size
15166.01 250 g
15166.02 1 kg

Bradford Reagent, 5x concentrate

DANGER
H314 ▶ GGVS/EADR 3 II UN2924 ▶ IATA 3 II UN2924 ▶ WGK 1 ▶ HS 38220000
Storage temperature +2 °C to +8 °C

Protein dye reagent for protein quantification after Bradford (1).

• Precise, reproducible and inexpensive
• Fast, only five minutes incubation before reading the sample at 595 nm
• Suitable for micro (1 – 25 μg protein/ml) and standard (100 – 1000 μg protein/ml) assays.

50 ml Bradford reagent are sufficient for more than 200 micro assays (1-ml cuvette) or for more than 900 micro titer plates.

References:

Cat.No. Size
15166.01 250 g
15166.02 1 kg

Brefeldin A research grade
C₁₆H₂₄O₄, M, 280.4, CAS [20350-15-6]

WARNING
H302-H312-H332

Macrolide antibiotic from Penicillium brefeldianum. Specifically inhibits translocation of proteins from the endoplasmic reticulum to the Golgi apparatus.

Assay (TLC) min. 98.0 %

References:

Brij 35™ pract.
(Polyoxyethylene monolauryl ether)
Mₙ ca. 1200 ▶ CAS [9002-92-0]
EINECS 500-002-6 ▶ WGK 2L ▶ HS 34021300
n ca. 23, HLB 16.9. Suitable for the isolation of functional membrane complexes (1). Also applied in chemiluminescence analysis (2, 3).

Brij = registered trademark of the CRODA International Plc.

References:

Cat.No. Size
15230.01 100 g
15230.02 1 kg

Bromelin from pineapple stem ca. 0.5 DMC-U/mg powder
(Stern bromelin)
EC 3.4.22.32 ▶ M, ca. 33 000 ▶ CAS [37189-34-7]

DANGER
H315 ▶ EINECS 267-015-9 ▶ WGK 3L ▶ HS 35079090

Storage temperature +2 °C to +8 °C
Suitable for blood group serology (1) and degradation of proteins.

Unit definition: 1 DMC-U catalyzes the cleavage of 1 μmole peptide bond from dimethyl casein per minute at 25 °C, pH 7.0 expressed in terms of newly formed terminal amino groups (determined with TNBS) (2).

Activity in other units: 1200 DDU units/g (1 DDU unit yields the equivalent of 1 mg amino nitrogen from gelatin in 20 min at 45 °C, pH 4.5). 1200 DDU units/g, 2400 FIP units/g (4).

References:
2. Lin, Y. et al. (1969) J. Biol. Chem. 244, 799-93

Cat.No. Size
15250.01 25 g
15250.02 100 g
15250.03 500 g

5-Bromo-2'-deoxyuridine research grade
C₉H₈BrN₂O₅, M, 307.1, CAS [59-14-3]

WARNING
H302-H312-H332

Suitable for blood group serology (1) and degradation of proteins.

Storage temperature +2 °C to +8 °C

Purity (HPLC) min. 99.0 %

References:

Cat.No. Size
15240.02 1 g

5-Bromo-4-chloro-3-indolyl-phosphate-Na₂-salt
analytical grade
(X-phos disodium salt; BCIP-Na₂)
C₁₀H₈BrClN₂O₉P·Na₂, M, 370.43, CAS [102185-33-1]
WGK 1 ▶ HS 29349900

Storage temperature -15 °C to -25 °C

Crystalline, easily soluble in water, more stable than the monopotassium salt, especially for immuno blotting in combination with NBT (cat. no. 30550). Substrate for phosphatase.

Assay (HPLC) min. 99.0 %

References:

Cat.No. Size
15259.02 500 mg
S-5-Bromo-4-chloro-3-indolyl-phosphate-p-toluidine-salt

Research grade (BCIP)

C₉H₇NO₄Br·C₂H₅·O·P

CAS [6578-06-9]

EINECS 229-506-1

HS 29339980

Storage temperature -15 °C to -25 °C

Used in conjunction with NBT (cat. no. 30550) for detection of alkaline phosphatase.

Stock solution: 50 mg/ml in 100 % DMF. Store at 4 °C or -20 °C.

Staining solution for western blots: 66 μl NBT stock solution and 33 μl BCIP stock solution in 1 ml staining buffer (100 mM NaCl, 5 mM MgCl₂, 100 mM Tris; pH 9.5).

Assay (HPLC) min. 99.0 %

References:

S-5-Bromo-4-chloro-3-indolyl-β-D-galactoside (X-Gal)

(X-Gal)

C₁₄H₁₅BrClNO₆

CAS [34725-61-6]

WGK 1L

HS 29338090

Storage temperature +2 °C to +8 °C

X-Gal is a well known histochemical substrate used to detect the β-galactosidase enzyme (1, 2, 3, 4, 9, 10). Identification of lacZ colonies (8). X-gal is used to distinguish recombinant plasmids from parental vectors in cloning experiments using vectors containing the lacZ or lacZ [DMV-P1]-opeptide gene (2, 3, 5).

Upon hydrolysis, X-Gal yields a localized, insoluble blue precipitate making it exceptionally useful in blotting, immunocytochemical, and ELISA assays. X-Gal has been used for the detection of coliforms (E. coli) in municipal water supplies (6) and for the detection of alkaline phosphatase. It is also useful for the concentration of dilute nucleic acid solutions by repeated extractions.

CsCl gradient ultracentrifugation. It is also useful for the concentration of diluted nucleic acid solutions by repeated extractions.

—

References:


5. Feldsine, P.T. et al. (1993) J. AOAC Int. 76, 5


—

Buffer Substance Dulbeccco's

(DPBS)

HS 38220000

Phosphate buffered saline, without calcium and magnesium; without phenol red, powder.

References:


—

Buffer Kit for 2DGel DALTsix

HS 38220000

0.5 L anodal buffer (10X), 0.3 L cathodal buffer (6X), 50 ml IPG equilibration buffer, agarose for strip fixation, DALTsix 1 run.

—

Buffer Kit for 2DGel DALTtwelve

HS 38220000

1.5 L anodal buffer (10X), 0.6 L cathodal buffer (6X), 100 ml IPG equilibration buffer, agarose for strip fixation, DALTtwelve 1 run.

—

Buffer Kit for 2D HPE® Gels

HS 38220000

Anode, cathode and equilibration buffer, cooling contact fluid and electrode wicks for all flatbed gels.

—

n-Butanol

see 45628 n-Butanol, page 24

—

n-Butanol analytical grade

(1-Butanol)

C₄H₁₀O · M, 74.12 · CAS [71-36-3]

DANGER
H226-H302-H315-H318-H335-H336 · EG-Index 603-004-00-6 · GGVE/ADR 3 III UN1120 · IATA 3 III UN1120 · EINECS 200-751-6 · WGG 1 · LS 93951300

Assay (GC) min. 99.0 %

Density (20 °C) 0.810

Water max. 500 ppm

Acidity max. 0.001 %

Residue on evaporation max. 50 ppm

—

n-Butanol molecular biology grade

(1-Butanol)

C₄H₁₀O · M, 74.12 · CAS [71-36-3]

DANGER
H226-H302-H315-H318-H335-H336 · MAK/TRK 310 mg/m³; 100 ml/l · EG-Index 603-004-00-6 · GGVE/ADR 3 III UN1120 · IATA 3 III UN1120 · EINECS 200-751-6 · WGG 1 · HS 29051300

n-Butanol is used for the removal of ethidium bromide from DNA purified by CsCl gradient ultracentrifugation. It is also useful for the concentration of diluted nucleic acid solutions by repeated extractions.

Assay min. 99.0 %

—

BSA

see 11920 Albumin Bovine, page 8

—

BT

see 35950 Tetrazolium Blue-chloride, page 166
Cac PRODUCTS A - Z

C7BzO
see 20759 ASB-C7BzO, page 15

Cacodylic acid-Na-salt·3H2O research grade
(Sodium cacodylate)
C7BzO·Na·3H2O  M  110.99  ♦ CAS [10035-04-8]

WARNING
H319  ♦ EG-Index 017-013-00-2  ♦ EINECS 233-140-8  ♦ WGK 1L
HS 28272000

Assay (ltr.) min. 98.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>15587.02</td>
<td>1 kg</td>
</tr>
</tbody>
</table>

Calcium chloride·2H2O analytical grade, Ph. Eur., USP
CaCl2·2H2O  M  147.0  ♦ CAS [10035-04-8]

WARNING
H319  ♦ EG-Index 017-013-00-2  ♦ EINECS 233-140-8  ♦ WGK 1L
HS 28272000

Assay (ltr.) 99.0 - 103.0 %
Sulfate max. 0.03 %
Heavy metals (Pb) max. 0.001 %
pH 5 % in water 4.5 - 9.2

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>15587.02</td>
<td>1 kg</td>
</tr>
</tbody>
</table>

Calcium chloride·2H2O molecular biology grade
CaCl2·2H2O  M  147.0  ♦ CAS [10035-04-8]

WARNING
H319  ♦ EG-Index 017-013-00-2  ♦ EINECS 233-140-8  ♦ WGK 1L
HS 28272000

Assay (ltr.) min. 99.0 %
Sulfate max. 0.03 %
Heavy metals (Pb) max. 0.001 %
pH 5 % in water 4.5 - 9.2

References:
1. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (1.82-1.84)

Calcium hypochlorite research grade
Ca(OCl)2  M  142.98  ♦ CAS [7778-54-3]

WARNING
H301-3H31-H410  ♦ EG-Index 033-002-00-5  ♦ GGVE/ADR 6.1 II UN1688  ♦ IATA 6.1 II UN1688  ♦ EINECS 204-708-2  ♦ WGK 3  ♦ HS 29319080

Disinfectant, oxidant and chlorinating agent.
MP 100 °C
d20 °C 2.350
Active chlorine min. 65.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>15591.02</td>
<td>500 g</td>
</tr>
</tbody>
</table>

Canada balsam for microscopy
CAS [8007-47-4]
EINECS 232-362-2  ♦ WGK 2L  ♦ HS 13019000
Density (20 °C) 0.97 - 1.0
Refractive index (20 °C) 1.520 - 1.525

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>26886.02</td>
<td>100 ml</td>
</tr>
</tbody>
</table>

CAPS analytical grade
(Cyclohexylamino propanesulfonic acid)
CAS [1135-40-6]
EINECS 214-492-1  ♦ HS 29213099
pKa 20 = 10.4. Buffering substance (1).
Assay (ltr.) min. 99.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>15111.03</td>
<td>250 g</td>
</tr>
</tbody>
</table>

Caprylyl sulfobetaine
see 20756 Sulfobetaine SB 3-10, page 162

Carbenicillin-Na-salt research grade
(C-β-Carboxybenzylpenicillin-disodium salt)
C176,H14N2O2Na2·H2O  M  422.37  ♦ CAS [4800-94-6]

DANGER
H314  ♦ EINECS 225-360-8  ♦ WGK 1L  ♦ HS 29411000

Storage temperature -2 °C to +8 °C

Semisynthetic derivative of benzylpenicillin G. Inhibitor of bacterial cell wall synthesis. Active above all against gram negative bacteria, less against gram positive. Used in molecular biology for selection of resistant strains (2). In plant cell culture often in combination with streptomycin or nystatin to prevent bacterial contamination (3,4). Effect on somatic embryo genesis (5).

References:

Carbolic anhydride from bovine erythrocytes ca. 1.5 U/mg lyophil.
(Carbonate dehydratase; Carbonate hydrolyase)
EC 4.2.1.1.  ♦ M, ca. 29 000  ♦ CAS [9001-03-0]

DANGER
H314  ♦ EINECS 232-576-6  ♦ WGK 2L  ♦ HS 35079090

Storage temperature -15 °C to -25 °C

Homogeneous in SDS-PAGE. Contains carbolic anhydrides A and B; both forms have similar high specific activities and therefore belong to the C-group of mammalian carbolic anhydrases (1).

Unit definition: 1 U catalyzes the hydrolysis of 1 m mole 4-nitrophenyl acetate per minute at 25 °C, pH 7.6 (2).

References:
1. Butter et al. (1976) J. Infec. Dis. 133, Suppl. 81

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>15875.03</td>
<td>5 g</td>
</tr>
</tbody>
</table>

www.serva.de
Carbopol® 934 pract.
WGK 1L ▪ HS 39069090
A carboxyvinyl-polymer of Goodrich Chemical Co. with a very high molecular weight. The powder supplied as the free acid is soluble in water up to 5% and forms a solution of fairly low viscosity with pH ca. 3. Upon neutralization with sodium hydroxide a highly viscous gel is formed, even at a concentration of only 0.1%. Tackifier, emulsion and suspension stabilizer. White, hygroscopic powder, physiologically harmless.

Catalase from bovine liver ca. 11 000 U/mg lyophil. salt-free
EC 1.11.1.6 ▪ M, ca. 240 000 ▪ CAS [9001-05-2]

DANGER
H334 ▪ EINECS 232-577-1 ▪ WGK 1L ▪ HS 35079090
Storage temperature -15 °C to -25 °C

Homogeneous in SDS-PAGE. Ca. 40 000 U/mg protein.

Unit definition: 1 U catalyzes the cleavage of 1 μmole hydrogen peroxide per minute to water and oxygen at 25 °C, pH 7.0. The decrease in hydrogen peroxide concentration can be followed spectrophotometrically at 240 nm (1).

References:

Cat.No.  
26910.01 250 mg  
26910.02 1 g

Catalase from Aspergillus niger ca. 1800 U/mg
lyophil. salt-free
EC 1.11.1.6 ▪ M, ca. 240 000 ▪ CAS [9001-05-2]

DANGER
H334 ▪ EINECS 232-577-1 ▪ WGK 1L ▪ HS 35079090
Storage temperature -15 °C to -25 °C

Catalase is used for the removal of peroxides, the generation of oxygen and, in coupled systems, for the determination of metabolites e.g. uric acid (1). A very stable preparation particularly suitable for immobilization.

Unit definition: 1 U catalyzes the cleavage of 1 μmole hydrogen peroxide per minute to water and oxygen at 25 °C, pH 7. The decrease in hydrogen peroxide concentration can be followed spectrophotometrically at 240 nm (1).

References:

Cat.No.  
26905.01 100 mg

Carmine research grade
(Cherry red 4; Aluminum calcium lake of the cochineal dye)
CAS [1390-65-4]
C.I.75470
WGK 1L

A very stable preparation particularly suitable for immobilization.

References:

Cat.No.  
26910.01 250 mg  
26910.02 1 g

Carrier Ampholytes
see 42902 SERVALYT™ 2-4, page 143

Casting gates for BlueMarine™ 100
HS 90271090
Gel width 7 cm.

Cat.No.  
BM-100-3 2 pieces

Casting gates for BlueMarine™ 200
HS 90279050
Gel width 15 cm.

Cat.No.  
BM-200-3 2 pieces

Celite™ 545 pract.
CAS [68855-54-9]

WARNING
H373 ▪ EINECS 247-489-0 ▪ WGK - ▪ HS 38209000

Purified and calcined, average particle size 0.02 - 0.08 mm.

Cat.No.  
16391.02 2 kg

Cedar wood oil research grade, optically clear
CAS [85085-41-2]
WGK 2 ▪ HS 33019090
Immersion oil for microscopy.
Density (20 °C) 0.98 - 1.00
Refractive index (20 °C) 1.510 - 1.520

Cat.No.  
38565.01 50 ml  
38565.02 500 ml

Cefotaxime-Na-salt research grade
(Claforan)
C16H16N5O7S2·Na (Claforan)
CAS [64485-93-4]

Cephalosporin derivative; β-lactamase resistant antibiotic. Effective against gram positive and gram negative bacteria (1). Optimal pH for stability in aqueous solution: 4.3 - 6.2 (2).

References:

Cat.No.  
38565.01 50 ml  
38565.02 500 ml

Carbopol® 934 pract.
WGK 1L ▪ HS 39069090
A carboxyvinyl-polymer of Goodrich Chemical Co. with a very high molecular weight. The powder supplied as the free acid is soluble in water up to 5% and forms a solution of fairly low viscosity with pH ca. 3. Upon neutralization with sodium hydroxide a highly viscous gel is formed, even at a concentration of only 0.1%. Tackifier, emulsion and suspension stabilizer. White, hygroscopic powder, physiologically harmless.

Catalase = registered trademark of B.F. Goodrich Chemical Co.
D-Cellobiose  
**analytical grade**

\[ (\text{D}-\text{d}-\text{Glucopyranosyl-D-glucose}) \]

C\(_{12}\)H\(_{22}\)O\(_{11}\) (4-O-b-D-Glucopyranosyl-D-glucose)

\[ \text{CAS} \, [528-50-7] \]

EINECS 208-436-5  
\[ \text{WGK} \, 1 \quad \text{HS} \, 2940000 \]

For bacteriology. Substrate for \( \beta \)-glucosidase.

Purity (HPLC)  
\[ \text{min.} \, 98.0 \% \]

MP  
\[ 240 \, ^\circ \text{C} \, (\text{dec}) \]

\( [\alpha]_D^20 \, 20 \% \, (c=4 \% \, \text{in water}) \)

\[ +33.0 \, ^\circ \text{C} \, \text{to} \, +35.0 \, ^\circ \text{C} \]

References:  

**Cellulase »Onozuka« R-10 from Trichoderma viride ca. 1 U/mg**

CAS [9012-54-8]

DANGER  
\[ \text{HS} \, 334 \quad \text{EINECS} \, 647-002-00-3 \quad \text{WGK} \, 1 \quad \text{HS} \, 35079090 \]

Storage temperature +2 °C to +8 °C

A multi-component enzyme system (1). Although the preparation has high cellulase activity, it still contains hemicellulases, and it degrades mannans, xylans, galactomannans, pectins and other polysaccharides. Widely used for the isolation of protoplasts, for its ability to degrade cell walls, often in combination with Macerozyme R-10 (cat. no. 28302) (2).

Temperature optimum: 40 - 50 °C

pH-optimum: pH 4 - 5

Unit definition: 1 U catalyzes the liberation of 1 \( \mu \text{ mole} \) glucose from sodium carboxymethyl cellulose per minute at 40 °C, pH 4.5; glucose determined with alkaline copper reagent (3).

Extraneous activities: -amylase ca. 0.8 U, pectinase ca. 0.4 U, protease ca. 0.01 DMC-U, hemicellulase ca. 1 U/mg (1 U catalyzes the liberation of 1 \( \mu \text{ mole} \) reducing groups from xylan per hour at 37 °C, pH 5.5, calculated as xylose).

References:  

**Cellulase »Onozuka« RS from Trichoderma viride ca. 2 U/mg**

CAS [9012-54-8]

DANGER  
\[ \text{HS} \, 334 \quad \text{EINECS} \, 647-002-00-3 \quad \text{WGK} \, 1 \quad \text{HS} \, 35079090 \]

Storage temperature +2 °C to +8 °C

A multi-component enzyme system (1). Although the preparation has high cellulase activity, it still contains hemicellulases, and it degrades mannans, xylans, galactomannans, pectins and other polysaccharides. Contains about three times as high xylanase activity as Cellulase Onozuka R-10 (cat. no. 28302) (2). It still contains hemicellulases, and it degrades mannans, xylans, galactomannans, pectins and other polysaccharides. Widely used for the isolation of protoplasts, for its ability to degrade cell walls, often in combination with Macerozyme R-10 (cat. no. 28302) (2).

Temperature optimum: 50 - 60 °C

pH-optimum: pH 4 - 5

Unit definition: 1 U catalyzes the liberation of 1 \( \mu \text{ mole} \) glucose from sodium carboxymethyl cellulose per minute at 40 °C, pH 4.5; glucose determined with alkaline copper reagent (3).

Extraneous activities: Contains \( \alpha \)-amylase, pectinase, protease and hemicellulase.

References:  
CentriPure MINI Spin Columns Desalt Z-50

HS 38220000
Storage temperature +2 °C to +8 °C
Quick and efficient desalting, buffer exchange, removal of dyes and small molecules from proteins greater than 25 kDa with minimal dilution. Purified proteins are eluted into pure, deionized water.
(Caution! Some proteins may precipitate in pure water with low ionic strength)
The gel bed has a volume of 0.8 ml. Samples with a volume of between 10 and 100 µl can be processed. Optimal purification and recovery is obtained with a sample volume of 50 µl.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>42113.01</td>
<td>4 columns</td>
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</table>

CentriPure MINI Spin Columns PBS Z-50

HS 38220000
Storage temperature +2 °C to +8 °C
Quick and efficient buffer exchange, removal of dyes and small molecules from proteins greater than 5 kDa with minimal dilution. Purified proteins are eluted into Phosphate Buffered Saline (PBS, pH 7). The gel bed has a volume of 0.8 ml. Samples with a volume of between 10 and 100 µl can be processed. Optimal purification and recovery is obtained with a sample volume of 50 µl.

<table>
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CentriPure MINI Spin Columns Desalt Z-50

HS 38220000
Storage temperature +2 °C to +8 °C
Quick and efficient desalting, buffer exchange, removal of dyes and small molecules from proteins greater than 25 kDa with minimal dilution. Purified proteins are eluted into pure, deionized water.
(Caution! Some proteins may precipitate in pure water with low ionic strength)
The gel bed has a volume of 0.8 ml. Samples with a volume of between 10 and 100 µl can be processed. Optimal purification and recovery is obtained with a sample volume of 50 µl.

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CentriPure MINI Spin Columns PBS Z-50

HS 38220000
Storage temperature +2 °C to +8 °C
Quick and efficient buffer exchange, removal of dyes and small molecules from proteins greater than 5 kDa with minimal dilution. Purified proteins are eluted into Phosphate Buffered Saline (PBS, pH 7). The gel bed has a volume of 0.8 ml. Samples with a volume of between 10 and 100 µl can be processed. Optimal purification and recovery is obtained with a sample volume of 50 µl.

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</table>

CentriPure MINI Spin Columns PBS Z-25

HS 38220000
Storage temperature +2 °C to +8 °C
Quick and efficient buffer exchange, removal of dyes and small molecules from proteins greater than 5 kDa with minimal dilution. Purified proteins are eluted into Phosphate Buffered Saline (PBS, pH 7). The gel bed has a volume of 0.8 ml. Samples with a volume of between 10 and 100 µl can be processed. Optimal purification and recovery is obtained with a sample volume of 50 µl.

<table>
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<tbody>
<tr>
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CentriPure MINI Spin Columns TRIS Z-25

HS 38220000
Storage temperature +2 °C to +8 °C
Quick and efficient buffer exchange, removal of dyes and small molecules from proteins greater than 5 kDa with minimal dilution. Purified proteins are eluted into 1 mM TRIS, pH 6. The gel bed has a volume of 0.8 ml. Samples with a volume of between 10 and 100 µl can be processed. Optimal purification and recovery is obtained with a sample volume of 50 µl.

<table>
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<th>Cat.No.</th>
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</table>

CentriPure MINI Spin Columns TRIS Z-25

HS 38220000
Storage temperature +2 °C to +8 °C
Quick and efficient buffer exchange, removal of dyes and small molecules from proteins greater than 5 kDa with minimal dilution. Purified proteins are eluted into 1 mM TRIS, pH 6. The gel bed has a volume of 0.8 ml. Samples with a volume of between 10 and 100 µl can be processed. Optimal purification and recovery is obtained with a sample volume of 50 µl.

<table>
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</table>
### CentriPure MINI Spin Columns TRIS Z-25

**HS 38220000**  
Storage temperature +2 °C to +8 °C  
Quick and efficient buffer exchange, removal of dyes and small molecules from proteins greater than 25 kDa with minimal dilution. Purified proteins are eluted into 1 mM TRIS, pH 6.  
The gel bed has a volume of 0.8 ml. Samples with a volume of between 10 and 100 µl can be processed. Optimal purification and recovery is obtained with a sample volume of 50 µl.

<table>
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<tr>
<th>Cat.No.</th>
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### CentriPure MINI Spin Columns TRIS Z-50

**HS 38220000**  
Storage temperature +2 °C to +8 °C  
Quick and efficient buffer exchange, removal of dyes and small molecules from proteins greater than 25 kDa with minimal dilution. Purified proteins are eluted into 1 mM TRIS, pH 6.  
The gel bed has a volume of 0.8 ml. Samples with a volume of between 10 and 100 µl can be processed. Optimal purification and recovery is obtained with a sample volume of 50 µl.

<table>
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<th>Cat.No.</th>
<th>Size</th>
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<tbody>
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<tr>
<td>42125.01</td>
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</tbody>
</table>

### CentriPure P5 Columns

**HS 38220000**  
Storage temperature +2 °C to +8 °C  
Rapid and efficient removal of small molecules (salts, dyes, ammonia, hapten, biotin, etc.) from antibodies, enzymes and other proteins. Molecules purified with Zetadex-25 are separated according to size.  
Proteins larger than 10 kDa in a sample volume of up to 0.5 ml can be purified with an elution volume of 1 ml.

<table>
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<th>Size</th>
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<td>42103.01</td>
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### CentriPure P10 Columns

**HS 38220000**  
Storage temperature +2 °C to +8 °C  
Rapid and efficient removal of small molecules (salts, dyes, ammonia, hapten, biotin, etc.) from antibodies, enzymes and other proteins. Molecules purified with Zetadex-25 are separated according to size.  
Proteins larger than 10 kDa in a sample volume of up to 1 ml can be purified with an elution volume of 1.2 to 1.5 ml.

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<tbody>
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### CentriPure P25 Columns

**HS 38220000**  
Storage temperature +2 °C to +8 °C  
Rapid and efficient removal of small molecules (salts, dyes, ammonia, hapten, biotin, etc.) from antibodies, enzymes and other proteins. Molecules purified with Zetadex-25 are separated according to size.  
Proteins larger than 10 kDa in a sample volume of up to 2.5 ml can be purified with an elution volume of 2.7 to 3.5 ml.

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**CentriPure P50 Columns**
HS 38220000
Storage temperature +2 °C to +8 °C
Rapid and efficient removal of small molecules (salts, dyes, ammonia, hapten, biotin, etc.) from antibodies, enzymes and other proteins. Molecules purified with Zetadex-25 are separated according to size. Proteins larger than 10 kDa in a sample volume of up to 5 ml can be purified with an elution volume of 6 to 8 ml.

**CentriPure P50 Columns**
HS 38220000
Storage temperature +2 °C to +8 °C
Rapid and efficient removal of small molecules (salts, dyes, ammonia, hapten, biotin, etc.) from antibodies, enzymes and other proteins. Molecules purified with Zetadex-25 are separated according to size. Proteins larger than 10 kDa in a sample volume of up to 5 ml can be purified with an elution volume of 6 to 8 ml.

**CentriPure P500 Columns**
HS 38220000
Storage temperature +2 °C to +8 °C
Rapid and efficient removal of small molecules (salts, dyes, ammonia, hapten, biotin, etc.) from antibodies, enzymes and other proteins. Molecules purified with Zetadex-25 are separated according to size. Proteins larger than 10 kDa in a sample volume of up to 50 ml can be purified with an elution volume of 65 to 70 ml.

**Cerulenin from Cephalosporium caerulens**
Research grade
C₅₂H₇₄NO₁₂ • M, 223.27 • CAS [17097-89-6]

**WARNING**

H302-H312-H332 • EINECS 241-424-8 • HS 29419000
Storage temperature -15 °C to -25 °C
Antifungal antibiotic that inhibits sterol and fatty acid biosynthesis. Inhibits HMG-Coa synthetase activity. Induces apoptosis in tumor cell lines. Packaged under argon. Protect from light!
Assay (TLC) min. 98.0 %

**References:**
5. Fussya, Y et al. (1997) Anticancer Res. 17, 4589-93

**Cat.No.** | **Size**
--- | ---
42108.01 | 1 column
42109.01 | 1 column

**Cesium chloride analytical grade**
CsCl • M, 168.4 • CAS [7647-17-8]

**WARNING**
H361 • EINECS 231-600-2 • WGK 1 • HS 28273885
For density gradient centrifugation. Extremely low absorbance, because largely devoid of interfering components which can absorb in the UV range, A₂₆₀ of a 50 % solution in water max. 0.02 (1 cm light path).
Assay min. 99.9 %
A 1 cm/50 % in water/260 nm max. 0.02
Heavy metals (Pb) max. 1 ppm

**References:**

**Cat.No.** | **Size**
--- | ---
16487.01 | 1 mg

**Cetalkonium chloride**
see 14836 Benzyltrimethyl-n-hexadecyl ammonium chloride, page 17

**Cetyltrimethylammonium bromide**
see 16530 Cetyltrimethylammonium bromide, page 30

**Cetyltrimethylammonium-benzylammonium chloride**
see 14836 Benzyltrimethyl-n-hexadecyl ammonium chloride, page 17

**Cetyltrimethylammonium-bromide cryst. pure**
(CTAB; Cetrimide C16; Cetrimonium bromide; Hexadecyltrimethyl ammonium-bromide; Palmityltrimethyl-ammonium-bromide)

**WARNING**
H302-H315-H319-H400-H410 • GGVSE/ADR 9 III UN3077
IATA 9 III UN3077 • EINECS 200-311-3 • WGK 3L • HS 29239000
Cationic surfactant used instead of SDS in electrophoresis of highly charged and membrane protein subunits (1). Surfactant for modifying silica for HPLC and membrane protein subunits (1). Surfactant for modifying silica for HPLC and DNA isolation (4). Increases the efficiency of chemiluminescence (5, 6).
Assay (filt.) min. 99.0 %

**References:**

**Cat.No.** | **Size**
--- | ---
15554.02 | 50 g
15554.03 | 250 g
15554.04 | 1 kg

**CHAPS**
see 17038 3-[(3-Cholamidopropyl)dimethylammonio]-1-propanesulfonate, page 31
Chemiluminescence Reagent for Horseradish Peroxidase

HS 38220000
Storage temperature +2 °C to +8 °C

Ready-to-use substrate solution for chemiluminescence detection of membrane bound antigens or nucleic acid sequences directly with Horseradish Peroxidase (HRP) or indirectly with HRP-conjugated antibodies or Streptavidin labeled (1). Prior to use add 30 % hydrogen peroxide in a 1:1000 dilution (not provided) and use 100 μl/cm².

• High resolution and sensitivity
• Short exposure time
• Document your results on film or with a chemiluminescence applicable gel documentation system.

References:

Chloromycetin; D-threo-2,2-dichloro-N-[hydroxy-](hydroxymethyl)acetamide (1,3-propanediol)

D-threo-2-dichloroacetamido-1-(4-nitrophenyl)-b-a-(hydroxymethyl)

CHCl3 (Trichloromethane)


References:

Chloromphenicol

research grade, Ph. Eur.

(Clo bromycetin; D-threo-2,2-dichloro-N-[hydroxy-]-(hydroxymethyl)acetamide; D-threo-2-dichloroacetamido-1-(4-nitrophenyl)-1,3-propanediol)

C11H12Cl2N2O5

IATA 6.1 III UN1888 • GGVSE/ADR 6.1 III UN1888 • WGK 3

DANGER

H302-H315-H335-H351-H372 • WWK 3 • HS 29414000

Blocks bacterial protein synthesis by inhibiting the peptidyl transferase activity of the 50S ribosomal subunit. Determination in serum by HPLC (1,2), in meat (3). Molecular basis for chloramphenicol resistance (5,6), effects on activity of the 50S ribosomal subunit. Determination in serum by HPLC (1,2)

Assay (GC)

99.9 - 100.0 %
Density (20 °C)
1.478 – 1.482
Water
max. 0.05 %
Acidity
max. 0.001 %
Residue on evaporation (w/w %)
max. 0.0005 %

References:

www.serva.de
Ciprofloxacin is a broad spectrum antibiotic targeting a wide variety of gram negative bacteria. Many mycoplasma strains, inclusive of A. laidlawii, M. orale, M. hyorhinis, M. fermentas, and M. arginine, are sensitive to ciprofloxacin. Since these strains are responsible for most of the contaminations in cell culture, it can be used for removal of mycoplasma contamination. At the recommended concentration of ca. 1 ppm, cytotoxic effects occur. A. laidlawii, M. orale, M. hyorhinis, M. fermentas, and M. arginine, are sensitive to ciprofloxacin. Since these strains are responsible for most of the contaminations in cell culture, it can be used for removal of mycoplasma contamination. At the recommended concentration of ca. 1 ppm, cytotoxic effects occur.
### Citric acid·H₂O analytical grade

**C₆H₈O₇·H₂O**  
Mr 210.1  
CAS [5949-29-1]  

**WARNING**  
H319  
EINECS 201-069-1  
WGK 1  
HS 2918400  
Buffer Substance.  
Assay (hydrate) 99.5 - 101.0 %

<table>
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<th>Size</th>
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<tbody>
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<tr>
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<td>1 kg</td>
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<tr>
<td>38640.03</td>
<td>5 kg</td>
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</table>

### Citric acid-Na₃-salt·2H₂O analytical grade, Ph. Eur.

**(tri-Sodium citrate)**  
**C₆H₅O₇·Na₃·2H₂O**  
Mr 294.1  
CAS [6132-04-3]  

**EINECS** 200-675-3  
**WGK** 1L  
**HS** 29181500  
Assay (titr.) 99.0 - 101.0 %

<table>
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### L-Citrulline research grade

**(L-2-Amino-5-ureido valeric acid)**  
**C₆H₁₃N₃O₃**  
Mr 175.19  
CAS [372-75-8]  

**EINECS** 206-759-6  
**WGK** 1  
**HS** 29241900  
Assay (titr.) 99.0 - 101.0 %  
Heavy metals (Pb) max. 10 ppm

<table>
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<tr>
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</table>

### Claforan

see 16382 Cefotaxime-Na-salt, page 26

### Clamps

HS 90330000  
For thin layer techniques, 6 cm wide. Special bulldog-type with stoppers to prevent bending of clamped glass plates.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
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### CleanPool

HS 80272000  
Combined tray for reydration of CleanGels and soaking the electrode strips.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>HPE-A01</td>
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</tbody>
</table>

### CleanGel 10 % 25S Size: 250 x 125 x 0.43 mm

HS 38220000  
Storage temperature -15 °C to -25 °C  
0.43 mm thick, film-backed, rehydratable precast polyacrylamide gel, 25 slots for 15 µl. For the run on horizontal flatbed systems, such as HPE* BlueTower, HPE* BlueHorizon and Multiphor II*.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>43338.01</td>
<td>4 gels</td>
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</tbody>
</table>

### CleanGel 10 % 52S Size: 250 x 125 x 0.43 mm

HS 38220000  
Storage temperature -15 °C to -25 °C  
0.43 mm thick, film-backed, rehydratable precast polyacrylamide gel, 52 slots for 6 µl. For the run on horizontal flatbed systems, such as HPE* BlueTower, HPE* BlueHorizon and Multiphor II*.

<table>
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</thead>
<tbody>
<tr>
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<td>4 gels</td>
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</table>

### CleanGel IEF for PhastSystem™ Size: 50 x 42 x 0.43 mm

HS 38220000  
Storage temperature -15 °C to -25 °C  
Rehydratable film supported polyacrylamide mini gel for IEF on PhastSystem™.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
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</tbody>
</table>

### Colcemid solution 10 µg/ml sterile filtered

(Demecolcine solution)  
HS 38220000  
Storage temperature -15 °C to -25 °C  
In PBS.  
Colcemid = registered trademark of Ciba-Geigy.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>47253.01</td>
<td>25 ml</td>
</tr>
</tbody>
</table>

### Colchicine cryst. research grade, USP

**C₂₂H₂₅NO₆**  
Mr 399.44  
CAS [64-86-8]  

**DANGER**  
H300-H340  
Muta. 1B  
EG-Index 614-005-00-6  
GGVSE/ADR 6.1 I UN1544  
IATA 6.1 I UN1544  
EINECS 200-598-5  
HS 29399900  
USP  
Assay (HPLC) 94.0 - 101.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>77120.01</td>
<td>250 mg</td>
</tr>
<tr>
<td>77120.02</td>
<td>1 g</td>
</tr>
<tr>
<td>77120.03</td>
<td>5 g</td>
</tr>
</tbody>
</table>

### Colchicine solution 10 µg/ml sterile filtered

HS 38220000  
Storage temperature -15 °C to -25 °C  
In PBS.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>47252.01</td>
<td>25 ml</td>
</tr>
</tbody>
</table>

### Coleonal

see 21780 Forskolin, page 55

### Colfarsin

see 21780 Forskolin, page 55
Biochemical or pathological studies of standard cells and stem cells

Formation of an in vivo-like 3D matrix of collagen attached to the bottom of the culture dish or as a floating pad in/on the culture media for cell growth, attachment of thin layers of cells

Coating of surfaces or use as a solid gel providing a substrate for improved cell migration assays, cell interaction with receptors, and cell adhesion. Preparation of thin layers of cells on surfaces or as floating pads in/on the culture media for cell growth, attachment of thin layers of cells

Excellent source for providing collagen fibrils for cell and tissue cultures and preparation of collagen film and gels (1, 2).

Compared to pepsin solubilized collagen, acid solubilized collagen produces at the same concentration stronger gels with transparent to white color.

Storage temperature +2 °C to +8 °C.

**References:**

**Collagen R solution 0.2 % sterile**

Mₐ ca. 300 000

Storage temperature +2 °C to +8 °C.

Type 1 rat tail collagen; 2 mg/ml in 0.1 % acetic acid. Excellent substrate for the culture of hepatocytes, fibroblasts, and epithelial cells. Preparation of collagen film and gels (1, 2).

**References:**

**Collagen R solution 0.4 % sterile**

Mₐ ca. 300 000

Storage temperature +2 °C to +8 °C.

Type 1 rat tail collagen; 4 mg/ml in 0.1 % acetic acid. Excellent substrate for the culture of hepatocytes, fibroblasts, and epithelial cells. Preparation of collagen film and gels (1, 2).

**References:**

**Collagenase substrate per E. Wünsch**

(4-Phenylazobenzyloxycarbonyl-Pro-Leu-Gly-Pro-D-Arg)

C₄₃H₅₂N₁₀O₈ Mr 776.9 CAS [17011-78-8]

EINECS 241-086-1

Storage temperature -15 °C to -25 °C

Purity (HPLC) > 97.0 %

**References:**

**Collagen CS solution 0.5 %**

in 0.01 M HCl, sterile

HS 38200000

Storage temperature +2 °C to +8 °C.

Purified native collagen type I solution from bovine calf dermis of calves 6 months of age or younger. It has been acid solubilized without enzyme treatment and pepsin extraction. Compared to pepsin solubilized collagen, acid solubilized collagen produces at the same concentration stronger gels with transparent to white appearance at physiological pH and temperatures (1).

Excellent source for providing collagen fibrils for cell and tissue cultures and tissue engineering projects for various applications:

- Coating of surfaces or use as a solid gel providing a substrate for improved attachment of thin layers of cells
- Formation of an in vivo-like 3D matrix of collagen attached to the bottom of a culture dish or as a floating pad in/on the culture media for cell growth, cell migration assays, cell interaction
- Biochemical or pathological studies of standard cells and stem cells

**References:**

**Collistin sulfate Ph. Eur.**

(Polymyxin E sulfate)

C₃₀H₄₅N₇O₇S₂ Mr 671.9 CAS [1264-72-8]

**References:**

**Comb 0.75 mm, 10 wells, for BlueVertical Primé Casting Stand**

HS 39269097

Cat.No. | Size
---|---
BV-10-0.75 | 1 piece

**Comb 0.75 mm, 15 wells, for BlueVertical Primé Casting Stand**

HS 39269097

Cat.No. | Size
---|---
BV-15-0.75 | 1 piece

**Comb 1.0 mm, 10 wells, for BlueVertical Primé Casting Stand**

HS 90272000

Cat.No. | Size
---|---
BV-10-1.0 | 1 piece

**Comb 1.0 mm, 12 wells, for BlueVertical Primé Casting Stand**

HS 90272000

Cat.No. | Size
---|---
BV-12-1.0 | 1 piece

**Comb 1.0 mm, 15 wells, for BlueVertical Primé Casting Stand**

HS 90272000

Cat.No. | Size
---|---
BV-15-1.0 | 1 piece

**Comb 1.5 mm, 10 wells, for BlueVertical Primé Casting Stand**

HS 39269097

Cat.No. | Size
---|---
BV-10-1.5 | 1 piece

**Comb 1.5 mm, 12 wells, for BlueVertical Primé Casting Stand**

HS 90272000

Cat.No. | Size
---|---
BV-12-1.5 | 1 piece

**Comb 1.5 mm, 15 Wells, for BlueVertical Primé Casting Stand**

HS 90272000

Cat.No. | Size
---|---
BV-15-1.5 | 1 piece

**References:**
## Comb Products

### Comb 1.5 mm, 1 well, for BlueVertical™ PRiME™ Casting Stand
HS 39269097

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>BV-P1-1.5</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

### Comb 1.5 mm, 2 wells, for BlueVertical™ PRiME™ Casting Stand
HS 39269097

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BV-P2-1.5</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

### Comb 0.75 mm, 15 wells, for BM-100 (Gel width 7 cm)
HS 39269097

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-100-15-0.75</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

### Comb 1.0 mm, 10 wells, for BM-200 (Gel width 15 cm)
HS 39269097

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-200-10-1.0</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

### Comb 1.0 mm, 12 wells, for BM-100 (Gel width 7 cm)
HS 39269097

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-100-12-1.0</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

### Comb 1.0 mm, 16 wells, for BM-200 (Gel width 15 cm)
HS 39269097

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-200-16-1.0</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

### Comb 1.0 mm, 2 wells, for BM-200 (Gel width 15 cm)
HS 39269097

Preparative comb.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-200-P2-1.0</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

### Comb 1.0 mm, 20 wells, for BM-200 (Gel width 15 cm)
HS 39269097

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-200-20-1.0</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

### Comb 1.0 mm, 26 wells-MC, for BM-200 (Gel width 15 cm)
HS 39269097

Multichannel-pipette comb.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-200-M26-1.0</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

### Comb 1.0 mm, 31 wells-MC, for BM-200 (Gel width 15 cm)
HS 39269097

Multichannel-pipette comb.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-200-M31-1.0</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

### Comb 1.0 mm, 8 wells, for BM-100 (Gel width 7 cm)
HS 39269097

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-100-8-1.0</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

### Comb 1.5 mm, 10 wells, for BM-200 (Gel width 15 cm)
HS 39269097

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-200-10-1.5</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

### Comb 1.5 mm, 2 wells, for BM-200 (Gel width 15 cm)
HS 39269097

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-200-10-1.5</td>
<td>1 piece</td>
</tr>
<tr>
<td>Description</td>
<td>Cat.No.</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Comb 1.5 mm, 12 wells, für BM-100 (Gel width 7 cm)</td>
<td>BM-100-12-1.5</td>
</tr>
<tr>
<td>Number of wells:</td>
<td>12</td>
</tr>
<tr>
<td>Thickness of comb (mm):</td>
<td>1.5</td>
</tr>
<tr>
<td>Width of well (mm):</td>
<td>3.7</td>
</tr>
<tr>
<td>Depth of well (mm):</td>
<td>10</td>
</tr>
<tr>
<td>Sample Volume (µl):</td>
<td>17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comb 1.5 mm, 14 wells, for BM-100 (Gel width 7 cm)</td>
<td>BM-100-14-1.5</td>
<td>1 piece</td>
</tr>
<tr>
<td>Number of wells:</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Thickness of comb (mm):</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Width of well (mm):</td>
<td>3.0</td>
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</tr>
<tr>
<td>Depth of well (mm):</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Sample Volume (µl):</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comb 1.5 mm, 16 wells, for BM-200 (Gel width 15 cm)</td>
<td>BM-200-16-1.5</td>
<td>1 piece</td>
</tr>
<tr>
<td>Number of wells:</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Thickness of comb (mm):</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Width of well (mm):</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Depth of well (mm):</td>
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<tr>
<td>Sample Volume (µl):</td>
<td>30</td>
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</table>

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<th>Size</th>
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</thead>
<tbody>
<tr>
<td>Comb 1.5 mm, 2 wells, for BM-200 (Gel width 15 cm)</td>
<td>BM-200-2-1.5</td>
<td>1 piece</td>
</tr>
<tr>
<td>Preparative comb.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of wells:</td>
<td>1+2</td>
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<tr>
<td>Thickness of comb (mm):</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Width of well (mm):</td>
<td>125</td>
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<tr>
<td>Depth of well (mm):</td>
<td>10</td>
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</tr>
<tr>
<td>Sample Volume (µl):</td>
<td>565</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Description</th>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comb 1.5 mm, 20 wells, for BM-200 (Gel width 15 cm)</td>
<td>BM-200-20-1.5</td>
<td>1 piece</td>
</tr>
<tr>
<td>Number of wells:</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Thickness of comb (mm):</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Width of well (mm):</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Depth of well (mm):</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Sample Volume (µl):</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comb 1.5 mm, 26 wells-MC, for BM-200 (Gel width 15 cm)</td>
<td>BM-200-M26-1.5</td>
<td>1 piece</td>
</tr>
<tr>
<td>Multichannel-pipette comb.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of wells:</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Thickness of comb (mm):</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Width of well (mm):</td>
<td>4</td>
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<tr>
<td>Depth of well (mm):</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Sample Volume (µl):</td>
<td>18</td>
<td></td>
</tr>
</tbody>
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<tr>
<th>Description</th>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comb 1.5 mm, 26 wells, for BM-200 (gel width 15 cm)</td>
<td>BM-200-26-1.5</td>
<td>1 piece</td>
</tr>
<tr>
<td>Number of wells:</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Thickness of comb (mm):</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Width of well (mm):</td>
<td>4</td>
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<tr>
<td>Depth of well (mm):</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Sample Volume (µl):</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comb 1.5 mm, 8 wells, for BM-100 (Gel width 7 cm)</td>
<td>BM-100-8-1.5</td>
<td>1 piece</td>
</tr>
<tr>
<td>Number of wells:</td>
<td>8</td>
<td></td>
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<tr>
<td>Thickness of comb (mm):</td>
<td>1.5</td>
<td></td>
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<tr>
<td>Width of well (mm):</td>
<td>6.0</td>
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<td>Depth of well (mm):</td>
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</tr>
<tr>
<td>Sample Volume (µl):</td>
<td>28</td>
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<table>
<thead>
<tr>
<th>Description</th>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comb 2.0 mm, 1 well, for BM-100 (Gel width 7 cm)</td>
<td>BM-100-P1-2.0</td>
<td>1 piece</td>
</tr>
<tr>
<td>Preparative comb.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of wells:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Thickness of comb (mm):</td>
<td>2.0</td>
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</tr>
<tr>
<td>Width of well (mm):</td>
<td>55.0</td>
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</tr>
<tr>
<td>Depth of well (mm):</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Sample Volume (µl):</td>
<td>330</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comb 2.0 mm, 10 wells, for BM-200 (Gel width 15 cm)</td>
<td>BM-200-10-2.0</td>
<td>1 piece</td>
</tr>
<tr>
<td>Number of wells:</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Thickness of comb (mm):</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Width of well (mm):</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Depth of well (mm):</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Sample Volume (µl):</td>
<td>70</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comb 2.0 mm, 12 wells, für BM-100 (Gel width 7 cm)</td>
<td>BM-100-12-2.0</td>
<td>1 piece</td>
</tr>
<tr>
<td>Number of wells:</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Thickness of comb (mm):</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Width of well (mm):</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>Depth of well (mm):</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Sample Volume (µl):</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comb 2.0 mm, 14 wells, for BM-100 (Gel width 7 cm)</td>
<td>BM-100-14-2.0</td>
<td>1 piece</td>
</tr>
<tr>
<td>Number of wells:</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Thickness of comb (mm):</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Width of well (mm):</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Depth of well (mm):</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Sample Volume (µl):</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comb 2.0 mm, 16 wells, for BM-200 (Gel width 15 cm)</td>
<td>BM-200-16-2.0</td>
<td>1 piece</td>
</tr>
<tr>
<td>Number of wells:</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Thickness of comb (mm):</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Width of well (mm):</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Depth of well (mm):</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Sample Volume (µl):</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>
### Comb 2.0 mm, 2 wells, for BM-200 (Gel width 15 cm)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-200-P2-2.0</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

Preparative comb.
- **Number of wells:** 1+2
- **Thickness of comb (mm):** 2.0
- **Width of well (mm):** 125
- **Depth of well (mm):** 10
- **Sample Volume (µl):** 750

### Comb 2.0 mm, 20 wells, for BM-200 (Gel width 15 cm)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-200-20-2.0</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

Multichannel-pipette comb.
- **Number of wells:** 20
- **Thickness of comb (mm):** 2.0
- **Width of well (mm):** 5
- **Depth of well (mm):** 10
- **Sample Volume (µl):** 25

### Comb 2.0 mm, 26 wells-MC, for BM-200 (Gel width 15 cm)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-200-M26-2.0</td>
<td>1 piece</td>
</tr>
</tbody>
</table>

- **Number of wells:** 26
- **Thickness of comb (mm):** 2.0
- **Width of well (mm):** 4
- **Depth of well (mm):** 10
- **Sample Volume (µl):** 24

### Cooling Contact Fluid

- **Cat.No.** 43371.01
- **Size** 50 ml
- **Cat.No.** 43371.02
- **Size** 3 x 50 ml

Storage temperature +2 °C to +8 °C

Coomassie® Brilliant Blue G 250

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>17524.01</td>
<td>25 g</td>
</tr>
<tr>
<td>17524.02</td>
<td>100 g</td>
</tr>
</tbody>
</table>

C.I. 42655 • C47H48N3O7S2·Na
- **Mr** 854.0
- **CAS** [6104-58-1]
- **EINECS** 228-058-4
- **WGK** 2L

Corresponds to SERVA Blue G (cat. no. 35050).

Coomassie® Brilliant Blue R 250

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
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<td>25 g</td>
</tr>
<tr>
<td>17525.02</td>
<td>100 g</td>
</tr>
</tbody>
</table>

C.I. 42660 • C45H44N3O7S2·Na
- **Mr** 826.0
- **CAS** [6104-59-2]
- **EINECS** 228-060-5
- **WGK** 2L

Corresponds to SERVA Blue R (cat. no. 35051).

Crystal Violet

<table>
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<th>Size</th>
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</thead>
<tbody>
<tr>
<td>27215.01</td>
<td>25 g</td>
</tr>
</tbody>
</table>

C25H30ClN3
- **Mr** 408.0
- **CAS** [548-62-9]

This dye is chemically homogeneous and well-defined, particularly recommended for Flemming and gram staining because of reproducible results. Commercial preparations usually contain components of reddish tinge like methyl violet 2B. Indicator pH 0.0 - 1.8.

CSF Analysis Kit for PhastSystem™

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>27335.02</td>
<td>100 g</td>
</tr>
</tbody>
</table>

Storage temperature -15 °C to -25 °C

CTAB

<table>
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<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>43393.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

see 16530 Cetyltrimethylammonium·bromide, page 30
**CTAB DNA Extraction Buffer** molecular biology grade

HS 38220000

Cetyltrimethylammonium-bromide (CTAB) is a non-ionic detergent, which forms insoluble complexes with nucleic acids if the sodium chloride concentration in the solution is around 0.5 M. Polysaccharides, phenolic components and other enzyme-inhibiting impurities from lysates of plant cells can be effectively removed with the CTAB lysis buffer (1). Contains 2 % CTAB, 20 mM EDTA·Na₂·2H₂O, 1.4 mM NaCl and 100 mM Tris, pH 8.

**References:**

---

**Cyanase** Nuclease

HS 35079090

Storage temperature -15 °C to -25 °C

Supplied as solution in 50 mM Tris-HCl pH 8.0, 5 mM MgSO₄, 50 % (v/v) glycerol.

Cyanase is a cloned highly active non-Serratia based non-specific endonuclease that degrades single and double stranded DNA and RNA in as little as 1 minute.

Cyanase is easily removed from samples after the reaction is finished using the Cyanase Inactivation Resin (cat. no. 18543). The resin can be easily filtered or spun down to remove from the sample removing the Cyanase with it.

Because of its unique properties, Cyanase is effective for cell lysate clearance, protein and viral purification and nucleic acid removal from samples.

- Fastest nuclease on the market
- Broad pH range
- Active in higher salt concentrations
- Unaffected by lysozyme or detergent
- Easily inactivated and removed
- Unsurpassed stability, can be stored up to 1 year at room temperature with minimal loss of activity

**Unit definition:** One unit is the amount of enzyme that degrades 3 μg in 1 minute in 50 mM Tris-HCl pH 8.0, 6 mM MnSO₄.

Cyanase = trademark of RiboSolutions, Inc.

---

**Cyanase Inactivation Resin**

HS 38220000

Storage temperature +2 °C to +8 °C

Cyanase Inactivation Resin is a proprietary blend of Cyanase Inhibitor Protein coupled to Sepharose® Fast Flow Resin creating a novel method for inactivating and removing the Cyanase enzyme prior to downstream applications. No more worries about downstream contamination with nucleases or difficult removal processes which may compromise product integrity.

- Average Particle Size: 90 μm in 50 % buffer slurry
- Removal of Cyanase Nuclease simple and easy in as little as 20 min
- No optimization needed
- Active over a wide range of conditions
- No interactions with other proteins or targets
- Extremely tight interaction between Cyanase and resin

Cyanase = trademark of RiboSolutions, Inc.

- Cyanase Inactivation Resin
- Sepharose = trademark of GE Healthcare Companies

---

**Cyanocobalamin**

see 38310 Vitamin B₁₂, page 175

---

**Cycloheximide** cryst. pure

(Acridione, β-[2-(0,5-Dimethyl-2-oxocyclohexyl)-2-hydroxyethyl]-glutarimide)

C₅₆H₃₅NO₇ • M 281.4 • CAS [66-19-1]

**References:**

---

**L-Cysteine** (Cys·HCl; L-2-Amino-d-mercaptopropionic acid hydrochloride)

C₅₃H₆₅NO₂S·HCl·H₂O • M 175.6 • CAS [7048-04-6]

**References:**

---

**L-Cysteine HCl·H₂O** cryst. research grade, Ph. Eur., USP

(Cys·HCl; L-2-Amino-d-mercaptopropionic acid hydrochloride)

C₅₃H₆₅NO₂S·HCl·H₂O • M 175.6 • CAS [7048-04-6]

**L-Cysteine** research grade, Ph. Eur.

(Cys·HCl; L-3,3'-Dithiobis(2-aminopropanoic acid))

C₅₃H₆₅NO₂S·HCl·H₂O • M 175.6 • CAS [56-89-3]

---

**Cytochrome C** cryst. pure

(Acridione, β-[2-(0,5-Dimethyl-2-oxocyclohexyl)-2-hydroxyethyl]-glutarimide)

C₅₆H₃₅NO₇ • M 281.4 • CAS [66-19-1]

**References:**

---

**Cat.No.** | **Size**
---|---
10700.02 | 1 g
10700.01 | 5 g
10700.03 | 25 g

---

**Cat.No.** | **Size**
---|---
17769.01 | 25 g
17769.02 | 100 g
17769.03 | 250 g
17769.04 | 1 kg

---

**Cat.No.** | **Size**
---|---
17880.02 | 50 g
17880.01 | 250 g
Cytochalasin B

C$_{29}$H$_{37}$NO$_{5}$ $\cdot$ M, 479.6 $\cdot$ CAS [14930-96-2]

DANGER
H300 $\cdot$ H310 $\cdot$ H330 $\cdot$ H361d
GGVSE/ADR 6.1 II UN2811 $\cdot$ IATA 6.1 II UN2811 $\cdot$ EINECS 239-000-2 $\cdot$ HS 29339980

Storage temperature +2 °C to +8 °C

From Helminthosporium dematoidum. Reversible inhibitor of cell motion (1). Inhibits phagocytosis (2). Induces polyploidy (3). Induces nuclear extrusion (4, 5).

Assay (HPLC) $> 98.0$ %

Assay (TLC) $> 98.0$ %

References:

Storage temperature +2 °C to +8 °C

Cytochrome C from horse heart lyophil.

M, ca. 12400 $\cdot$ CAS [9007-43-6]

EINECS 232-700-9 $\cdot$ WGK 1 $\cdot$ HS 35079090

Storage temperature -15 °C to -25 °C

Ca. 10 % may be present in the reduced form. Prepared without the use of TCA.

Assay reduced 90.0 - 100.0 %

References:

Demecolcine

Demecolcine research grade
(Colcemid; N-Deacetyl-N-methylcolchicine)

C$_{21}$H$_{25}$NO$_{5}$ $\cdot$ M, 371.42 $\cdot$ CAS [477-30-5]

DANGER
H300 $\cdot$ H330
GGVSE/ADR 6.1 II UN1544 $\cdot$ IATA 6.1 II UN1544 $\cdot$ EINECS 207-514-6

WGK 3L $\cdot$ HS 29399900

Assay (HPLC) min. 97.0 %

Colcemid = registered trademark of Ciba-Geigy.

Demecolcine solution

see 47253 Colcemid™ solution 10 µg/ml, page 33

Denhardt's solution, 50x concentrate molecular biology grade

HS 38220000

Storage temperature -15 °C to -25 °C

DNase/RNase not detected.

Suitable for nucleic acid hybridization. Denhardt's solution is a mixture of blocking agents capable of saturating non-specific binding sites and to be used in membrane-based hybridization protocols. It is recommended for use with nylon membranes.

Composition:
Albumin Fraction V 0.1 g/10 ml
Polyvinylpyrrolidone 0.1 g/10 ml
Ficoll® 400 0.1 g/10 ml

References:

Demecolcine

see 47253 Colcemid™ solution 10 µg/ml, page 33

Denhardt's solution, 50x concentrate molecular biology grade
HS 38220000

Storage temperature -15 °C to -25 °C

DNase/RNase not detected.

Suitable for nucleic acid hybridization. Denhardt's solution is a mixture of blocking agents capable of saturating non-specific binding sites and to be used in membrane-based hybridization protocols. It is recommended for use with nylon membranes.

Composition:
Albumin Fraction V 0.1 g/10 ml
Polyvinylpyrrolidone 0.1 g/10 ml
Ficoll® 400 0.1 g/10 ml

References:

Cat.No. | Size
---|---
39603.01 | 10 ml

Cat.No. | Size
---|---
46138.01 | 5 mg
46138.03 | 25 mg
**Deoxycholic acid-Na-salt**
(Sodium deoxycholate)
C_{24}H_{39}O_{4}·Na + M, 414.6 + CAS [302-95-4]

**WARNING**
H302 + EINECS 200-070-4 + WGK 1 + HS 291930

For bacteriology and enzymology. Suitable for solubilization of many membrane proteins and phospholipids. Assay (HPLC) min. 98.0 %

**EINECS 206-132-7 + WGK 1 + HS 29181930**

Of polystyrene and plasticizers in xylene. Mounting medium for histology. Refractive index 1.52 - 1.53. Neutral solution of polystyrene and plasticizers in xylene.

**Deoxyribonuclease I from Bovine Pancreas min. 3000 Kunitz units/mg lyophil.**
((DNase I; Deoxyribonucleoside-5’-oligonucleotidase)
EC 3.1.21.1 + M, 31 000 + CAS [9003-98-9]

EINECS 232-667-0 + WGK 1 + HS 35079090

Storage temperature -15 °C to -25 °C

Cleaves preferentially double-stranded DNA (in the presence of Mg++-ions

Unit definition: 1 Kunitz unit catalyzes an increase in absorption of 0.001 at 260 nm per minute at 25 °C, pH 5.0 when acting on highly polymerized calf thymus DNA (1).

Activity: min. 3000 Kunitz units/mg lyophilisate

References:

**References:**

Deoxyribonuclease I from Bovine Pancreas


**Deoxyribosylthymine**

see 18600 2’-Deoxythymidine, page 40

**2’-Deoxythymidine**

analytical grade

(2’-dTHd; Deoxyribosylthymine; Thymidine-5-Methyl-
uracil-2’-deoxyriboside)
C_{10}H_{14}N_{2}O_{5} + M, 242.2 + CAS [50-89-5]

EINECS 200-070-4 + WGK 1 + HS 29349990

Assay (HPLC) min. 98.0 %

**Deoxyribosylthymine**

see 18600 2’-Deoxythymidine, page 40

**2’-Deoxythymidine**

analytical grade

(2’-dTHd; Deoxyribosylthymine; Thymidine-5-Methyl-
uracil-2’-deoxyriboside)
C_{10}H_{14}N_{2}O_{5} + M, 242.2 + CAS [50-89-5]

EINECS 200-070-4 + WGK 1 + HS 29349990

Assay (HPLC) min. 98.0 %

**References:**


**DEAE-Dextran research grade**

Mₙ Made from Dextran of molecular weight of approx. 150 000.

WGK 1 + HS 29372100

DEAE-Dextran is used for transfection in mammalian cell culture. The method is suitable for transient expression of cloned genes, but not for stable transformation of cells. Some cell types like BSC-1 cannot be exposed to calcium phosphate because of its toxicity.

But DEAE-Dextran is as well toxic for cells and therefore this transfection method can only be used for certain cell types, e.g. CV-1 and COS cells.

Another advantage of DEAE-Dextran transfection is the necessary lower exposure to calcium phosphate compared to calcium phosphate.

**DANGER**

H315-H319-H335-H360Df + EINECS 200-003-9 + WGK 1 + HS 29372100

Selectively regulates the activity of enzymatic markers of cerebral endothelial cell lines (1). Inhibits the expression of the inducible but not the constitutive nitric oxide synthase in vascular endothelial cells.

Assay (UV) 97.0 - 103.0 %

**References:**


**Detergent 7X®**

neutral, phosphate-free

WGK 1 + HS 34022000

For tissue culture and molecular biology. Highly active cleaning material, guaranteed to be non-toxic for even the most sensitive organisms.

7 X = registered trademark of ICN Pharmaceuticals Inc.

**References:**


**DEPC**

C₃H₉FO₃ + M, 392.5 + CAS [50-02-2]

**DANGER**

H315-H319-H335-H360Df + EINECS 200-003-9 + WGK 1 + HS 29372100

Selectively regulates the activity of enzymatic markers of cerebral endothelial cell lines (1). Inhibits the expression of the inducible but not the constitutive nitric oxide synthase in vascular endothelial cells.

Assay (UV) 97.0 - 103.0 %

**References:**


**Dextran FP 40**

research grade, Ph. Eur.

C₂₂H₂₉FO₅ (3,20-dione)

EINECS 232-667-5 + WGK 1 + HS 39319000

Molecular weight 35 000 - 45 000

Loss on drying max. 7.0 %

Sulfated ash max. 0.3 %

Heavy metals (Pb) max. 10 ppm

**References:**


**Dextran 4**

research grade

CAS [9004-54-0]

EINECS 232-667-5 + WGK 1 + HS 39319000

Molecular weight 3500 - 7500
### Dextran 8 technical grade
CAS [8004-54-0]
EINECS 232-677-5  WGK 2L  HS 39139000
Molecular weight 8 000 - 12 000

<table>
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<td>18689.02</td>
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</table>

### Dextran 100 technical grade
CAS [9004-54-0]
EINECS 232-677-5  WGK 2L  HS 39139000
Molecular weight 100 000 - 200 000

<table>
<thead>
<tr>
<th>Cat.No.</th>
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<tbody>
<tr>
<td>18693.01</td>
<td>100 g</td>
</tr>
<tr>
<td>18693.02</td>
<td>500 g</td>
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</table>

### Dextran 500 technical grade
CAS [9004-54-0]
EINECS 232-677-5  WGK 2L  HS 39139000
Molecular weight ca. 500 000

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<tbody>
<tr>
<td>18696.01</td>
<td>100 g</td>
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### Dextrose
see 22700 α-D-Glucose, page 58

### Diacetylmethylfluorescein
see 21575 Fluorescein diacetate, page 52

### 4',6-Diamidino-2-phenylindole·2HCl analytical grade
(DAPI)
CAS C16H15N5·2HCl Mr 350.25
EINECS 28718-90-3  WGK 1  HS 29215990
Storage temperature +2 °C to +8 °C
Fluorescent dye binding selectively to DNA. For demonstration of mycoplasmas and viruses in cells (1). For fluorescent chromosome staining (2). Dye for brain stem (3). Purity min. 98.0 %

<table>
<thead>
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<th>Cat.No.</th>
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<tbody>
<tr>
<td>18860.01</td>
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<td>18860.02</td>
<td>25 mg</td>
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### 3,3'-Diaminobenzidine·4HCl·xH2O research grade
(DAB)
CAS C6H14N4·4HCl·xH2O Mr 360.1 (anhydr.)
EINECS 868272-85-9  WGK 3  HS 29215990
Storage temperature +2 °C to +8 °C
Vials under argon. For histology and ultrastucture analysis, yields osmiophilic oxidation products (1). Demonstration of ultrastructural peroxidase (2). Assay (titr.) min. 96.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>18865.01</td>
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</tr>
<tr>
<td>18865.02</td>
<td>1 g</td>
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</tbody>
</table>

### Diethyl pyrocarbonate research grade
(DEPC; Ethoxy formic anhydride; Pyrocarbonic acid diethyl ester)
CAS C6H10O5 Mr 162.14
EINECS 1609-47-8  WGK 1  HS 29209085
Storage temperature +2 °C to +8 °C
Crosslinks proteins, reacts with histidine residues (1). RNase inhibitor (2). Sterilization of instruments: 20-minute treatment with a dilution of 1 ml/l (3). Removal of RNases from solutions (except those containing amines like Tris): Add DEPC to final conc. of 0.1 %, stir overnight and autoclave.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
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<td>10 ml</td>
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<tr>
<td>18835.02</td>
<td>100 ml</td>
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</table>

### Digital Imaging and Analysis System III
HS 90275000
The Digital Imaging and Analysis System III from SERVA is a fast and convenient gel documentation system to master the daily tasks of documentation and 1D gel analysis. Solid hardware including a digital SLR camera and easy-to-grasp 1D analysis software GelScan 6.0 are combined to provide an excellent tool to meet your needs. The camera is equipped with an UV-filter. UV-, blue- and white-light transilluminator or epi-white-light are optional. The easy-to-grasp 1D analysis software GelScan 6.0 allows advanced analysis conforming to GLP standard. Export pre-formatted data sets into MS Word®, MS Excel® or MS PowerPoint® for further analysis or publication. Includes GelScript for easy image annotation. Advanced versions of GelScan (RFLP-, cluster-analysis or HTS) are available on request. Components:
- Darkroom cabinet (ca. 42 x 55 x 52 cm)
- UV filter
- Digital SLR Camera
- GelScan 6.0 1D Analysis Software
- GelScript 1.1 Software (Annotation of gel images)

<table>
<thead>
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<th>Cat.No.</th>
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<td>DIAS-III</td>
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</tbody>
</table>

### Digital Imaging and Analysis System III, basic
HS 90275000
The SERVA Digital Imaging and Analysis System III basic is the ideal solution to master the daily tasks of documentation. Components:
- Darkroom cabinet (ca. 42 x 55 x 52 cm)
- UV filter
- Digital SLR camera

<table>
<thead>
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<th>Size</th>
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<tbody>
<tr>
<td>DIAS-III-B</td>
<td>1 piece</td>
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</table>
**Digital Imaging and Analysis System L-340**

HS 90275000

The Digital Imaging and Analysis System L-340 from SERVA is a fast and convenient gel documentation system to master the daily tasks of documentation and 1D gel analysis. Solid hardware including a digital SLR camera and easy-to-grasp software are combined to provide an excellent tool to meet your needs. The camera is equipped with an UV-filter, UV-, blue- and white-light transilluminator or epi-white-light are optional. The 1D analysis software LabImage L-320 as basis of L-340 allows automatic lane detection, manual lane and band correction, calculation of MW, RF, area, band volume, background reduction, creation of own MW or pl standards as well as multiple standards for one gel and has many different report and export functions. In addition L-340 includes primace correction, RF calibration and correction of multiple standards, can normalize not only single band but group of bands and has an additional export report to RFT and XLS. An additional module allows FDA 21 CFR Part 11 compliance.

Components:
- Darkroom cabinet (ca. 42 x 55 x 52 cm)
- UV filter
- Digital SLR Camera
- LabImage L-340

**Digitonin**

see 19551 Digitonin water soluble, page 42

**Digitonin analytical grade, USP**

(Digitin)

C₉₀H₁₆₀O₂₉ • M, 1229.34 • CAS [11024-24-1]

DANGER

H301-IH311-GGVSE/ADR 6.1 II UN2811 • IATA 6.1 II UN2811 • EINECS 234-255-6 • WGK 3L • HS 29389010

Naturally occurring surfactant especially useful for receptor solubilization. Frequently applied as hemolysis reagent and for permeabilization of certain types of cells e.g. blood platelets, hepatocytes, yeast or tumor cells. Also used for the estimation of cholesterol.

References:

**Digitonin water soluble**

research grade

(Digitin)

C₉₀H₁₆₀O₂₉ • M, 1229.34 • CAS [11024-24-1]

DANGER

H301-IH311-GGVSE/ADR 6.1 II UN2811 • IATA 6.1 II UN2811 • EINECS 234-255-6 • WGK 3L • HS 29389010

Turbidity: 1 g is suspended in 20 ml water and dissolved by heating to 95 - 98 °C for 15 minutes.

**2,2-Dihydroxy-1,3-indanediol**

see 30410 Nihydrogin, page 89

**4,6-Dihydroxy-2-thiopyrimidine**

see 36108 2-Thiobarbituric acid, page 166

**Diisopropylfluorophosphate**

pure (DFP, Diisopropyl phosphorofluoridate)

C₅₁H₆₇F₇O₉P • M, 184.15 • CAS [55-91-4]

DANGER

H300-IH310-H330-GGVSE/ADR 6.1 II UN3382 • IATA 6.1 I UN3382 • EINECS 200-247-6 • WGK 2 • HS 29199000

Storage temperature +2 °C to +8 °C

Acetylcholinesterase inhibitor. Highly toxic; do not inhale vapors and avoid skin contact. Protect from moisture.

Assay (GC) min. 98.0 %

References:

**3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium-bromide**

research grade

(MTT, Thiazolyl blue)

C₃₇H₃₅BrN₅S • M, 414.33 • CAS [298-93-1]

EINECS 206-069-5 • WGK 2L • HS 29341000

Detection of dehydrogenases in combination with phenazine methosulfate (1). Terminal electron acceptor in the cycling assay for pyridine nucleotides (2). For colorimetric assay to measure cell activation (3, 4). Assay (litr.) min. 98.0 %

References:

**Dimethyl sulfoxide**

molecular biology grade

(DMSO)

C₉₂H₁₄O • M, 78.1 • CAS [67-68-5]

EINECS 200-664-3 • WGK 1 • HS 29309099

DNease/RNase not detected.

Assay min. 99.9 %

MP 18.0 °C

d20 °C 1.1

Water (KF) max. 0.3 %

**N,N-Dimethyl-N-dodecyl-N-(3-sulfopropyl)ammonium betaine**

see 20761 N-Dodecyl-N,N-dimethylammonio-3-propane sulfonate, page 45
**Dimethyl sulfoxide** research grade

(DMSO)

C₃H₇OS • M 78.1 • CAS [67-68-5]

MAX/TRK 160mg/m³ • EINECS 200-664-3 • WGK 1L • HS 29309099

Highly active solvent and pharmaceutical vehicle; for freezing cells. For gradient centrifugation (1). Determination of cysteine and cystine in proteins (2).

Assay min. 99.9 %

MP 14.8 °C

Water (KF) max. 0.3 %

References:

**Dimethylformamide** research grade

(DMF; DMFA)

C₃H₇NO • M 73.1 • CAS [68-12-2]

DANGER

H226-H312-H332-H360D • Repr. 1B

EINECS 200-679-5 • WGK 1L • HS 29241900

Assay (GC) min. 99.9 %

Storage temperature -15 °C to -25 °C

Also used for electron microscopy.

Detergent; water solubility at 20 °C ca. 1.5 %, at 70 °C ca. 5 %. Suitable for reverse micellar solubilization of enzymes, cell organelles and bacterial cells.

Dioctyl sulfosuccinate·Na-salt

(C18H22ClN3S·0.5 ZnCl2)

(3,7-Bis(dimethylamino)-1,9-dimethylphenothiazin-5-ium chloride)

Particularly suitable for the quantitation and discrimination of sulfated glycosamino glycans (proteoglycans) (3, 4).

References:

**1,9-Dimethylmethylene blue-chloride** pure

((3,7-Bis(dimethylamino)-1,9-dimethylphenothiazin-5-ium chloride)

C₃H₆ClN₅S·0.5 ZnCl₂ • M 416.05 • CAS [931148-92-7]

**Dioctyl sulfosuccinate-Na-salt** research grade, Ph. Eur.

Bis-2-ethylhexyl)sodium sulfosuccinate; Aerosol OT

C₁₈H₃₇O₇S·Na • M 444.6 • CAS [977-11-7]

DANGER

H302-H315-H318

EINECS 209-406-4 • WGK 2L • HS 34029090

Detergent; water solubility at 20 °C ca. 1.5 %, at 70 °C ca. 5 %. Suitable for reverse micellar solubilization of enzymes, cell organelles and bacterial cells.

Assay (titr.) min. 98.0 %

References:

**Direct Red 28** see 27215 Congo Red, page 37

**L(-)-3,3’-Dithiobis(2-aminopropanoic acid)** see 17880 L-Cystine, page 38

**5,5’-Dithiobis(2-nitrobenzoic acid)** research grade

(DTNB; Ellman’s reagent)

C₂₀H₂₁ClN₃S·0.5 ZnCl₂ • M 396.36 • CAS [69-78-3]

**Direct Red 28** see 27215 Congo Red, page 37

**L(-)-3,3’-Dithiobis(2-aminopropanoic acid)** see 17880 L-Cystine, page 38

**5,5’-Dithiobis(2-nitrobenzoic acid)** research grade

(DTNB; Ellman’s reagent)

C₂₀H₂₁ClN₃S·0.5 ZnCl₂ • M 396.36 • CAS [69-78-3]

**Direct Red 28** see 27215 Congo Red, page 37

**L(-)-3,3’-Dithiobis(2-aminopropanoic acid)** see 17880 L-Cystine, page 38

**5,5’-Dithiobis(2-nitrobenzoic acid)** research grade

(DTNB; Ellman’s reagent)

C₂₀H₂₁ClN₃S·0.5 ZnCl₂ • M 396.36 • CAS [69-78-3]

**Direct Red 28** see 27215 Congo Red, page 37

**L(-)-3,3’-Dithiobis(2-aminopropanoic acid)** see 17880 L-Cystine, page 38

**5,5’-Dithiobis(2-nitrobenzoic acid)** research grade

(DTNB; Ellman’s reagent)

C₂₀H₂₁ClN₃S·0.5 ZnCl₂ • M 396.36 • CAS [69-78-3]
Dithiothreitol (DTT; Cleland’s reagent; threo-1,4-Dimercapto-2,3-butanediol) is a reducing agent used in molecular biology and biochemistry. Its CAS number is [3483-12-3] with a molecular weight of 154.25. It is effective in sample buffers for reducing protein disulfide bonds prior to SDS-PAGE (1). Tested for use in reduced SDS-PAGE. Oxidized DTT max. 0.5%.

**Product Information:**
- **CAS Number:** [3483-12-3]
- **Molecular Weight:** 154.25
- **Form:** analytical grade, electrophoresis grade, molecular biology grade
- **Purity:** 99.0%
- **MP:** 40 - 45 °C
- **Storage Temperature:** +2 °C to +8 °C

**References:**

**Preparation Instructions:**
- Use in reduced SDS-PAGE. Oxidized DTT max. 0.5%.
- For quantitative reduction of disulfide groups.
- Designed for use in molecular biology applications.

**Safety Information:**
- Cautions include handling in a fume hood and wearing appropriate personal protective equipment.

**Technical Notes:**
- DTT is effective in sample buffers for reducing protein disulfide bonds prior to SDS-PAGE.
- It is ideal for use in reduced SDS-PAGE, providing a stable reducing environment.

**Usage:**
- Effective in reducing protein disulfide bonds during sample preparation.
- Used in various biochemical assays and experiments that require reduced samples.

---

**DMF**

see 20270 Dimethylformamide, page 43

**DMFA**

see 20271 Dimethylformamide, page 43

**DMSO**

see 20385 Dimethyl sulfoxide, page 43

**DNA Disc Electrophoresis Buffer Kit**

HS 38220000

Buffer system for horizontal native and denaturing DNA-electrophoresis. Contains anode buffer, cathode buffer, cooling contact fluid, and electrode wicks.

**DNA Fragment Analysis Kit**

HS 38220000

Polyacrylamide gel electrophoresis is the optimal separation technique for DNA fragments below 1 kb length. The DNA Fragment Analysis Kit is optimized for SSCP analysis and contains 4 CleanGels 15% with 52 sample slots, rehydration buffer, electrode buffer, buffer wicks, and cooling contact fluid. CleanGels are 0.42 mm thin pre-polymerized polyacrylamide gels, washed and dried down on the film-backing. Short before use they are rehydrated in the DNA disc buffer solution using a dedicated tray: the CleanPool (cat. no. HPE-AD1). The gels are run on a horizontal flatbed equipment like the HPE BlueTower or HPE BlueHorizon.

**DNA from fish sperm pure**

CAS [100403-24-5]

EINECS 309-566-6 | HS 29349990

Storage temperature -15 °C to -25 °C

Defatted; this material is largely depolymerized; suitable as source for various mono- and oligonucleotides. May be used as blocking reagent after solubilization, shearing and heat denaturation.

**DNA Molecular Weight Markers**

see 39314 SERVA DNA Standard 1 Kbp DNA Ladder lyophilized, page 122

**DNAdecon**

see 39810.01 25 g

**DNAdecon kit**

see 39810.02 250 ml

**DNase I**

see 18535 Deoxyribonuclease I from Bovine Pancreas min. 3000 Kunitz units/mg, page 40
2-Dodecenylsuccinic acid anhydride pract.

\[ \text{C}_{12}H_{25}O_4S \cdot \text{Na} \] (SDS; Sodium laurylsulfate; Sodium dodecyl sulfate)

**CAS [151-21-3]**

For biochemistry

- **Assay (GC) min. 99.0 %**
- A 1 cm/10 % in water
  - max. 0.08
  - max. 1.5
  - 260 nm
  - 280 nm

- **C_{12}^- and C_{14}^- sulfate (GC) max. 1.0 %**

**Cat.No.** | **Size**
---|---
20755.01 | 100 g
20755.02 | 1 kg

N-Dodecyl-N,N-dimethylammonio-3-propane sulfonate research grade

(Sulfobetaine SB 12; Ralutol DL; N,N-Dimethyl-N-dodecyl-N-(3-sulfopropyl)ammonium betaine)

**CAS [14933-08-5]**

- **Assay (GC) min. 99.0 %**
- A 1 cm/10 % in water
  - max. 0.05
  - max. 0.1
  - 260 nm
  - 280 nm

- **C_{12}^- and C_{14}^- sulfate (GC) max. 1.0 %**

**Cat.No.** | **Size**
---|---
20760.03 | 50 g

Dodecyl-\(\beta\)-D-maltoside research grade

(Lauryl-\(\beta\)-D-maltoside; DDM)

**CAS [151-21-3]**

- **Assay (GC) min. 99.0 %**
- A 1 cm/10 % in water
  - max. 0.08
  - max. 0.1
  - 260 nm
  - 280 nm

- **C_{12}^- and C_{14}^- sulfate (GC) max. 1.5 %**

**Cat.No.** | **Size**
---|---
20780.03 | 1 g

Dodecylsulfate-Na-salt electrophoresis grade

(SDS; Sodium laurylsulfate; Sodium dodecyl sulfate)

- **Assay (GC) min. 99.0 %**
- A 1 cm/10 % in water
  - max. 0.1
  - 260 nm
  - max. 0.05

**Cat.No.** | **Size**
---|---
20771.01 | 100 g
20771.02 | 500 g

Dodecylsulfate-Na-salt crystalline research grade

(SDS; Sodium laurylsulfate; Sodium dodecyl sulfate)

- **Assay (GC) min. 99.0 %**
- A 1 cm/10 % in water
  - max. 0.2
  - 260 nm
  - max. 0.08

**Cat.No.** | **Size**
---|---
20763.01 | 100 g
20763.02 | 1 kg
**Dowex® 1X8 (20-50 mesh) pract.**

HS 391-0000
Anion exchanger of type I, strongly basic.
Cross Linkage 8 % DVB
Capacity min. 1.2 eq/l
Loss on Drying 45 - 60 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>41080.04</td>
<td>500 g</td>
</tr>
</tbody>
</table>

**Dowex® 1X8 (20-50 mesh) analytical grade**

HS 391-0000
Anion exchanger of type I, strongly basic.
Cross Linkage 8 % DVB
Capacity min. 1.5 eq/l
Loss on Drying 50 - 60 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>41081.03</td>
<td>100 g</td>
</tr>
<tr>
<td>41081.04</td>
<td>500 g</td>
</tr>
</tbody>
</table>

**Dowex® 1X8 (50-100 mesh) pract.**

HS 391-0000
Anion exchanger of type I, strongly basic.
Cross Linkage 8 % DVB
Capacity min. 1.2 eq/l
Loss on Drying 45 - 55 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>41090.02</td>
<td>500 g</td>
</tr>
</tbody>
</table>

**Dowex® 1X8 (50-100 mesh) analytical grade**

HS 391-0000
Anion exchanger of type I, strongly basic.
Cross Linkage 8 % DVB
Capacity min. 1.2 eq/l
Loss on Drying 45 - 55 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>41091.02</td>
<td>500 g</td>
</tr>
</tbody>
</table>

**Dowex® 1X8 (100-200 mesh) pract.**

HS 391-0000
Anion exchanger of type I, strongly basic.
Cross Linkage 8 % DVB
Capacity min. 1.2 eq/l
Loss on Drying 39 - 45 %

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<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>41100.02</td>
<td>500 g</td>
</tr>
</tbody>
</table>

**Dowex® 1X8 (100-200 mesh) analytical grade**

HS 391-0000
Anion exchanger of type I, strongly basic.
Cross Linkage 8 % DVB
Capacity ca. 1.2 eq/l
Loss on Drying 39 - 50 %

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<tr>
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<td>100 g</td>
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<tr>
<td>41101.02</td>
<td>500 g</td>
</tr>
</tbody>
</table>

**Dowex® 50 WX2 (100-200 mesh) pract.**

HS 391-0000
Cation exchanger, strongly acidic.
Cross Linkage 2 % DVB
Capacity min. 0.6 eq/l
Loss on Drying 74 - 82 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>41520.01</td>
<td>100 g</td>
</tr>
<tr>
<td>41520.02</td>
<td>500 g</td>
</tr>
<tr>
<td><strong>DOWEX® 50 WX2 (100-200 mesh)</strong> analytical grade</td>
<td></td>
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<tr>
<td>-----------------------------------------------</td>
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</tr>
<tr>
<td><strong>HS 39140000</strong></td>
<td></td>
</tr>
<tr>
<td>Cation exchanger, strongly acidic.</td>
<td></td>
</tr>
<tr>
<td>Cross Linkage</td>
<td>2 % DVB</td>
</tr>
<tr>
<td>Capacity</td>
<td>min. 0.6 eq/l</td>
</tr>
<tr>
<td>Loss on Drying</td>
<td>74 - 82 %</td>
</tr>
<tr>
<td><strong>Cat.No.</strong> <strong>Size</strong></td>
<td></td>
</tr>
<tr>
<td>41521.01</td>
<td>100 g</td>
</tr>
<tr>
<td>41521.02</td>
<td>500 g</td>
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<table>
<thead>
<tr>
<th><strong>DOWEX® 50 WX2 (200-400 mesh)</strong> analytical grade</th>
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<tbody>
<tr>
<td><strong>HS 39140000</strong></td>
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</tr>
<tr>
<td>Cation exchanger, strongly acidic.</td>
<td></td>
</tr>
<tr>
<td>Cross Linkage</td>
<td>2 % DVB</td>
</tr>
<tr>
<td>Capacity</td>
<td>min. 0.6 eq/l</td>
</tr>
<tr>
<td>Loss on Drying</td>
<td>74 - 81 %</td>
</tr>
<tr>
<td><strong>Cat.No.</strong> <strong>Size</strong></td>
<td></td>
</tr>
<tr>
<td>41531.01</td>
<td>100 g</td>
</tr>
<tr>
<td>41531.02</td>
<td>500 g</td>
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</table>

<table>
<thead>
<tr>
<th><strong>DOWEX® 50 WX8 (100-200 mesh)</strong> pract.</th>
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</tr>
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<tbody>
<tr>
<td><strong>HS 39140000</strong></td>
<td></td>
</tr>
<tr>
<td>Cation exchanger, strongly acidic.</td>
<td></td>
</tr>
<tr>
<td>Cross Linkage</td>
<td>8 % DVB</td>
</tr>
<tr>
<td>Capacity</td>
<td>min. 1.7 eq/l</td>
</tr>
<tr>
<td>Loss on Drying</td>
<td>45 - 55 %</td>
</tr>
<tr>
<td><strong>Cat.No.</strong> <strong>Size</strong></td>
<td></td>
</tr>
<tr>
<td>41620.01</td>
<td>100 g</td>
</tr>
<tr>
<td>41620.02</td>
<td>500 g</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>DOWEX® 50 WX8 (200-400 mesh)</strong> pract.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HS 39140000</strong></td>
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<tr>
<td>Cation exchanger, strongly acidic.</td>
<td></td>
</tr>
<tr>
<td>Cross Linkage</td>
<td>8 % DVB</td>
</tr>
<tr>
<td>Capacity</td>
<td>min. 1.7 eq/l</td>
</tr>
<tr>
<td>Loss on Drying</td>
<td>45 - 55 %</td>
</tr>
<tr>
<td><strong>Cat.No.</strong> <strong>Size</strong></td>
<td></td>
</tr>
<tr>
<td>41630.01</td>
<td>100 g</td>
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<tr>
<td>41630.02</td>
<td>500 g</td>
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</table>

<table>
<thead>
<tr>
<th><strong>DOWEX® 50 WX8 (200-400 mesh)</strong> analytical grade</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HS 39140000</strong></td>
<td></td>
</tr>
<tr>
<td>Cation exchanger, strongly acidic.</td>
<td></td>
</tr>
<tr>
<td>Cross Linkage</td>
<td>8 % DVB</td>
</tr>
<tr>
<td>Capacity</td>
<td>min. 1.7 eq/l</td>
</tr>
<tr>
<td>Loss on Drying</td>
<td>45 - 55 %</td>
</tr>
<tr>
<td><strong>Cat.No.</strong> <strong>Size</strong></td>
<td></td>
</tr>
<tr>
<td>41631.01</td>
<td>100 g</td>
</tr>
<tr>
<td>41631.02</td>
<td>500 g</td>
</tr>
</tbody>
</table>

| **DPBS**                                       | see 47302 Buffer Substance Dulbecco’s, page 24 |
| **DPN**                                        | see 30311 β-Nicotinamide adenine dinucleotide, page 89 |
| **DTE**                                        | see 20697 Dithioerythritol, page 44 |
| **DTNB**                                       | see 20735 5,5’-Dithiobis(2-nitrobenzoic acid), page 43 |

<table>
<thead>
<tr>
<th><strong>E-64 research grade</strong></th>
<th>(trans-2-Epoxy succinyl-L-leucylamide-(4-guanidino)butane, Exopy)[L-3-trans-carboxy oxiran-2-carbonyl]-L-Leu-Agrimatin] C_{17}H_{27}N_{5}O_{5} Il M_{r} 342.4 Il CAS [88321-09-9]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HS 29241900</strong></td>
<td>Storage temperature -15 °C to -25 °C</td>
</tr>
<tr>
<td>Membrane permeable inhibitor of lysosomal cysteine proteases (Cathepsin B/H/L and Caspain), analog of E-64 c.</td>
<td>Assay (HPLC) min. 98.0 %</td>
</tr>
<tr>
<td><strong>References:</strong></td>
<td>1. Tamai, M. et al. (1986) J. Pharmacocat. Dyn. 9, 672</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>E-64 d</strong></th>
<th>(EST; L-3-trans-ethoxy carbonyloxirane-2-carbonyl-L-leucine-(3-methyl butyl)amide, (2S,3S)-trans-epoxysuccinyl-L-leucylamido-3-methylbutane ethyl ester) C_{18}H_{30}N_{2}O_{5} Il M_{r} 357.4 Il CAS [86701-25-5]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HS 29241900</strong></td>
<td>Storage temperature -15 °C to -25 °C</td>
</tr>
<tr>
<td>Inhibitor for papain and other cysteine (thiol) proteases. Effects on metastasis formation in mice (S).</td>
<td>Assay (HPLC) min. 99.0 %</td>
</tr>
<tr>
<td><strong>References:</strong></td>
<td>1. Hanada, K. et al. (1978) Agric. Biol. Chem. 42, 523, 529</td>
</tr>
<tr>
<td></td>
<td>5. Lato, G. et al. (1994) In Vivo 8, 231-6</td>
</tr>
</tbody>
</table>

| **Edamin S**                                   | see 48625 Peptone from lactalbumin, page 94 |
| **EDTA**                                       | see 11278 Ethylenediamine tetraacetic acid, page 50 |
| **EDTA-disodium**                              | see 11280 Ethylenediamine tetraacetic acid·Na₂-salt, page 51 |
| **EGTA**                                       | see 11290 Ethylene glycol bis[(2-aminoethyl)ether]-N,N,N',N'-tetra acetic acid, page 50 |
| **Egtazic acid**                               | see 11290 Ethylene glycol bis[(2-aminoethyl)ether]-N,N,N',N'-tetra acetic acid, page 50 |
Elastase from human neutrophils min. 10 U/mg solution
(Leukocyte elastase)
EC 3.4.21.37 • M, 29 500 • CAS [9004-06-2]

DANGER
H315-H319-H334-H335 • EINECS 232-670-7 • WGK 1
• HS 35070900

Storage temperature -15 °C to -25 °C
Lyophilized from sodium acetate pH ca. 5 containing NaCl. Degrades connective tissue components and plasma proteins. Implicated in the development of lung emphysema, arthritis and inflammatory conditions.

Unit definition: 1 U releases 1 µmole 4-nitroanilide per minute from MeO-Suc-Ala-Ala-Pro-Val-4-nitroanilide at 37 °C, pH 7.5 (1).

References:

Elastase from porcine pancreas min. 120 U/mg protein suspension
EC 3.4.21.36 • M, ca. 25 900
WGK 1 • HS 35070900

Storage temperature +2 °C to +8 °C
In 70 % saturated ammonium sulfate. For the degradation of proteins and peptides: hydrolyzes especially bonds adjacent to neutral amino acid residues.

25 mg correspond to approx. 3 - 4 ml; 100 mg correspond to approx. 11 - 15 ml.

Unit definition: 1 U catalyzes the hydrolysis of 1 µmole N-acetyl-L-alanyl-L-alanyl-L-alanine methyl ester per minute at 25 °C, pH 8.5 (2).

References:

Elastase from porcine pancreas min. 200 U/mg lyophil. salt-free
(Pancreatopeptidase E)
EC 3.4.21.36 • M, ca. 25 900 • CAS [39445-21-1]

DANGER
H315-H319-H334-H335 • EINECS 254-453-6 • WGK 1
• HS 35079090

Storage temperature -15 °C to -25 °C
For the degradation of proteins and peptides. Chromatographically purified (1).

Unit definition: 1 U catalyzes the hydrolysis of 1 µmole N-acetyl-L-alanyl-L-alanyl-L-alanine methyl ester per minute at 25 °C, pH 8.5 (2).

References:

Electrode Set for BB-SD11
HS 90272000

Replacement electrode set for BlueBlot Semi-Dry Blotter SD 11 (BB-SD11). Will also fit into the basis of BlueBlot Semi-Dry Blotter SD 17 (BB-SD17).

Cat.No. Size
20929.01 10 mg
20929.02 25 mg

Cat.No. Size
BB-E11 1 piece

Electrode Set for BB-SD17
HS 90272000

Replacement electrode set for BlueBlot Semi-Dry Blotter SD 17 (BB-SD17). Will also fit into the basis of BlueBlot Semi-Dry Blotter SD 11 (BB-SD11).

Cat.No. Size
BB-E17 1 piece

Electrode Wicks standard size
HS 48232000
Filter cardboard, 120 x 6 x 1 mm.

Cat.No. Size
42968.01 100 pieces

Electrode Wicks long size
HS 48232000
Filter cardboard, 240 x 6 x 1 mm.

Cat.No. Size
42967.03 100 pieces

Electrode Wicks extra size
HS 48232000
Filter cardboard, 300 x 6 x 1 mm.

Cat.No. Size
42972.03 100 pieces

Electronic Starter, for SERVA UV-Table CII (UV-CII)
HS 90278017

Emission Filter 535 nm (BP 35 nm), for SERVA Bluelmager
HS 90275000

535 nm emission filter (+/- 17.5 nm) for SERVA Bluelmager. For capturing gels labelled with fluorescence stains like SERVA Lightning Sci2, Cy2.

Cat.No. Size
EF-535 1 piece

Emission Filter 595 nm (BP 45 nm), for SERVA Bluelmager
HS 90275000

595 nm emission filter (+/- 22.5 nm) for SERVA Bluelmager. For capturing gels labelled with fluorescence stains like SERVA Lightning Red, SERVA Lightning Sci3, Cy3.

Cat.No. Size
EF-595 1 piece

Emission Filter 665 nm (long pass filter), for SERVA Bluelmager
HS 90275000

655 nm long pass emission filter for SERVA Bluelmager. For capturing gels with fluorescence stains like SERVA Lightning Sci5, Cy5.

Cat.No. Size
EF-665 1 piece
End Products A - Z

■ Eosin G
see 21005 Eosin Y-Na-salt, page 49

■ Eosin Y-Na-salt research grade
(Acid Red 87; Eosin Yellowish; Tetrabromo-fluorescein; Eosin G)
C.I.45380 ⋅ C₁₂H₁₆Br₄O₇Na₃ ⋅ Mₙ 691.9 ⋅ CAS [17372-87-1]
HS 29329900
Tested for use as histological stain and as fluorescent indicator
(Y = yellowish).
λ max. 0.001 % in water 516 ± 4 nm

■ EPO Doping IEF Kit 30S
HS 38220000
Storage temperature -15 °C to -25 °C
Ready-to-use kit for differentiation of natural and recombinant erythropoietin (EPO) in doping controls according to National and World Anti-Doping Agencies.
Kit contains 4 EPO IEF Clean Gels with 30 slots, rehydration additive, SERVALYT® EPO mix, SERVALYT® 6 – 8 as cathode buffer, electrode wicks and drying cardboards; suitable for HPE® BlueTower, HPE® BlueHorizon™ and HPE® BlueHorizon™ Multi Deck.

■ Epon 812
see 21045 Glycid ether 100, page 61

■ Epon accelerator DDSA
see 20755 2-Dodecenylsuccinic anhydride, page 45

■ Epon hardener DDSA
see 29452 Methylnadic anhydride, page 83

■ Epoxy embedding medium
see 21041 Embedding Medium ERL-4221D, page 48

■ 1,2-Epoxypropane
see 33715 Propylene oxide, page 100

■ ERL-4206 hardener
see 30812 Nonenylsuccinic anhydride, page 90

■ ERL-4206 plasticizer
see 18247 D.E.R.® 736, page 39

■ Erythromycin base research grade, Ph. Eur.
C₂₀H₆Br₄O₅·Na₂ ⋅ Mₙ 66676-43-5
HS 23915000
Mixture of macrolide-glycoside antibiotics produced by a strain of Streptomyces erythreus; the main component being Erythromycin A. Broad-spectrum antibiotic. Inhibitor of protein biosynthesis (2,3):
- inhibits peptide elongation on the ribosome by binding close to the peptidyl transferase center and blocking the peptide exit tunnel in the large ribosomal subunit (4,5).
Assay (HPLC)
93.0 - 102.0 %
(Sum of Erythromycin A, B, and C)

■ Ethanol denatured 96 %
C₂H₆O ⋅ Mₙ 46.07 ⋅ CAS [64-17-5]
DANGER
H225-H319 ⋅ GGVSE/ADR 3 II UN1170 ⋅ IATA 3 II UN1170 ⋅ EINECS 200-578-6 ⋅ WGK 2 L ⋅ HS 22072000
Assay (CTB) min. 95.0 %
Methyl ethyl ketone 1 %
Denatoniumbenzoat 10 ppm
Aldehyde max. 30 ppm
Acidity max. 10 ppm
Methanol max. 1000 ppm
Residue on evaporation max. 25 ppm

■ Ethanol undenatured 96 % analytical grade
C₂H₆O ⋅ Mₙ 46.07 ⋅ CAS [64-17-5]
DANGER
H225-H319 ⋅ MAK/TRK 500 ml/m³, 960 mg/m³ ⋅ GGVSE/ADR 3 II UN1170 ⋅ IATA 3 II UN1170 ⋅ EINECS 200-578-6 ⋅ WGK 1 ⋅ HS 22071000
Assay (GC) 94.0 - 96.0 %
Water (KF) 4.0 - 6.0 %

■ Ethanol undenatured absolute analytical grade
C₂H₆O ⋅ Mₙ 46.07 ⋅ CAS [64-17-5]
DANGER
H225-H319 ⋅ MAK/TRK 500 ml/m³, 960 mg/m³ ⋅ GGVSE/ADR 3 II UN1170 ⋅ IATA 3 II UN1170 ⋅ EINECS 200-578-6 ⋅ WGK 1 ⋅ HS 22071000
Assay (GC) min. 99.7 %
Water (KF) max. 0.2 %

■ Endoproteinase Glu-C (V8 proteinase), MS approved from Staphylococcus aureus lyophil.
3.4.21.19 ⋅ CAS [66676-43-5]
HS 35070900
Storage temperature -15 °C to -25 °C
Endoproteinase Glu-C (V8) is a serine endoproteinase isolated from Staphylococcus aureus V8.
Approved quality for use in in-gel digestion and mass spectrometric analysis.
The specificity of Glu-C is primarily determined by the buffer pH and composition. Using phosphate buffers (pH 7.8), Glu-C will cleave at both glutamy and aspartyl bonds. Ammonium bicarbonate buffer (pH 7.8) will lead to a preferential cleavage of glutamyl bonds. The presence of proline residues on the carboxy side of the peptide bond inhibits the cleavage.
Due to its highly specific cleavage of peptides Glu-C is used in proteomics for peptide mapping and protein sequence work.

■ EG-Index 603-002-00-5

Cat.No. | Size                     |
---------|--------------------------|
20988.01 | 2 x 25 µg                |

Cat.No. | Size                     |
---------|--------------------------|
21005.01 | 25 g                     |

Cat.No. | Size                     |
---------|--------------------------|
43389.01 | 1 kit                    |

Cat.No. | Size                     |
---------|--------------------------|
11096.01 | 2.5 L                    |
11096.02 | 5 L                      |

Cat.No. | Size                     |
---------|--------------------------|
11094.01 | 1 L                      |
11094.02 | 2.5 L                    |

Cat.No. | Size                     |
---------|--------------------------|
11093.01 | 250 ml                   |
11093.02 | 1 L                      |
11093.03 | 2.5 L                    |
**Ethanol undenatured absolute molecular biology grade**

C₆H₁₂O₂ • M, 46.07 • CAS [64-17-5]

![DANGER]

H₂₂₅-H₃₁₉ • MAK/TRK 500 ml/m³, 960 mg/ml • EG-Index 603-002-00-0 • GGVS/ADR 3 II UN1170 • IATA 6.1 III UN2810

Dₐse/RNₐse not detected. Suitable for use in the precipitation of nucleic acids.

Assay (GC) min. 99.7 %

Water (KF) **max. 0.2 %**

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39556.01</td>
<td>250 ml</td>
</tr>
<tr>
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<td>1 L</td>
</tr>
<tr>
<td>39556.03</td>
<td>2.5 L</td>
</tr>
</tbody>
</table>

**Ethidium bromide research grade**

(1,7-Diamino-10-ethyl-9-phenylphenanthridinium bromide; 3,8-Diamino-5-ethyl-6-phenylphenanthridiniumbromide; Homidium bromide)

C₂₄H₂₄N₂O₂ • M, 384.33 • CAS [1239-45-8]

**DANGER**

H₃₀₂-H₃₃₀-H₃₄₁ • MAK/TRK 500 ml/m³, 960 mg/ml • GGVS/ADR 6.1 I UN2810 • IATA 6.1 I UN2810 • EINECS 214-984-6 • WGK 2 • HS 2933980

Suitable for use in staining of DNA after electrophoresis. Also used as counterstain for cell nuclei in histological and cytological analysis.

Caution:

Ethidium bromide is a powerful mutagen and moderately toxic. Gloves should be worn when working with solutions that contain this dye. For decontamination of dilute ethidium bromide containing solutions follow the method from Lunn and Samsone (1). The adsorbent SERDOLIT® PADI for this procedure is available under cat. no. 42442.

Assay (fltr.) min. 98.0 %

References:


<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>21238.01</td>
<td>1 g</td>
</tr>
<tr>
<td>21238.02</td>
<td>5 g</td>
</tr>
</tbody>
</table>

**Ethidium bromide aqueous solution 1 % w/v**

**DANGER**

H₃₀₂-H₃₃₀-H₃₄₁ • GGVS/ADR 6.1 I UN2810 • IATA 6.1 I UN2810 • WGK 2 • HS 38220000

Storage temperature +2 °C to +8 °C

Concentration: 10 mg/ml. Suitable for use in staining of DNA after electrophoresis or as counterstain of cell nuclei in histology and cytology.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tr>
<td>21290.01</td>
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<tr>
<td>21290.02</td>
<td>50 g</td>
</tr>
</tbody>
</table>

**Ethylene glycol analytical grade**

(Ethanediol; Glycol)

C₂H₆O₂ • M, 62.07 • CAS [107-21-1]

![WARNING]

H₃₀₂-H₃₃₀-H₃₄₁ • MAK/TRK 10 ml/m³; 26 mg/m³ • EG-Index 603-027-00-1 • EINECS 203-473-3 • WGK 1L • HS 29053100

Assay (GC) min. 99.5 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
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<tbody>
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<td>11285.02</td>
<td>1 L</td>
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</tbody>
</table>

**Ethylene glycol bis(2-aminoethyl ether)-N,N,N',N'-tetra acetic acid analytical grade**

(EGTA; Ethylenedinitrilo-tetraacetic acid)

C₁₀H₁₄N₂O₈ • M, 395.56 • CAS [65501-24-8]

**WARNING**

H₃₀₂-H₃₇₃ • MAK/TRK 500 ml/m³, 960 mg/ml • EG-Index 603-027-00-1 • EINECS 214-984-6 • WGK 2 • HS 2933980

Suitable for use in staining of DNA after electrophoresis or as counterstain of cell nuclei in histology and cytological analysis.

Caution:

EGTA is a powerful mutagen and moderately toxic. Gloves should be worn when working with solutions that contain this dye. For decontamination of ethylene glycol bis(2-aminoethyl ether)-N,N,N',N'-tetraacetic acid solution follow the method from Lunn and Samsone (1). The adsorbent SERDOLIT® PADI for this procedure is available under cat. no. 42442.

Assay (fltr.) min. 98.0 %

References:


<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
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**Ethylene glycol bis(2-aminoethyl ether)-N,N,N',N'-tetra acetic acid analytical grade**

(EGTA; Ethylenedinitrilo-tetraacetic acid)

C₁₀H₁₄N₂O₈ • M, 395.56 • CAS [65501-24-8]

**WARNING**

H₃₀₂-H₃₇₃ • MAK/TRK 500 ml/m³, 960 mg/ml • EG-Index 603-027-00-1 • EINECS 214-984-6 • WGK 2 • HS 2933980

Suitable for use in staining of DNA after electrophoresis or as counterstain of cell nuclei in histology and cytological analysis.

Caution:

EGTA is a powerful mutagen and moderately toxic. Gloves should be worn when working with solutions that contain this dye. For decontamination of ethylene glycol bis(2-aminoethyl ether)-N,N,N',N'-tetraacetic acid solution follow the method from Lunn and Samsone (1). The adsorbent SERDOLIT® PADI for this procedure is available under cat. no. 42442.

Assay (fltr.) min. 98.0 %

References:


<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39760.01</td>
<td>250 g</td>
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</tbody>
</table>

**Ethylene diamine tetraacetic acid Na₂-salt molecular biology grade**

(Versene disodium; EDTA-disodium)

C₁₀H₁₄N₂O₈ • M, 372.3 • CAS [6381-92-6]

**EINECS 205-358-3**

**DANGER**

H₃₀₂-H₃₇₃ • MAK/TRK 500 ml/m³, 960 mg/ml • EG-Index 603-027-00-1 • EINECS 214-984-6 • WGK 2 • HS 2933980

Suitable for use in staining of DNA after electrophoresis or as counterstain of cell nuclei in histology and cytological analysis.

Caution:

EGTA is a powerful mutagen and moderately toxic. Gloves should be worn when working with solutions that contain this dye. For decontamination of ethylene glycol bis(2-aminoethyl ether)-N,N,N',N'-tetraacetic acid solution follow the method from Lunn and Samsone (1). The adsorbent SERDOLIT® PADI for this procedure is available under cat. no. 42442.

Assay (fltr.) min. 98.0 %

References:


<table>
<thead>
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<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>39760.01</td>
<td>250 g</td>
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</tbody>
</table>

**EDTA-K₄-salt analytical grade**

(EDTA; Ethylenedinitrilo-tetraacetic acid)

C₁₀H₁₄N₂O₈ • M, 372.3 • CAS [6381-92-6]

**EINECS 205-358-3**

**DANGER**

H₃₀₂-H₃₇₃ • MAK/TRK 500 ml/m³, 960 mg/ml • EG-Index 603-027-00-1 • EINECS 214-984-6 • WGK 2 • HS 2933980

Suitable for use in staining of DNA after electrophoresis or as counterstain of cell nuclei in histology and cytological analysis.

Caution:

EGTA is a powerful mutagen and moderately toxic. Gloves should be worn when working with solutions that contain this dye. For decontamination of ethylene glycol bis(2-aminoethyl ether)-N,N,N',N'-tetraacetic acid solution follow the method from Lunn and Samsone (1). The adsorbent SERDOLIT® PADI for this procedure is available under cat. no. 42442.

Assay (fltr.) min. 98.0 %

References:


<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39760.01</td>
<td>250 g</td>
</tr>
</tbody>
</table>
Ethylamine solution 0.8 % in 1 % KOH

DANGER H302-H312-H315-H319-H373  WGK 2  HS 29333999
Storage temperature -15 °C to -25 °C
Alkylation agent mainly reacting with nucleic acids. In literature referred to as binary ethylene imine. Important for virus inactivation. Used in vaccine production against animal viruses e.g. foot and mouth disease virus, infectious bursal disease virus, swine influenza virus.
In comparison to formalin and beta-propiolacton it preserves better the conformation and accessibility of antigen epitopes. Inactivation rate is not influenced by presence of high serum protein concentration because it reacts only with sulfhydryl groups in proteins. It has no adverse effect on serum properties.

Content (NMR) 0.7 – 0.9 %
Density (20 °C) 1.005 – 1.010
pH 13.2 – 13.8

References:
1. Bahmann H. G (1975) Arch. of Virol., 47, 47-56
3. Razmaraii N. et al. (2012) Arch. of Razi Inst., 21, 25-

Ethylmercury thiosalicylic acid·Na-salt

Versene disodium; EDTA-disodium
C₇H₆ClN₂·C₁₀H₇O₆S₂·Na M 440.9
CAS [51503-28-7]
WGK 2L
HS 28521000

![Structure formula of Ethylmercury thiosalicylic acid·Na-salt]

DANGER H302-H315-H319-H350  EINECS 257-247-4  WGK 2L  HS 2936980
Specific reagent for serum iron determination with high sensitivity. For automated instrumental analysis (1, 2). For determination of acidity of urine and serum (3).

Assay (titr.) min. 99.0 %

References:

Fast Green FCF

(Food Green 3)
C₁₁₃₂₀₅₇·C₂₃₈₆·N₂₃·O₂₃·S₂·Na₂·M 808.9
CAS [2353-45-9]

DANGER H341  EINECS 219-091-5  WGK 2L  HS 32041200
Similar to Lissamine Green SF (C₁₁₂₀₅₇). Useful for quantitative evaluation of polysaccharide gel electrophoretic separations (1, 2, 3).

λ max 0.0005 % in water 624 nm ± 3

References:

Fast Red TR-salt

(Azoic Diaz Component 11; Diazotized 2-amino-5-chlorotoluene-1,5-naphthalene disulfonate; Echtrotsalz TR)
C₁₇₂₀₅₇·C₂₃₈₆·C₂₃₈₆·S₂·Na·M 440.9
CAS [51503-28-7]

DANGER H302-H315-H319-H350  EINECS 257-247-4  WGK 2L  HS 2936980
Coupling with 1-naphthol.

References:

Ferrozine® analytical grade

(PDT disulfonate, 3-[2-Pyridyl]-5,6-diphenyl-1,2,4-triazine-4,4'-disulfonic acid Na-salt)
C₁₇₂₀₅₇·C₂₃₈₆·S₂·Na·M 492.5
CAS [89898-45-9]

WARNING H300-H303-H311-H314-H317  EINECS 274-196-3  WGK 1  HS 29336980
Specific reagent for serum iron determination with high sensitivity. For automated instrumental analysis (1, 2). For determination of acidity of urine and serum (3).

Assay (titr.) min. 98.0 %
Ferrozine = trademark of Diagnostic Chemicals, Canada.

References:
### FICOL® 400

- **M, 300 000 - 500 000**  
  CAS [26873-85-8]
- **WGK 1**  
  HS 39139000

Suitable for preparation of continuous and discontinuous density gradients. For stabilization of membrane-bound particles, isolation of lymphocytes. Dialyzable material (including NaCl) max. 1%. Better osmotic properties than sucrose, it preserves functional and morphological integrity and does not penetrate biological membranes.

FICOL® 400 is a neutral, highly branched, hydrophilic polymer of sucrose which dissolves readily in aequous solution. Concentrations up to 50% (w/v), covering a density range up to 1.2 g/ml, can be obtained without exceeding normal osmorality.

**References:**

---

### 1 ml FliQ Column

- **HS 38220000**
- **Empty 1 ml FPLC chromatography column.**

Both ends of the FliQ columns have 10.32 UNF threads which fits all common chromatography instruments. Pack your own resin into these columns.

Separate your proteins using an FPLC, HPLC, low pressure pump or a syringe. Use your own resins or use our own high capacity: high flow rate resins e.g. Protein A Agarose, Protein G Agarose, Ni-Superflow, Glutathione Superflow Resin.

**Specifications**
- **Bead volume:** 1 ml resin
- **Simple packing procedure**
- **Universal 10.32 UNF threads**
- **Flow rate:** 0.5 to 2 ml/min
- **Stability:** pH 2 - 14
- **Max. pressure:** 42 psi (3 bar)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>21373.01</td>
<td>10 g</td>
</tr>
<tr>
<td>21373.02</td>
<td>50 g</td>
</tr>
</tbody>
</table>

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### 5 ml FliQ Column

- **HS 38220000**
- **Empty 5 ml FPLC chromatography column.**

Both ends of the FliQ columns have 10.32 UNF threads which fits all common chromatography instruments. Pack your own resin into these columns.

Separate your proteins using an FPLC, HPLC, low pressure pump or a syringe. Use your own resins or use our own high capacity: high flow rate resins e.g. Protein A Agarose, Protein G Agarose, Ni-Superflow, Glutathione Superflow Resin.

**Specifications**
- **Bead volume:** 5 ml resin
- **Simple packing procedure**
- **Universal 10.32 UNF threads**
- **Flow rate:** 0.5 to 2 ml/min
- **Stability:** pH 2 - 14
- **Max. pressure:** 42 psi (3 bar)

<table>
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<tr>
<th>Cat.No.</th>
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<tbody>
<tr>
<td>42278.01</td>
<td>1 piece</td>
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</table>

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### 10 ml FliQ Column

- **HS 38220000**
- **Empty 10 ml FPLC chromatography column.**

Both ends of the FliQ columns have 10.32 UNF threads which fits all common chromatography instruments. Pack your own resin into these columns.

Separate your proteins using an FPLC, HPLC, low pressure pump or a syringe. Use your own resins or use our own high capacity: high flow rate resins e.g. Protein A Agarose, Protein G Agarose, Ni-Superflow, Glutathione Superflow Resin.

**Specifications**
- **Bead volume:** 10 ml resin
- **Simple packing procedure**
- **Universal 10.32 UNF threads**
- **Flow rate:** 0.5 to 2 ml/min
- **Stability:** pH 2 - 14
- **Max. pressure:** 42 psi (3 bar)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>42280.01</td>
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</tbody>
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### Float for Xpress Micro Dialyzer for 1 cartridge

The floator consists of high-quality PE foam and carries the Micro Dialyzer ideally in the buffer solution.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46139.01</td>
<td>1 piece</td>
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</tbody>
</table>

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### Fluorescein diacetate 5xcryst. research grade

(Diacetylfluorescein)

**C₉H₇O₃**  
CAS [596-09-8]

**EINECS 209-877-6**  
**WGK 1**  
**HS 29329900**

**Storage temperature** +2 °C to +8 °C

Special quality for the study of cell membranes (1).

For histochemical esterase detection (2). Measurement of mitochondrial pH-gradients in isolated hepatocytes (3).

Use as fluorescent viability stain (4 - 6).

- **MP**  
  200 - 205 °C

**References:**

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>21575.02</td>
<td>5 g</td>
</tr>
</tbody>
</table>
Fluorobind Membrane, surface PVDF

Pore size 0.2 μm, format: 25 cm x 3 m

HS 39219090

Fluorobind Membranes are based on PVDF-type chemistry and show an excellent protein binding capacity. They are not only suitable for all standard applications in protein analysis, but also for special applications like fluorescence detection and protein sequencing. The pore size of 0.2 μm is ideal for blotting of proteins of lower molecular weight and of peptides, but can also be used for larger proteins. The membranes feature a high sensitivity with low background in all common detection systems. The high mechanical stability facilitates handling and allows multiple stripping of the membrane and harsh washing conditions.

Fluoromount for microscopy

WARNING
H226-H315-H319-H335-H411  GGVSE/ADR 3 III UN1866  IATA 3 III UN1866  WGK 2

HS 38220000

Storage temperature +2 °C to +8 °C

Non-fluorescent mounting medium for microscopy, based on polyacrylate in xylene.

Refractive index (20 °C) 1.454 - 1.457

References:

<table>
<thead>
<tr>
<th>Cat.No.</th>
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<tbody>
<tr>
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</tbody>
</table>

Fluoromount W for microscopy, aqueous solution

WGK 2S  HS 38220000

Storage temperature +2 °C to +8 °C

Non-fluorescent mounting medium for microscopy. Ideal for F.I.T.C.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>21634.01</td>
<td>50 ml</td>
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</tbody>
</table>

FocusGel 3-10: Size: 250 x 115 x 0.65 mm

HS 38220000

Ready-to-use horizontal gels for IEF, pH 3-10. 0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film for isoelectric focusing. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamid monomers are removed from the matrix. They contain a special SERVALYT™ cocktail designed to achieve an optimal pH gradient. Electrode solutions and electrode strips are not required, the electrodes are placed directly on the gel surface. Samples are applied to the gel using applicator strips.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
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</table>

FocusGel 3-10 24S: Size: 250 x 115 x 0.65 mm

HS 38220000

Ready-to-use horizontal gels for IEF, pH 3-10, 24 slots for 25 μl. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamid monomers are removed from the matrix. They contain a special SERVALYT™ cocktail designed to achieve an optimal pH gradient. Electrode solutions and electrode strips are not required, the electrodes are placed directly on the gel surface.

<table>
<thead>
<tr>
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<tbody>
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<td>5 gels</td>
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</table>

FocusGel 3-7: Size: 250 x 115 x 0.65 mm

HS 38220000

Ready-to-use horizontal gels for IEF, pH 3-7. 0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film for isoelectric focusing. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamid monomers are removed from the matrix. They contain a special SERVALYT™ cocktail designed to achieve an optimal pH gradient. Electrode solutions and electrode strips are not required, the electrodes are placed directly on the gel surface. Samples are applied to the gel using applicator strips.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
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<td>5 gels</td>
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</tbody>
</table>
**FocusGel 3-7 24S** Size: 250 x 115 x 0.65 mm  
HS 38220000  
Ready-to-use horizontal gels for IEF, pH 3-7, 24 slots for 25 µl.  
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film  
for isoelectric focusing, 24 slots for up to 25 µl. The gels are non-toxic,  
because catalysts and other non-polymerized substances like acrylamid  
monomers are removed from the matrix. They contain a special SERVALYT™  
cocktail designed to achieve an optimal pH gradient. Electrode solutions  
and electrode strips are not required, the electrodes are placed directly on the gel  
surface.

<table>
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<tr>
<th>Cat.No.</th>
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<tbody>
<tr>
<td>43387.01</td>
<td>5 gels</td>
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</tbody>
</table>

**FocusGel 4-5 24S** Size: 250 x 115 x 0.65 mm  
HS 38220000  
Ready-to-use horizontal gels for IEF, pH 4-5, 24 slots for 25 µl.  
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film  
for isoelectric focusing, 24 slots for up to 25 µl. The gels are non-toxic,  
because catalysts and other non-polymerized substances like acrylamid  
monomers are removed from the matrix. They contain a special SERVALYT™  
cocktail designed to achieve an optimal pH gradient. Electrode solutions  
and electrode strips are not required, the electrodes are placed directly on the gel  
surface.

<table>
<thead>
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<th>Cat.No.</th>
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<tbody>
<tr>
<td>43352.01</td>
<td>5 gels</td>
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</tbody>
</table>

**FocusGel 4-6 24S** Size: 250 x 115 x 0.65 mm  
HS 38220000  
Ready-to-use horizontal gels for IEF, pH 4-6, 24 slots for 25 µl.  
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film  
for isoelectric focusing, 24 slots for up to 25 µl. The gels are non-toxic,  
because catalysts and other non-polymerized substances like acrylamid  
monomers are removed from the matrix. They contain a special SERVALYT™  
cocktail designed to achieve an optimal pH gradient. Electrode solutions  
and electrode strips are not required, the electrodes are placed directly on the gel  
surface.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>43334.01</td>
<td>5 gels</td>
<td></td>
</tr>
</tbody>
</table>

**FocusGel 6-11 24S** Size: 250 x 115 x 0.65 mm  
HS 38220000  
Ready-to-use horizontal gels for IEF, pH 6-11, 24 slots for 25 µl.  
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film  
for isoelectric focusing, 24 slots for up to 25 µl. The gels are non-toxic,  
because catalysts and other non-polymerized substances like acrylamid  
monomers are removed from the matrix. They contain a special SERVALYT™  
cocktail designed to achieve an optimal pH gradient. Electrode solutions  
and electrode strips are not required, the electrodes are placed directly on the gel  
surface.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>43329.01</td>
<td>5 gels</td>
<td></td>
</tr>
</tbody>
</table>

**FocusGel 6-11 40S** Size: 250 x 115 x 0.65 mm  
HS 38220000  
Ready-to-use horizontal gels for IEF, pH 6-11, 40 slots for 12 µl.  
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film  
for isoelectric focusing, 40 slots for up to 12 µl. The gels are non-toxic,  
because catalysts and other non-polymerized substances like acrylamid  
monomers are removed from the matrix. They contain a special SERVALYT™  
cocktail designed to achieve an optimal pH gradient. Electrode solutions  
and electrode strips are not required, the electrodes are placed directly on the gel  
surface.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>43333.01</td>
<td>5 gels</td>
<td></td>
</tr>
</tbody>
</table>

**FocusGel 6-9 24S HEM** Size: 250 x 115 x 0.65 mm  
HS 38220000  
Ready-to-use horizontal gels for IEF, pH 6-9, 24 slots for 25 µl.  
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film  
for isoelectric focusing, 24 slots for up to 25 µl. The gels are non-toxic,  
because catalysts and other non-polymerized substances like acrylamid  
monomers are removed from the matrix. They contain a special SERVALYT™  
cocktail designed to achieve an optimal pH gradient. Electrode solutions  
and electrode strips are not required, the electrodes are placed directly on the gel  
surface.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>43330.01</td>
<td>5 gels</td>
<td></td>
</tr>
</tbody>
</table>

**Folic acid** cryt. research grade, Ph. Eur.  
( Pteroylmonoglutamic acid; Folsäure)  
C_{17}H_{20}N_{4}O_{4} • M, 441.4 • CAS [59-30-3]  
EINECS 200-419-0 • WGK 1L • HS 29362900  
Assay (HPLC) 96.0 - 102.0 %  

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>21700.02</td>
<td>25 g</td>
<td></td>
</tr>
<tr>
<td>21700.03</td>
<td>100 g</td>
<td></td>
</tr>
</tbody>
</table>

**Food Green 3**  
see 21295 Fast Green FCF, page 51  

**Formic acid 99 % for LC-MS**  
CAS [84-18-6]  
DANGER  
H2926-H302-H314-H331 • EG-Index 607-001-00-0  
IATA 8 II UN1779  
EINECS 200-579-1 • WGK 1 • HS 29151100  
Additive for eluent phase for LC-MS.  
Assay (acidimetric) min. 99.0 %  
Refractive index (20 °C) 1.3709 – 1.3719  
Residue on evaporation max. 10 ppm  
Transmittance  
260 nm min. 20 %  
270 nm min. 85 %  
Metal Compounds  
Al max. 0.05 ppm  
Mg max. 0.1 ppm  
Fe max. 0.2 ppm  
Ca max. 0.2 ppm  
K max. 0.1 ppm  
Na max. 0.5 ppm  

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>45640.01</td>
<td>50 mg</td>
<td></td>
</tr>
<tr>
<td>45640.02</td>
<td>10 x 1 ml</td>
<td></td>
</tr>
</tbody>
</table>
**Forskolin** research grade

(p-Acetoxy-β,8-epoxy-α,β, 6j), 9α-trihydroxyxlabd-14-en-11-one; Coleffars, Coleonal.

\( C_9H_8O_9N_3 \cdot 7H_2O \) \( M \) 550.19 \ CAS [81028-91-3]

EINECS 262-333-3 \ WGK 1 \ HS 9702000

Diterpene from Coleus forskohii, with cardiovascular effect (dose-dependent) in animals (hyper-tensive, pos. inotrope, vasodilator). Activates adenylyl cyclase (2, 3). Induces apoptosis in human B cells from peripheral blood. 50 % of cells die after two days incubation at a concentration of 100 \( \mu \)M (4). Easily soluble in polar solvents like ethanol or DMSO (stock solution 100 mM). Working solution: 10 - 100 \( \mu \)M. In solution stable for about 12 hours at room temperature. Store in aliquots at -20 °C (stable for < 1 month).

Assay (HPLC, TLC) min. 97.0 %

References:

**D-Fructose** research grade, Ph. Eur.

(Levulose)

\( C_6H_12O_6 \) \( M \) 180.16 \ CAS [59-23-4]

EINECS 200-333-3 \ WGK 1 \ HS 17025000

\([\alpha]_D^{20} + 78 ° \) C (c=10 in water) +8 °C

Free of monophosphate. Suitable as substrate for Aldolase.

Assay (titr.) min. 98.0 %

References:

**D-Fructose-1,6-biphosphate-Na\textsubscript{3} salt** research grade

(Harden-Young-ester)

\( C_9H_12O_8P_2Na_3 \cdot 8H_2O \)

EINECS 266-410-9 \ WGK 1 \ HS 29145000

Storage temperature +2 °C to +8 °C

Free of monophosphate. Suitable as substrate for Aldolase.

Assay (HPLC) min. 98.0 %

References:

**Fuchsins acid** pure

(Acid Violet 19; Rubin S; Fuchsin trisulfonate)

C.l. 42865 \ C_9H_8O_9NsNO_5S_4 \ M 585.5 \ CAS [3244-89-8]

WGK 2L \ HS 32041200

Indicator pH 12 - 14.

\( \lambda_{max} 0.001 \ % \) in \( H_2O \)

546 ± 4 nm

References:

**Fuchsins basic** pure

(Basic Violet 16)

C.142510 \ CAS [632-99-5]

DANGER

H350 \ Carc. 1B \ EINECS 211-189-6 \ HS 32041300

Mixture of homologues of paraphuscin.

\( \lambda_{max} 0.0001 \ % \) in 50 % Ethanol

552 ± 4 nm

References:

**Fungicidin**

see 29870 Nystatin min. 4 400 units/mg, page 91

**Fungizone®**

see 47982 Amphotericin B solution, page 13
<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42983.01</td>
<td>260 mm x 125 mm</td>
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</tbody>
</table>

**GEL-FIX** for PAG

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>42984.01</td>
<td>260 mm x 203 mm</td>
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</tbody>
</table>

**GEL-FIX** for PAG

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

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<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42982.01</td>
<td>265 mm x 125 mm</td>
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</tbody>
</table>

**GEL-FIX** for PAG

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42981.01</td>
<td>265 mm x 193 mm</td>
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</tbody>
</table>

**GEL-FIX** for PAG

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42980.01</td>
<td>50 m x 125 mm</td>
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</tbody>
</table>

**GEL-FIX** for PAG

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>42979.01</td>
<td>50 m x 193 mm</td>
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</tbody>
</table>

**GEL-FIX** for PAG

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>42978.01</td>
<td>200 m x 193 mm</td>
</tr>
</tbody>
</table>

**GEL-FIX** for PAG

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42977.01</td>
<td>245 mm x 125 mm</td>
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</tbody>
</table>

**GEL-FIX** Covers

Film for covering gel surfaces; 0.075 mm polyester film, non-binding, suitable for polyacrylamide and agarose gels.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42976.01</td>
<td>260 mm x 203 mm</td>
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</tbody>
</table>

**GEL-FIX** Covers

Film for covering gel surfaces; 0.075 mm polyester film, non-binding, suitable for polyacrylamide and agarose gels.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42975.01</td>
<td>265 mm x 125 mm</td>
</tr>
</tbody>
</table>

**GEL-FIX** Covers

Film for covering gel surfaces; 0.075 mm polyester film, non-binding, suitable for polyacrylamide and agarose gels.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42974.01</td>
<td>265 mm x 193 mm</td>
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</tbody>
</table>

**GEL-FIX** Covers

Film for covering gel surfaces; 0.075 mm polyester film, non-binding, suitable for polyacrylamide and agarose gels.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42973.01</td>
<td>280 mm x 125 mm</td>
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</tbody>
</table>

**GEL-FIX** Covers

Film for covering gel surfaces; 0.075 mm polyester film, non-binding, suitable for polyacrylamide and agarose gels.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42972.01</td>
<td>258 mm x 125 mm</td>
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</tbody>
</table>

**GEL-FIX** for Agarose

Supporting film for casting of agarose gels; 0.18 mm polyester film, activated on both sides to bind agarose gel layers covalently.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42971.01</td>
<td>265 mm x 125 mm</td>
</tr>
</tbody>
</table>

**GEL-FIX** for Agarose

Supporting film for casting of agarose gels; 0.18 mm polyester film, activated on both sides to bind agarose gel layers covalently.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42969.01</td>
<td>265 mm x 150 mm</td>
</tr>
</tbody>
</table>

**GEL-FIX** for Agarose

Supporting film for casting of agarose gels; 0.18 mm polyester film, activated on both sides to bind agarose gel layers covalently.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>42968.01</td>
<td>200 m x 193 mm</td>
</tr>
</tbody>
</table>

**GEL-FIX** for Agarose

Supporting film for casting of agarose gels; 0.18 mm polyester film, activated on both sides to bind agarose gel layers covalently.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
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</thead>
<tbody>
<tr>
<td>42967.01</td>
<td>80 mm x 125 mm</td>
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</tbody>
</table>

**GEL-FIX** for Agarose

Supporting film for casting of agarose gels; 0.18 mm polyester film, activated on both sides to bind agarose gel layers covalently.

<table>
<thead>
<tr>
<th><strong>Cat.No.</strong></th>
<th><strong>Size</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>42966.01</td>
<td>125 mm x 125 mm</td>
</tr>
</tbody>
</table>

**2D Gel DALTsix NF 12.5 % Kit**

6 gels + buffer kit for ETAN DALTsix: 1 mm thick, 26 x 20 cm non-fluorescent gel support.
2D Gel DALTsix NF 10 -15 % Kit
HS 38220000
6 gels + buffer kit for ETTAN DALTsix. 1 mm thick, 26 x 20 cm non-fluorescent gel support.

Cat.No. Size
43314.01 1 kit

2D Gel DALTsix 12.5 % Kit
HS 38220000
6 gels + buffer kit for ETTAN DALTsix. 1 mm thick, 26 x 20 cm standard gel support.

Cat.No. Size
43315.01 1 kit

2D Gel DALTsix 10 -15 % Kit
HS 38220000
6 gels + buffer kit for ETTAN DALTsix. 1 mm thick, 26 x 20 cm standard gel support.

Cat.No. Size
43318.01 1 kit

2D Gel DALTtwelve NF 12.5% Kit
HS 38220000
12 gels + buffer kit for ETTAN DALTtwelve. 1 mm thick, 26 x 20 cm non-fluorescent gel support.

Cat.No. Size
43317.01 1 kit

2D Gel DALTtwelve 10 -15 % Kit
HS 38220000
12 gels + buffer kit for ETTAN DALTtwelve. 1 mm thick, 26 x 20 cm standard gel support.

Cat.No. Size
43319.01 1 kit

2D Gel DALTtwelve 12.5 % Kit
HS 38220000
12 gels + buffer kit for ETTAN DALTtwelve. 1 mm thick, 26 x 20 cm standard gel support.

Cat.No. Size
43320.01 1 kit

Gelatin Ph. Eur.
CAS [9000-70-8] EINECS 232-554-6 • WGK 1 • HS 35030010
Special quality for bacteriology. A 5 % solution liquefies at 25 - 30 °C and begins to set at 19 - 25 °C.

Cat.No. Size
22151.02 500 g

Gelatin capsules No. 0 for electron microscopy
HS 35030010
Volume 0.7 cm³
Length 21.8 mm
Diameter 7.7 mm

Cat.No. Size
43520.02 500 pieces

Gelatin, liquid
M₄ ca. 60 000 • CAS [9000-70-8] HS 35030080
From fish skin. Solids content 44.0 - 46.0 %. Contains methyl-/propyl-PHB as preservative. Specially prepared and purified gelatin. Supplied as a pourable liquid. Completely water soluble, even at room temperature and at high concentrations. Acts as a protective colloid.

Cat.No. Size
22156.01 100 ml

Gelfiltration Columns
see 42130 CentriPure MINI Spin Columns Desalt Z-25, page 27

Gelrite®
(Agar Substitute; KBA-40; Gelan-Gum)
CAS [71010-52-1] EINECS 275-117-5 • WGK 1 • HS 39131000
Polysaccharide produced by bacteria. Useful alternative to agar for the in vitro culture of many plants. Yields very clear gels. Constant quality from lot to lot.

Gelrite = registered trademark of Merck & Co., Inc. USA

References:

GelScan 6.0 1 D Analysis Software
HS 90278017
1D analysis software for
• Expression Analysis:
The expression modul allows to compare expression patterns of different gels, to investigate the presence or absence of bands in protein or DNA gels.
• Determination of MW / pl value:
The analysis of molecular weight (MW) or isoelectric point (pl) of different species separated in a gel is carried out easily by comparison bands in adjacent lanes. Even oblique running gels can be analyzed. User-defined marks can be edited and calibrated.
• Quantification:
The quantity of proteins or DNA in bands could be easily determined by comparison of density values with a standard curve calculated by using protein or DNA quantity standards.

Other main features are:
• automatic band detection
• individual edition of bands
• automatic and manual background subtraction
• gel management tool
• GLP-conformity, read-out of embedded tiff-tags
• database for images, projects and results
• automatic backup of all data
• export into MS Word, MS Excel, MS PowerPoint
• 2 years free update, free of charge (online registration)
• full demo version available, please ask.
• inlcudes GelScript for easy inscription of images

Cat.No. Size
GS-V60 1 piece

Geneticin®
see 49418 G 418, page 55

Gentamycin Solution sterile filtered
DANGER
H317-H334-H361D WGK 1 • HS 38220000
Formulated to contain 50 mg/ml gentamycin base in deionized water. 50 mg gentamycin base correspond to approx. 50 000 units of gentamycin and are approx. 80 mg gentamycin sulfate.

Cat.No. Size
47991.01 20 ml
**Gentamycin sulfate** research grade, Ph. Eur.

(Gentamycin sulfate)

CAS [1405-41-0]

**DANGER**


WGK 1 HS 29419000

Min. 590 U/mg. Aminoglycoside antibiotic complex from *Micromonospora purpurea*.

Consists of closely related compounds: gentamycin C₁, C₁a, C₂, C₂a and C₃b. min. 590 mg gentamicin base/g. Inhibits bacterial protein synthesis by binding to the ribosomal 30S subunit and causing misreading of mRNA (in a similar way as streptomycin). Broad spectrum antibiotic which inhibits growth of many gram positive and gram negative bacteria including strains which are resistant to chloramphenicol, kanamycin or tetracycline. Frequently used in cell culture, often in combination with amphotericin B, nystatin or penicillin G (1,3).

**References:**


**Gentian Violet 10B**

see 27335 Crystal Violet, page 37

**GermDecon**

**DANGER**

H225-H319-H335 GGVSE/ADR 3 II UN1219 IATA 3 II UN1219 HS 38089490

Wide disinfectant for instruments and surfaces.

To avoid cross-contamination or infection, disinfection of work places and instruments, especially in laboratories working with biological samples, is mandatory.

GermDecon is an isopropyl alcohol based, non-corrosive and non-carcinogenic solution which can be easily sprayed on all surfaces without leaving any traces.

It is among others active against: *Bacillus subtilis*, *Candida albicans*, *Clostridium*, *Coliforms*, *E. coli*, *Enterococcus faecalis*, *Listeria*, *MRSA*, *Pseudomonas aeruginosa*, *Proteus mirabilis*, *Salmonella*, *Staphylococcus aureus*, *Streptococcus pyogenes* and fungi.

Supplied in a spray bottle (750 ml) or as refill (1000 ml).

**Glass Plate, Plain 3.0 mm, with 1 mm Spacer**

HS 80272000

**Cat.No.**

**Size**

BV-GPP-1.0 4 pieces

**Glass Plates**

HS 70031990

Size: 245 x 128 x 3 mm, supports for gel sheets for casting of horizontal gels.

**Cat.No.**

**Size**

42953.01 4 pieces

**Glass Plates**

HS 70031990

Size: 265 x 128 x 3 mm, supports for gel sheets for casting of horizontal gels.

**Cat.No.**

**Size**

42952.01 4 pieces

**Glass wool, silanized research grade**

**WARNING**

H315-H319-H335 HS 70199000

A very soft material for plugging columns in gas and liquid chromatography.

**Cat.No.**

**Size**

22367.01 10 g

22367.03 50 g

**Glu**

see 47205 L-Glutamic acid, page

**D-Gluconolactone**

see 39785 D-Sorbitol, page

**4-O-β-D-Glucopyranosyl-D-glucose**

see 16400 D-Cellobiose, page 27

**α-β-D-Glucopyranosyl-α-β-D-glucopyranoside**

see 36770 D-Trehalose, page 167

**2-O-β-D-Glucopyranosyl-α-β-D-glucose**

see 39785 D-Sorbitol, page

**α-β-D-Glucopyranosyl-α-β-D-glucopyranoside**

see 36770 D-Trehalose, page 167

**α-β-D-Glucopyranosyl-α-β-D-glucose**

see 39785 D-Sorbitol, page

**α-β-D-Glucopyranosyl-α-β-D-glucopyranoside**

see 36770 D-Trehalose, page 167

**α-β-D-Glucopyranosyl-α-β-D-glucose**

see 39785 D-Sorbitol, page

**α-β-D-Glucopyranosyl-α-β-D-glucopyranoside**

see 36770 D-Trehalose, page 167

**α-β-D-Glucopyranosyl-α-β-D-glucose**

see 39785 D-Sorbitol, page

**α-β-D-Glucopyranosyl-α-β-D-glucopyranoside**

see 36770 D-Trehalose, page 167

**α-β-D-Glucopyranosyl-α-β-D-glucose**

see 39785 D-Sorbitol, page

**α-β-D-Glucopyranosyl-α-β-D-glucopyranoside**

see 36770 D-Trehalose, page 167

**α-β-D-Glucopyranosyl-α-β-D-glucose**

see 39785 D-Sorbitol, page

**α-β-D-Glucopyranosyl-α-β-D-glucopyranoside**

see 36770 D-Trehalose, page 167

**α-β-D-Glucopyranosyl-α-β-D-glucose**

see 39785 D-Sorbitol, page

**α-β-D-Glucopyranosyl-α-β-D-glucopyranoside**

see 36770 D-Trehalose, page 167

**α-β-D-Glucopyranosyl-α-β-D-glucose**

see 39785 D-Sorbitol, page

**α-β-D-Glucopyranosyl-α-β-D-glucopyranoside**

see 36770 D-Trehalose, page 167

**α-β-D-Glucopyranosyl-α-β-D-glucose**

see 39785 D-Sorbitol, page

**α-β-D-Glucopyranosyl-α-β-D-glucopyranoside**

see 36770 D-Trehalose, page 167

**α-β-D-Glucopyranosyl-α-β-D-glucose**

see 39785 D-Sorbitol, page

**α-β-D-Glucopyranosyl-α-β-D-glucopyranoside**

see 36770 D-Trehalose, page 167

**α-β-D-Glucopyranosyl-α-β-D-glucose**

see 39785 D-Sorbitol, page

**α-β-D-Glucopyranosyl-α-β-D-glucopyranoside**

see 36770 D-Trehalose, page 167

**α-β-D-Glucopyranosyl-α-β-D-glucose**

see 39785 D-Sorbitol, page
Glucose-6-phosphate dehydrogenase from Leuconostoc mesenteroides

(D-Glucose-6-phosphate: NADP(+)-1-oxidoreductase)
EC 1.1.1.49 | M, ca. 104 000
HS 35079090
Storage temperature -15 °C to -25 °C

The enzyme is useful for the determination of D-glucose (1), D-fructose (2) and D-sorbitol (3).

Unit definition: See cat. no. 22820, with NAD+ as coenzyme.

Extraneous activities: creatine phosphokinase (CPK), phosphoglucose isomerase (PGI), phosphoglucomutase (PGM) each <0.001 %, 6-phosphogluconate dehydrogenase (6-PGDH) <0.005 %, hexokinase (HK) <0.01 %.

References:

Glucose oxidase from Aspergillus niger min. 220 U/mg

(GOD)
EC 1.1.3.4 | M, ca. 160 000 | CAS [9001-37-0]

DANGER
H334 | EINECS 232-601-0 | WGK 1L | HS 35079090
Storage temperature -15 °C to -25 °C

Glucose oxidase is used in the assay of D-glucose (1). Ca. 300 U/mg protein.

Unit definition: 1 U catalyzes the oxidation of 1 μmole glucose to glucuronic acid per minute at 25 °C, pH 7.3 coupled with peroxidase and o-dianisidine (1).

Extraneous activities: Amylase, saccharase and maltase less than 0.05 %; GOD/catalase min. 2000.

References:

Glucone oxidase from Aspergillus niger min. 220 U/mg

(GOD)
EC 1.1.3.4 | M, ca. 160 000 | CAS [9001-37-0]

DANGER
H334 | EINECS 232-601-0 | WGK 1L | HS 35079090
Storage temperature -15 °C to -25 °C

Glucose oxidase is used in the assay of D-glucose (1). Ca. 300 U/mg protein.

Unit definition: 1 U catalyzes the oxidation of 1 μmole glucose to glucuronic acid per minute at 25 °C, pH 7.3 coupled with peroxidase and o-dianisidine (1).

Extraneous activities: Amylase, saccharase and maltase less than 0.05 %; GOD/catalase min. 2000.

References:
**L-Glutamine** cell culture grade

(L-Glutamic acid-5-amide; L-2-Gln; Aminoglutaramic acid)

C₆H₈N₂O₄·H₂O  CAS [56-85-9]

EINECS 200-292-1  HS 29224985

Assay (trit.)  min. 99.0 %
Endotoxin  ≤ 50.0 E.U./g
Loss on drying  max. 0.2 %
Chloride (Cl⁻)  max. 200 ppm
Sulfate (SO₄²⁻)  max. 200 ppm
Heavy metals (as Pb)  max. 10 ppm
Iron (Fe)  max. 10 ppm

**Glutaraldehyde 25 % solution in water** for electron microscopy, standard grade

(Glutaric dialdehyde)

C₅H₈O₂  M 100.13

DANGER

H302-H314-H317-H331-H334-H335-H400  MAK/TRK 0.1 ml/m³, 0.42 mg/m³ for inhalation, GGVSE/ADR 8 II UN2922, IATA 8 II UN2922, WGK 3

Storage temperature +2 °C to +8 °C

In vials; filled under argon.

Refractive index (20 °C) 1.410 - 1.421

**Glutaric dialdehyde**

see 23114 Glutaraldehyde 25 % solution in water, page 60

**Glutathione (oxidized form)** crystalline research grade

(GSSG)

C₅H₈N₂O₄S₂  M 612.64  CAS [27025-41-8]

EINECS 248-170-7  WGK 1  HS 29309016

Storage temperature +2 °C to +8 °C

Assay (HPLC)  min. 98.0 %

[a] 20 °C/D (c=4 % in water) -106.0 ° to - 96.0 °

References:

**Glutathione Agarose Resin**

(GST-Tag Purification)

HS 38220000

The resin permits rapid, mild and highly selective purification of GST fusion proteins with one step procedure. The recovery rate is more than 95 % and the mild conditions retain the biological activity of the isolated proteins. Handling is easy and identical to standard protocols of other manufacturers, therefore there is no need to change established protocols. Suitable for isolation of small and large proteins tagged with GST in batch or column purifications.

Binding capacity: > 8 mg recombinant GST/ml gel.

**Glycerin**

see 23176 Glycerol from plant, page 60

**Glycerol-albumen** pract.

WGK 1  HS 38220000

Glycerol-egg albumin 1:1. Mounting medium for microscopy; contains thymol as preservative.

**Glycerol from plant Ph. Eur.**

(Glycerin)

C₃H₈O₃  M 92.09  CAS [56-81-5]

EINECS 200-289-5  WGK 1  HS 29309016

Assay (trit.)  min. 99.5 %

Heavy metals (Pb)  max. 0.2 %

Refractive index 1.470 - 1.475

**Glycerol from plant 87 % Ph. Eur.**

C₃H₈O₃  M 92.09  CAS [56-81-5]

HS 29309016

Refractive index 1.44 - 1.455

**Glycerol from plant 25 % solution in water** for electron microscopy, high purity

(Glutamic acid-5-amide; L-2-Gln; Aminoglutaramic acid)

C₆H₈N₂O₄·H₂O  CAS [56-85-9]

EINECS 200-292-1  HS 29224985

Assay (trit.)  min. 99.0 %
Endotoxin  ≤ 50.0 E.U./g
Loss on drying  max. 0.2 %
Chloride (Cl⁻)  max. 200 ppm
Sulfate (SO₄²⁻)  max. 200 ppm
Heavy metals (as Pb)  max. 10 ppm
Iron (Fe)  max. 10 ppm

**Glycerol from plant 25 % solution in water** for electron microscopy, standard grade

(Glutaric dialdehyde)

C₅H₈O₂  M 100.13

DANGER

H302-H314-H317-H331-H334-H400  MAK/TRK 0.1 ml/m³, 0.42 mg/m³ for inhalation, GGVSE/ADR 8 II UN2922, IATA 8 II UN2922, WGK 3

Storage temperature +2 °C to +8 °C

In vials; filled under argon.

Refractive index (20 °C) 1.3720 - 1.3735

**Glycerol from plant 25 % solution in water** for electron microscopy, high purity

(Glutamic acid-5-amide; L-2-Gln; Aminoglutaramic acid)

C₆H₈N₂O₄·H₂O  CAS [56-85-9]

EINECS 200-292-1  HS 29224985

Assay (trit.)  min. 99.0 %
Endotoxin  ≤ 50.0 E.U./g
Loss on drying  max. 0.2 %
Chloride (Cl⁻)  max. 200 ppm
Sulfate (SO₄²⁻)  max. 200 ppm
Heavy metals (as Pb)  max. 10 ppm
Iron (Fe)  max. 10 ppm

**Glu**
Glycerol from plant 87 % molecular biology grade
C₃H₈O₃ • M, 92.59 • CAS [56-61-5]
HS 29054500
DNase/RNase not detected.
Refractive index 1.449 – 1.455

Cat.No.  Size
39786.01  1 L

Glycerol gelatin for microscopy
DANGER
H314-H341
WGK 1
CAS [56-81-5]
HS 29054500
DNase/RNase not detected.
Refractive index 1.449 – 1.455

Cat.No.  Size
23310.02  100 g

Glycerol gelatin after Kaiser phenol-free
Universal aqueous slide mounting medium for microscopy. The recipe is according to the well-known Kaiser’s glycerol jelly. However, it does not contain phenol, making it a safe, non-hazardous alternative.
Contains ca. 40 % glycerol and ca. 7 % gelatin.
Refractive index 1.44 – 1.48

Cat.No.  Size
23311.01  50 ml

2-Glycerolphosphate·Na₂-salt
(Sodium β-glycerophosphate)
C₃H₇O₆P·Na₂·5H₂O • M, 306.1 • CAS [13408-09-8]
EINECS 212-464-3
WGK 1
HS 29199000
Storage temperature +2 °C to +8 °C
Optically inactive. Inhibitor of serine and threonine phosphatase.
Assay (titr.) min. 99.0 %

References:

Cat.No.  Size
23330.02  100 g

Glycid ether 100 for electron microscopy
(1,2,3-Propanetriol glycidyl ether; GE 100; Epon 812)
M, average 306 • CAS [90529-77-4]
EINECS 292-011-4
WGK 1L
HS 39224985
Mixture of aliphatic di- and triepoxides. Epoxy resin of low viscosity (ca. 100-200 mPa·s at 25 °C) (1). Combination with ARALDITE® (2). With D.E.R.® 736 (3).
Epoxide equivalent 135 - 154 g/mol
Viscosity (25 °C) 100 - 200 mPa·s
Chlorine (total) 10 - 13 %

References:

Cat.No.  Size
21045.01  100 ml
21045.02  500 ml

Glycine electrophoresis grade
(Aminoacetic acid; Glycocoll)
C₂H₅NO₂ • M, 75.07 • CAS [56-40-6]
EINECS 200-272-2 • HS 29224985
Glycine is a component of Tris-Glycine (cat. no. 42530) and Tris-Glycine-SDS Running Buffers (cat. no. 42529) for polyacrylamide gel electrophoresis and as well of Towbin Buffer for Western Blots (cat. no. 42538). Tested for use in electrode buffers for PAGE and in transfer buffers for Western Blots.
Assay (titr.) 98.5 – 101.0 %
Heavy metals (Pb) max. 10 ppm
Chloride (Cl) max. 70 ppm

Cat.No.  Size
23391.01  500 g
23391.02  1 kg
23391.03  5 kg

Glycine analytical grade, Ph. Eur., USP
(Aminoacetic acid; Glycocoll)
C₂H₅NO₂ • M, 75.07 • CAS [56-40-6]
EINECS 200-272-2 • WGK 1L • HS 29224985
Assay (titr.) 98.5 – 101.0 %
Heavy metals (Pb) max. 10 ppm

Cat.No.  Size
23390.02  500 g
23390.04  1 kg
23390.03  5 kg

Glycogen from oyster research grade
(C₆H₁₀O₅)n • CAS [9005-79-2]
EINECS 232-683-8 • HS 39139000
Storage temperature +2 °C to +8 °C
Substrate for glycogenphosphorylase (EC 2.4.1.1). Suitable as a carrier molecule for DNA and RNA in precipitation reactions, replacing tRNA and sonicated DNA.

References:

Cat.No.  Size
23550.02  5 g

Glycogen from oyster, solution 20 mg/ml molecular biology grade
HS 38220000
Storage temperature -15 °C to -25 °C
DNase/RNase not detected. 20 mg/ml solution in redistilled water. Suitable as a carrier molecule for DNA and RNA, replacing tRNA and sonicated DNA.

References:

Cat.No.  Size
39766.01  1 ml
39766.02  10 x 1 ml

Glycol
see 11285 Ethylene glycol, page 50
Grace's Insect Powder Medium
HS 38210000
Storage temperature +2 °C to +8 °C
Without sodium bicarbonate, with calcium chloride, with L-glutamine.
Supplements required:
Penicillin G-K-salt 50 U/ml
(cat. no. 31749)*
Streptomycin sulfate 0.1 mg/ml
(cat. no. 33550)
* Original formulation lists Penicillin G-Na-salt
References:
2. Yunker, C.E. et al. (1967) Science 155, 1565-6

Gravity Blotter
HS 90272000
The SERVA Gravity Blotter has been developed by SERVA to blot film-based IEF and SDS PAGE gels at high efficiency. When performing horizontal gel electrophoresis the gel layer has to be stabilized by a backing, either by glass or plastic. This backing has to be removed before transferring the separated proteins onto a membrane by tank or semi-dry blotting. During this laborious process, the gel could get damaged. The use of the Gravity Blotter renders separating gel and film backing unnecessary. The results are comparable to tank or semi-dry transfer methods.
The unit consists of a base plate with a transfer area of 14 x 29 cm. The pressure is provided by aluminum plates that are placed on top of the blotting stack. Transfer time is 4 h or overnight.

GSH
see 23150 L-Glutathione (reduced form), page 60

GSSG
see 23130 L-Glutathione (oxidized form), page 60

GST-Tag Purification
see 42176 Mini Spin Columns, page 83

GST-Tag Purification
see 42175 Maxi Columns, page 79

GST-Tag Purification
see 42172 Glutathione Agarose Resin, page 60

GST-Tag Purification
see 42174 Midi Columns, page 83

GST-Tag Purification
see 42173 Mini Columns, page 83

Guanidine-HCl
analytical grade
CH$_2$N$_2$·HCl · M, 95.5 · CAS [50-01-1]
WARNING
H302-H315-H319 ◄ EG-Index 607-148-00-0 ◄ EINECS 200-002-3 ◄ WGK 1L ◄ HS 29252900
Reagent for reversible denaturation and renaturation of proteins.
Assay min. 99.5 %
A 1 cm/10 % in water 260 nm max. 0.03 280 nm max. 0.015
Ammonium max. 0.05 %
References:
1. Strohman et al. (1977) Cell 10, 265

Guanidine-HCl
molecular biology grade
CH$_2$N$_2$·HCl · M, 95.5 · CAS [50-01-1]
WARNING
H302-H315-H319 ◄ EG-Index 607-148-00-0 ◄ EINECS 200-002-3 ◄ WGK 1L ◄ HS 29252900
DNase/RNase not detected.
Assay min. 99.5 %
A 1 cm/10 % in water 260 nm max. 0.03 280 nm max. 0.015

Guanidine-HCl
research grade
(Aminomethanamidine)
CH$_2$N$_2$·HCl · M, 95.5 · CAS [50-01-1]
WARNING
H302-H315-H319 ◄ EG-Index 607-148-00-0 ◄ EINECS 200-002-3 ◄ WGK 1L ◄ HS 29252900
Reagent for reversible denaturation and renaturation of proteins.
Assay min. 99.0 %
pH (6 M in water 20 °C) 4.5 - 7.0

Guanidine-thiocyanate
molecular biology grade
CH$_2$N$_2$·HSCN · M, 118.2 · CAS [593-84-0]
DANGER
H302-H312-H314-H332-H412 ◄ GGVSE/ADR 8 III UN1759 ◄ IATA 8 III UN1759 ◄ EINECS 209-812-1 ◄ WGK 2L ◄ HS 29252900
DNase/RNase not detected. Suitable for the isolation of RNA.
Assay (grav.) min. 98.5 %
MP 115 - 122 °C
A 1 cm/3 M in water 280 nm max. 0.50 300 nm max. 0.10
Iron (Fe) max. 1 ppm
■ Guanidine-thiocyanate research grade

(Guanidine rhodanide)

\[ \text{CH}_2\text{N}_2\text{HSCN} \rightarrow \text{M}, 118.2 \text{ CAS } [593-84-0] \]

**Properties**
- **DANGER**
  - H302-H312-H332-H412 \* EG-Index 615-004-00-3
  - GGSE/ADR 8 II UN 1759 \* IATA 8 III UN 1759
- EINECS 209-812-1 \* WGK 2L \* HS 29262900

Efficient protein denaturing agent in the isolation of RNA.
- **Assay** (grav.)
  - min. 98.5 %
- **Storage**
  - -15 °C to -25 °C
- **Water content**
  - max. 12.0 %
- **Loss on drying**
  - max. 5.5 %
- **PH 1 % in water**
  - pH 5.5 - 8.0
- **Heavy metals**
  - max. 8.0 %
- **Specifications**
  - 1-Heptanesulfonic acid Na-salt

**References**:

■ Guanosine-5’-triphosphate-Na₂-salt analytical grade

(GTP)

\[ \text{C}_10\text{H}_{14}\text{N}_5\text{O}_{14}\text{P}_3\text{·Na}_2\text{·3H}_2\text{O} \]

**Properties**
- EINECS 259-940-7
- CAS [56001-37-7]
- Mr 202.25
- Analysis for poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC).
- Assay (titr.)
  - min. 98.0 %
- Assay from A 1 cm/220 nm/0.005 M in water
  - min. 92.0 %
- Water content
  - max. 12.0 %
- **Specifications**
  - 5 ml HiFliQ Co-NTA FPLC Column

**References**:

■ Hematoxylin pure

(Natural Black)

\[ \text{C}_7\text{H}_8\text{N}_2\text{O}\text{·Na}_3\text{H}_2\text{O} \rightarrow \text{M}, 302.29 \text{ CAS } [517-28-2] \]

**Properties**
- **WARNING**
  - H315-H319-H335
- HS 29252900
- CAS [593-84-0]
- Mr 118.2
- Analysis for poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC).
- **Assay** (grav.)
  - min. 98.5 %
- **Storage temperature**
  - -15 °C to -25 °C
- **Assay from A 1 cm/220 nm/0.005 M in water**
  - max. 98.0 %
- **PH 1 % in water**
  - pH 5.5 - 8.0
- **Heavy metals**
  - max. 8.0 %
- **Specifications**
  - 5 ml HiFliQ Co-NTA FPLC Column

**References**:

■ Heparin sodium research grade

**Properties**
- **WARNING**
  - H315-H319-H335
- HS 29041000
- CAS [22767-50-6]
- Mr 302.29
- Assay (titr.)
  - min. 98.0 %
- Assay from A 1 cm/220 nm/0.005 M in water
  - max. 98.0 %
- **Storage temperature**
  - -15 °C to -25 °C
- **Water content**
  - max. 12.0 %
- **Loss on drying**
  - max. 8.0 %
- **Specifications**
  - 5 ml HiFliQ Co-NTA FPLC Column

**References**:
1 ml HiFliQ Co-NTA FPLC Columns
HS 38220000
Protein Ark HiFliQ columns pre-packed and ready to use with pre-charged Cobalt-NTA Agarose Resin for affinity purification of poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC).
Available in 1 ml and 5 ml HiFliQ column sizes with high binding capacity and minimal ion leakage. Compatible with all common chromatography HPLC and FPLC instruments, and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 1 ml resin
Column construction: Polypropylene
Base matrix: 7.5 % cross-linked agarose
Co-NTA capacity: 40 - 50 mg (per 1 ml resin)
Flow rate: 1 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 15 x 80 mm

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<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
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<td>5 pieces</td>
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</table>

5 ml HiFliQ Co-NTA FPLC Columns
HS 38220000
Protein Ark HiFliQ columns pre-packed and ready to use with pre-charged Cobalt-NTA Agarose Resin for affinity purification of poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC).
Available in 1 ml and 5 ml HiFliQ column sizes with high binding capacity and minimal ion leakage. Compatible with all common chromatography HPLC and FPLC instruments, and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Base matrix: Super Co-NTA Agarose
Co-NTA capacity: 40 - 50 mg (per 1 ml resin)
Flow rate: 1 - 5 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

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1 ml HiFliQ GST FPLC Column
HS 38220000
Protein Ark HiFliQ columns pre-packed and ready to use with Glutathione coupled agarose resin for rapid affinity purification of Glutathione S-Transferase (GST)-tagged proteins under native conditions.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 1 ml resin
Column construction: Polypropylene
Resin: Glutathione Agarose
Base matrix: Agarose
GST capacity: 10 mg (per 1 ml resin)
Flow rate: 1 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 15 x 80 mm

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5 ml HiFliQ GST FPLC Columns
HS 38220000
Protein Ark HiFliQ columns pre-packed and ready to use with Glutathione coupled agarose resin for rapid affinity purification of Glutathione S-Transferase (GST)-tagged proteins under native conditions.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Resin: Glutathione Agarose
Base matrix: Agarose
GST capacity: 10 mg (per 1 ml resin)
Flow rate: 1 - 5 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

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5 ml HiFliQ GST FPLC Columns
HS 38220000
Protein Ark HiFliQ columns pre-packed and ready to use with Glutathione coupled agarose resin for rapid affinity purification of Glutathione S-Transferase (GST)-tagged proteins under native conditions.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Resin: Glutathione Agarose
Base matrix: Agarose
GST capacity: 10 mg (per 1 ml resin)
Flow rate: 1 - 5 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

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### 1 ml HiFliQ Ni-NTA FPLC Column
HS 38220000
Protein Ark HiFliQ columns pre-packed and ready to use with pre-charged Nickel-NTA Agarose Resin for affinity purification of poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC). Available in 1 ml and 5 ml HiFliQ column sizes with high binding capacity and minimal ion leakage. Compatible with all common chromatography HPLC and FPLC instruments, and low pressure pumps and syringes using an appropriate adaptor.

**Specifications**
- Column volume: 1 ml resin
- Column construction: Polypropylene
- Base matrix: 7.5% cross-linked agarose
- Ni-NTA capacity: 50 - 75 mg (per 1 ml resin)
- Flow rate: 1 ml/min (1 ml)
- Max. pressure: 0.5 MPa (72 psi)
- Universal 10.32 (1/16") UNF threads: Inlet Female/Outlet Male
- Dimensions: 15 x 80 mm

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### 5 ml HiFliQ Ni-NTA FPLC Columns
HS 38220000
Protein Ark HiFliQ columns pre-packed and ready to use with pre-charged Nickel-NTA Agarose Resin for affinity purification of poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC). Available in 1 ml and 5 ml HiFliQ column sizes with high binding capacity and minimal ion leakage. Compatible with all common chromatography HPLC and FPLC instruments, and low pressure pumps and syringes using an appropriate adaptor.

**Specifications**
- Column volume: 5 ml resin
- Column construction: Polypropylene
- Base matrix: 7.5% cross-linked agarose
- Ni-NTA capacity: 50 - 75 mg (per 1 ml resin)
- Flow rate: 1 ml/min (1 ml), 1-5 ml/min (5 ml)
- Max. pressure: 0.5 MPa (72 psi)
- Universal 10.32 (1/16") UNF threads: Inlet Female/Outlet Male
- Dimensions: 23 x 80 mm

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### 1 ml HiFliQ Protein A FPLC Column
HS 38220000
Protein Ark HiFliQ columns pre-packed and ready to use with Protein A Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants. Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

**Specifications**
- Column volume: 1 ml resin
- Column construction: Polypropylene
- Resin: Protein A Agarose FF
- Base matrix: Agarose
- Protein A capacity (hIgG): 30 mg (per 1 ml resin)
- Flow rate: 1 ml/min
- Max. pressure: 0.5 MPa (72 psi)
- Universal 10.32 (1/16") UNF threads: Inlet Female/Outlet Male
- Dimensions: 15 x 80 mm

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### 5 ml HiFliQ Protein A FPLC Column
HS 38220000
Protein Ark HiFliQ columns pre-packed and ready to use with Protein A Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants. Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

**Specifications**
- Column volume: 5 ml resin
- Column construction: Polypropylene
- Resin: Protein A Agarose FF
- Base matrix: Agarose
- Protein A capacity (hIgG): 30 mg (per 1 ml resin)
- Flow rate: 1 - 5 ml/min
- Max. pressure: 0.5 MPa (72 psi)
- Universal 10.32 (1/16") UNF threads: Inlet Female/Outlet Male
- Dimensions: 23 x 80 mm

<table>
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1 ml HiFliQ Protein A FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Protein A Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants. Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
- Column volume: 1 ml resin
- Column construction: Polystyrene
- Resin: Protein A Agarose FF
- Base matrix: Agarose
- Protein A capacity (hIgG): 30 mg (per 1 ml resin)
- Flow rate: 1 ml/min
- Max. pressure: 0.5 MPa (72 psi)
- Universal 10.32 (1/16”) UNF threads: Inlet Female/Outlet Male
- Dimensions: 15 x 80 mm

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5 ml HiFliQ Protein A FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Protein A Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants. Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
- Column volume: 5 ml resin
- Column construction: Polystyrene
- Resin: Protein A Agarose FF
- Base matrix: Agarose
- Protein A capacity (hIgG): 30 mg (per 1 ml resin)
- Flow rate: 1 - 5 ml/min
- Max. pressure: 0.5 MPa (72 psi)
- Universal 10.32 (1/16”) UNF threads: Inlet Female/Outlet Male
- Dimensions: 23 x 80 mm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>42301.01</td>
<td>1 piece</td>
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</table>

1 ml HiFliQ Protein G FPLC Column

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Protein G Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants. Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
- Column volume: 1 ml resin
- Column construction: Polystyrene
- Resin: Protein G Agarose FF
- Base matrix: Agarose
- Protein G capacity (hIgG): 20 mg (per 1 ml resin)
- Flow rate: 1 ml/min
- Max. pressure: 0.5 MPa (72 psi)
- Universal 10.32 (1/16”) UNF threads: Inlet Female/Outlet Male
- Dimensions: 15 x 80 mm

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5 ml HiFliQ Protein G FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Protein G Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants. Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
- Column volume: 5 ml resin
- Column construction: Polystyrene
- Resin: Protein G Agarose FF
- Base matrix: Agarose
- Protein G capacity (hIgG): 20 mg (per 1 ml resin)
- Flow rate: 1 - 5 ml/min
- Max. pressure: 0.5 MPa (72 psi)
- Universal 10.32 (1/16”) UNF threads: Inlet Female/Outlet Male
- Dimensions: 23 x 80 mm

<table>
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<tbody>
<tr>
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</tbody>
</table>

His-HCl

see 47208 L-Histidine-HCl monohydrate, page
His PRODUCTS A - Z

**His Products A - Z**

**Heavy metals (Pb)**

Assay (titr.)

HS 29224985

WGK 1L

EINECS 200-745-3

**C6H9N3O2·HCl·H2O**

hydrochloride)

(L-2-Amino-3-(4-imidazolyl)propionic acid)

**C6H9N3O2**

(L-Histidine base)

research grade, Ph. Eur., USP

(His; L-2-Amino-3-(4-imidazolyl)-propionic acid)

***HPE BlueHorizon***

HS 90272000

The HPE BlueHorizon is a flatbed system for horizontal electrophoresis using precast gels, self-cast gels and gel strips. Main applications are isoelectric focusing (IEF) including the run of IPG strips (like SERVA IPG BlueStrips) in 2D PAGE and SDS PAGE, but also the separation of nucleic acids in polyacrylamide gels.

The unit consists of a stable metal housing and an integrated drawer. The drawer holds the cooling plate with connectors for the external refrigeration system (e.g., the circulatory refrigerator bath HPE Cooling Unit, cat. no. HPE-CU1). The cooling plate is made from special ceramic material (maximum gel size 260 x 205 mm) for efficient cooling. It provides even heat dissipation, allowing to run gels at a temperature as low as 4 °C. This is particularly important when applying high voltage to thin isoelectric focusing (IEF) gels.

The electrode lid comes with one pair of platinum electrodes. Three fixed electrode positions allow the usage of a wide range of different sized gels. Optional, an electrode lid with a triple electrode arrangement for bi-directional gel run is available. The easy-to-clean housing allows placing the power supply on top of the unit saving valuable space on your bench.

- High capacity cooling plate suitable for high voltage applications like IEF etc.
- Fixed platinum electrode distances of 270 mm, 195 mm and 115 mm
- For all kinds of film-backed flatbed gels, self or precast
- Samples are easy to load
- Economical reagent usage (minimizing running buffer volume)
- Smart design - made in Germany

HPE BlueHorizon - a highly sophisticated instrument to run horizontal gels under reliable temperature control.

**Histoplast-S**

HS 27129099

Special embedding medium for histology. Smooth sections can be obtained without cooling the knife or preparation. Histoplast-S is ductile and not brittle so that sections of thickness down to 4 μm are attainable without deformation. Use of Histoplast-S does not necessitate any change in staining or embedding techniques.

MP 55 - 57 °C

Assay (Paraffin) 99.47 %

**Hoechst 33258**

see 15090 Bisbenzimide H 33258, page 18

**HPE Power Supply 1500**

HS 90272000

Programmable electrophoresis power supply suitable for HPE BlueTower and HPE BlueHorizon flatbed systems. Voltage 30 V - 1500 V; current 0.5 mA - 400 mA; power 1 W - 300 W.

**HPE Power Supply Package**

HS 90272000

The HPE Power Supply Package complements the HPE Power Supply 1500 with a netbook and a power supply control software to regulate and monitor the electrophoretic run (Volt, Watt, Ampere).

**HPE BlueHorizon**

HS 90272000

The HPE BlueHorizon™ is a flatbed system for horizontal electrophoresis using precast gels, self-cast gels and gel strips. Main applications are isoelectric focusing (IEF) including the run of IPG strips (like SERVA IPG BlueStrips) in 2D PAGE and SDS PAGE, but also the separation of nucleic acids in polyacrylamide gels.

The unit consists of a stable metal housing and an integrated drawer. The drawer holds the cooling plate with connectors for the external refrigeration system (e.g., the circulatory refrigerator bath HPE Cooling Unit, cat. no. HPE-CU1). The cooling plate is made from special ceramic material (maximum gel size 260 x 205 mm) for efficient cooling. It provides even heat dissipation, allowing to run gels at a temperature as low as 4 °C. This is particularly important when applying high voltage to thin isoelectric focusing (IEF) gels.

The electrode lid comes with one pair of platinum electrodes. Three fixed electrode positions allow the usage of a wide range of different sized gels. Optional, an electrode lid with a triple electrode arrangement for bi-directional gel run is available. The easy-to-clean housing allows placing the power supply on top of the unit saving valuable space on your bench.

- High capacity cooling plate suitable for high voltage applications like IEF etc.
- Fixed platinum electrode distances of 270 mm, 195 mm and 115 mm
- For all kinds of film-backed flatbed gels, self or precast
- Samples are easy to load
- Economical reagent usage (minimizing running buffer volume)
- Smart design - made in Germany

HPE BlueHorizon™ – a highly sophisticated instrument to run horizontal gels under reliable temperature control.

**HPE BlueHorizon™ C**

HS 90272000

HPE BlueHorizon™ C includes:

- HPE BlueHorizon™ flatbed chamber (cat. no. HPE-BH)
- HPE Cooling Unit (cat. no. HPE-CU1)

**HPE BlueHorizon™ Double Deck**

HS 90272000

The HPE BlueHorizon™ Double Deck consists of two single HPE™ BlueHorizon™ flatbed chambers that can easily combined to a mini tower to double the gel running capacity. To operate the system, both units can be connected to one chiller (cat. no. HPE-CU1) and to one power supply (cat. no. HPE-PS1).

**HPE BlueHorizon™ PS**

HS 90272000

HPE BlueHorizon™ PS includes:

- HPE BlueHorizon™ flatbed chamber (cat. no. HPE-BH)
- BluePower 3000 Volt Power Supply (cat. no. BP-3000x4)
HPE® BlueHorizon™ Quadra Deck

HS 90272000

The HPE® BlueHorizon™ Quadra Deck consists of four single HPE® BlueHorizon™ flatbed chambers that can easily combined to a mini tower to quadruple the gel running capacity. To operate the system, all four units can be connected to one chiller (cat. no. HPE-CU) and to one power supply (cat. no. HPE-PSP).

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>HPE-BHQ</td>
<td>1 piece</td>
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HPE® BlueHorizon™ System

HS 90272000

HPE® BlueHorizon™ System includes:
- HPE® BlueHorizon™ flatbed chamber (cat. no. HPE-BH)
- BluePower 3000 Volt Power Supply (cat. no. BP-3000x4)
- HPE® Cooling Unit (cat. no. HPE-CU1)

<table>
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<td>HPE-BHYSYS</td>
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HPE® BlueHorizon™ Triple Deck

HS 90272000

The HPE® BlueHorizon™ Triple Deck consists of three single HPE® BlueHorizon™ flatbed chambers that can easily combined to a mini tower to triple the gel running capacity. To operate the system, all three units can be connected to one chiller (cat. no. HPE-CU) and to one power supply (cat. no. HPE-PSP).

<table>
<thead>
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HPE® BlueTower System

HS 90272000

The HPE® BlueTower System allows electrophoretical separations in up to four horizontal gels at the same time. It is used for 1D and 2D electrophoresis gels, where multiple runs are an important demand. Structurally, the HPE® BlueTower consists of four horizontal electrophoresis chambers, which are built as movable drawers into a metal housing. The HPE® BlueTower and the HPE® gels have been developed together as a system to achieve better results than with conventional SDS polyacrylamide gel electrophoresis (PAGE) technology. The precast HPE® gels, which are less than 1 mm thin and film-backed, are protected from light during the run. No glass plates are used. They are placed on aluminum oxide ceramic cooling plates, which ensure very efficient heat dissipation and therefore straight electrophoretic migration in each gel.

Content:
- HPE® BlueTower (HPE-T03), HPE® Power Supply Package (HPE-PSP) and HPE® Cooling Unit (HPE-CU1).

HPE® Coolin Unit

HS 90272000

Cooling unit for HPE® BlueTower and HPE® BlueHorizon flatbed systems.

<table>
<thead>
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2D HPE® Double Gel 10 - 15 % Kit

Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 2 x 11 cm IPG strips plus 1 marker lane by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on standard backing providing best results for silver and Coomassie® staining.

Not suitable for fluorescent applications.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>43309.01</td>
<td>1 kit</td>
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</table>

2D HPE® Double Gel 12.5 % Kit

Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 2 x 11 cm IPG strips plus 1 marker lane by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on standard backing providing best results for silver and Coomassie® staining.

Not suitable for fluorescent applications.

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2D HPE® Double Gel NF 12.5 % Kit

Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 2 x 11 cm IPG strips plus 1 marker lane by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on NF backing providing best results for fluorescent staining and labelling. Can also be used for for silver and Coomassie® staining but for best results use gels on standard backing.

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Multiphor = trademark of GE Healthcare

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2D HPE® Double Gel NF 10 - 15 % Kit

Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 2 x 11 cm IPG strips plus 1 marker lane by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on NF backing providing best results for fluorescent staining and labelling. Can also be used for for silver and Coomassie® staining but for best results use gels on standard backing.

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HPE® Electrode Lid

HS 90272000

Replacement Lid for HPE® Tower, HPE® BlueHorizon.

<table>
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<tr>
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HPE Electrode Mounting Kit
HS 90272000

<table>
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<tr>
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2D HPE® Large Gel 10 - 15 % Kit
Size: 255 x 200 x 0.65 mm
HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 1 x 24 cm IPG strip plus one marker lane by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on standard backing providing best results for silver and Coomassie® staining.

Not suitable for fluorescent applications.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

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2D HPE® Large Gel 12.5 % Kit
Size: 255 x 200 x 0.65 mm
HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 1 x 24 cm IPG strip plus one marker lane by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on standard backing providing best results for silver and Coomassie® staining.

Not suitable for fluorescent applications.

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Multiphor = trademark of GE Healthcare

<table>
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<th>Cat.No.</th>
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2D HPE® Large Gel NF 10 - 15 % Kit
Size: 255 x 200 x 0.65 mm
HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 1 x 24 cm IPG strip plus one marker lane by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on NF backing providing best results for fluorescent staining and labelling. Also suitable for silver and Coomassie® staining but for best results use gels on standard backing.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

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2D HPE® Large Gel NF 12.5 % Kit
Size: 255 x 200 x 0.65 mm
HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 1 x 24 cm IPG strip plus one marker lane by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on NF backing providing best results for fluorescent staining and labelling. Also suitable for silver and Coomassie® staining but for best results use gels on standard backing.

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2D HPE® Large Gel NF 10 - 15 % Kit
Size: 255 x 200 x 0.65 mm
HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 3 x 7 cm IPG strips plus 2 marker lanes by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on NF backing providing best results for silver and Coomassie® staining.

Exclusion of other applications.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

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2D HPE® Large Gel 12.5 % Kit
Size: 255 x 200 x 0.65 mm
HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 3 x 7 cm IPG strips plus 2 marker lanes by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on NF backing providing best results for fluorescent staining and labelling. Also suitable for silver and Coomassie® staining but for best results use gels on standard backings.

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Multiphor = trademark of GE Healthcare

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<td>1 kit</td>
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</table>

2D HPE® Mercator Gel 12.5 % Kit
Size: 3 x 7 cm
HS 38220000

Storage temperature +2 °C to +8 °C

2D HPE® Mercator Gels allow a much more precise XY-coordinates determination of protein spots in 2D gels.

2D gel analysis is mostly done by triangulation of the XY-coordinates of the protein spots of a 2D gel picture with an appropriate software. For comparison of the spot pattern of different gels, gels have to be normalized and the pictures are laid on top of each other. A major obstacle in comparing 2D protein gels are the technical gel-to-gel variations because of differences in sample preparation, gel casting and conduct of electrophoresis.

Simone König and her research group (IZKF, Münster, Germany) developed a method for generation of a reference grid, which improves the deviation of the correction of protein coordinates by an order of magnitude: comparative 2D electrophoresis gels. The reference grid is generated by fluorescence-labelled marker proteins, which are applied to the gel in equal distances. After co-electrophoresis of protein marker and with a different fluorescence dye labelled protein sample, the XY-coordinates are much more precisely determined with the aid of the multiple triangulation points formed by the reference grid compared to standard methods.

In cooperation with the research group of Simone König, SERVA developed the 2D HPE® Mercator Gels for CoFGE on horizontal electrophoresis systems HPE® BlueTower and HPE® BlueHorizon®.

For easy loading of the fluorescence-labelled protein marker, the gels have in addition to the IPG slot 14 sample slots. The slots are on the cathode side in a distance of 3 mm to the IPG slot; the distance to each other is 18 mm. The kit contains 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid.

References:

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<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
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<td>43410.01</td>
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2D HPE® Triple Gel 10 - 15 % Kit
Size: 25 x 110 x 0.65 mm
HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 3 x 7 cm IPG strips plus 2 marker lanes by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on standard backing providing best results for silver and Coomassie® staining. Not suitable for fluorescent applications.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

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2D HPE® Triple Gel 12.5 % Kit
Size: 25 x 110 x 0.65 mm
HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 3 x 7 cm IPG strips plus 2 marker lanes by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on standard backing providing best results for silver and Coomassie® staining. Not suitable for fluorescent applications.

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Multiphor = trademark of GE Healthcare

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2D HPE® Triple Gel NF 10 - 15 % Kit
Size: 25 x 110 x 0.65 mm
HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 3 x 7 cm IPG strips plus 2 marker lanes by horizontal electrophoresis on HPE® BlueTower, HPE® BlueHorizon or Multiphor II®. Gels are on NF backing providing best results for fluorescent staining and labelling. Can also be used for silver and Coomassie® staining but for best results use gels on standard backings.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

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<tbody>
<tr>
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<td>1 kit</td>
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</table>
■ **2D HPE**™ Triple Gel NF 12.5 % Kit Size: 250 x 110 x 0.65 mm

- **HS 38220000**
- Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 3 x 7 cm IPG strips plus 2 marker lanes by horizontal electrophoresis on HPE**™** BlueTower, HPE**™** BlueHorizon or Multiphor II®. Gels are on NF backing providing best results for fluorescent staining and labelling. Can also be used for silver and Coomassie® staining but for best results use gels on standard backings.

- **Coomassie®** = registered trademark of ICI Ltd.
- **Multiphor** = trademark of GE Healthcare

<table>
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<tbody>
<tr>
<td>43300.01</td>
<td>1 kit</td>
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</table>

■ **Hyaluronidase from ovine testes min. 1000 U/mg lyophil.**

- **EC 3.2.1.35** • M, ca. 55 000 • CAS [37326-33-3]

- **DANGER**
  - H334 • EINECS 253-464-3 • WGK 1 • HS 35079090
  - Storage temperature -15 °C to -25 °C

- **Unit definition:** 1 U produces the same turbidity reduction in a mixture of hyaluronic acid and albumin as 1 IU. (International Unit) of a standard hyaluronidase preparation (1).

- **References:**

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<td>25118.02</td>
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■ **2-Hydroxy-5-sulfobenzoic acid** see 35706 5-Sulfosalicylic acid, page 162

■ **N-(2-Hydroxyethyl)piperazine-N’-2-ethane sulfonic acid analytical grade, for cell culture**

- (HEPES)
  - C₇H₁₅N₂O₄S • M, 238.3 • CAS [7365-45-9]
  - EINECS 230-907-9 • WGK 1 • HS 29335995

  - **pKa 20 = 7.55. Buffering substance (1). Tested for use in tissue culture (2). Physical parameters (3).**

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<tr>
<th>Assay (titr.)</th>
<th>min. 99.0 %</th>
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<tbody>
<tr>
<td>A 1 cm/10 % in water</td>
<td>max. 0.08</td>
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<tr>
<td>260 nm</td>
<td>max. 0.08</td>
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<td>280 nm</td>
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<tr>
<td>Heavy metals (Pb)</td>
<td>max. 10 ppm</td>
</tr>
<tr>
<td>pH 10 % in water</td>
<td>5.0 - 6.5</td>
</tr>
</tbody>
</table>

- **References:**
  - 1. Good, N.E. et al. (1966) Biochemistry

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>25245.02</td>
<td>25 g</td>
</tr>
<tr>
<td>25245.03</td>
<td>100 g</td>
</tr>
<tr>
<td>25245.04</td>
<td>250 g</td>
</tr>
<tr>
<td>25245.05</td>
<td>1 kg</td>
</tr>
<tr>
<td>25245.06</td>
<td>5 kg</td>
</tr>
</tbody>
</table>

■ **Hydroxyethylpiperazine-N’-2-ethane sulfonic acid for biochemistry**

- CAS [7365-45-9]

  - EINECS 230-907-9 • WGK 1 • HS 29335995

  - **pKa 20 = 7.55. Buffering substance for biochemistry and molecular biology.**

<table>
<thead>
<tr>
<th>Assay (titr.)</th>
<th>min. 99.0 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 1 cm/10 % in water</td>
<td>max. 0.15</td>
</tr>
<tr>
<td>260 nm</td>
<td>max. 0.1</td>
</tr>
<tr>
<td>280 nm</td>
<td>max. 0.1</td>
</tr>
<tr>
<td>pH 10 % in water</td>
<td>9.5 - 11.5</td>
</tr>
</tbody>
</table>

- **References:**

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>25247.01</td>
<td>100 g</td>
</tr>
<tr>
<td>25247.02</td>
<td>500 g</td>
</tr>
<tr>
<td>25247.03</td>
<td>1 kg</td>
</tr>
<tr>
<td>25247.04</td>
<td>5 kg</td>
</tr>
</tbody>
</table>

■ **N-(2-Hydroxyethyl)piperazine-N’-2-ethane sulfonic acid Na-salt analytical grade**

- (HEPES-Na-salt)
  - C₅H₁₅N₂O₄S·Na • M, 260.3 • CAS [75277-39-3]
  - EINECS 278-169-7 • WGK 1 • HS 29335995

  - **pKa 20 = 7.55. Buffering substance for biochemistry and molecular biology.**

<table>
<thead>
<tr>
<th>Assay (titr.)</th>
<th>min. 99.0 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 1 cm/10 % in water</td>
<td>max. 0.15</td>
</tr>
<tr>
<td>260 nm</td>
<td>max. 0.1</td>
</tr>
<tr>
<td>280 nm</td>
<td>max. 0.1</td>
</tr>
<tr>
<td>pH 10 % in water</td>
<td>9.5 - 11.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>25249.04</td>
<td>1 kg</td>
</tr>
</tbody>
</table>

■ **Hygromycin B research grade**

- CAS [31282-04-9]

  - **DANGER**
    - H300-H310-H315-H318-H330-H335 • GGVE/ADR 6.1 I UN3462 • IATA 6.1 I UN3462 • WGK 2

  - HS 29419000
  - Storage temperature +2 °C to +8 °C

  - **Aminoglycoside antibiotic that inhibits growth of procaryotic microorganisms (bacteria), eukaryotic microorganisms (yeasts) and mammalian cells.**

  - Inhibits protein synthesis at translocation step; causes misreading of mRNA. A gene from E. coli encoding resistance to hygromycin B can be isolated and cloned by recombinant DNA technology. It is useful for the identification or selection of recombinant clones in various cell types.

<table>
<thead>
<tr>
<th>Assay (HPLC)</th>
<th>min. 90.0 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potency (on a dry basis)</td>
<td>≥ 900 u/mg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>25965.01</td>
<td>250 mg</td>
</tr>
<tr>
<td>25965.02</td>
<td>500 mg</td>
</tr>
<tr>
<td>25965.03</td>
<td>1 g</td>
</tr>
</tbody>
</table>

■ **Hygromycin B solution**

- CAS [31282-04-9]

  - **DANGER**

  - H300-H310-H315-H318-H330-H335 • GGVE/ADR 6.1 I UN2810 • IATA 6.1 I UN2810 • WGK 2 • HS 29419000

  - Storage temperature +2 °C to +8 °C

  - **Aminoglycoside antibiotic that inhibits growth of procaryotic microorganisms (bacteria), eukaryotic microorganisms (yeasts) and mammalian cells.**

  - Inhibits protein synthesis at translocation step; causes misreading of mRNA. A gene from E. coli encoding resistance to hygromycin B can be isolated and cloned by recombinant DNA technology. It is useful for the identification or selection of recombinant clones in various cell types. 500 000 U correspond to approx. 1 ml.

<table>
<thead>
<tr>
<th>Assay (HPLC)</th>
<th>min. 80.0 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbiological activity</td>
<td>min. 400 000 U/ml</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>25966.01</td>
<td>500 000 U</td>
</tr>
</tbody>
</table>

■ **Hypoxanthine-9-β-D-ribofuranoside** see 26250 Inosine, page 72

■ **N-(2-Hydroxyethyl)trimethylammonium-chloride** see 33672 β-Propiolactone, page 100

■ **6-Hydroxypurine riboside** see 26250 Inosine, page 72

■ **Hygromycin** B research grade

- CAS [31282-04-9]

  - **DANGER**

  - H300-H310-H315-H318-H330-H335 • GGVE/ADR 6.1 I UN3462 • IATA 6.1 I UN3462 • WGK 2

  - HS 29419000

  - Storage temperature +2 °C to +8 °C

  - **Aminoglycoside antibiotic that inhibits growth of procaryotic microorganisms (bacteria), eukaryotic microorganisms (yeasts) and mammalian cells.**

  - Inhibits protein synthesis at translocation step; causes misreading of mRNA. A gene from E. coli encoding resistance to hygromycin B can be isolated and cloned by recombinant DNA technology. It is useful for the identification or selection of recombinant clones in various cell types. 500 000 U correspond to approx. 1 ml.

<table>
<thead>
<tr>
<th>Assay (HPLC)</th>
<th>min. 80.0 %</th>
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</thead>
<tbody>
<tr>
<td>Microbiological activity</td>
<td>min. 400 000 U/ml</td>
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</tbody>
</table>

<table>
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<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>25966.01</td>
<td>500 000 U</td>
</tr>
</tbody>
</table>

■ **Hypoxanthine-9-β-D-ribofuranoside** see 26250 Inosine, page 72
### IAA

- see 26181 Indole-3-acetic acid, page 71

### IBA

- see 26172 Indole-3-butyric acid, page 72

### IBMX

- see 26445 3-Isobutyl-1-methylxanthine, page 73

### IDA-Agarose Resins

- see 42140 SERVA IDA Metal-Free HD Agarose Resin, page 125

### IEF Marker 3-10, Liquid Mix

(Protein Standards (Markers) for IEF)

- Storage temperature: -15 °C to -25 °C
- Ready-to-use protein marker for isoelectric focusing.
- Contains 9 proteins pI 3.5 to 10.7 (13 isoforms).
- Buffer composition:
  - 0.01 % bromophenol blue (Na-salt)
  - 0.01 % methyl red (Na-salt)
  - 10 % glycerol.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39212.01</td>
<td>500 µl</td>
</tr>
</tbody>
</table>

### IEF Sample Buffer (2x) sterile filtered

- Storage temperature: +2 °C to +8 °C
- SERVA IEF sample buffer is suited to all vertical and horizontal IEF applications and systems. The sample buffer is supplied as 2x concentrate. It is sterile filtered, beneficial to long shelf life and absence of contaminants. Simply mix the liquid sample 1:1 with the buffer or dissolve a solid sample in the buffer first and dilute with water 1:1. When performing IEF in the presence of urea mix the sample with the buffer and add solid urea or use concentrated urea solution.
- The buffer contains 4 % SERVALYT 4 - 9 T, 30 % glycerol and 0.005 % phenol red.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>42537.01</td>
<td>20 ml</td>
</tr>
</tbody>
</table>

### IEF Starter Kit

- Storage temperature: ±2 °C to ±8 °C
- The kit contains:
  - 3 SERVALYT™ PRECOTES™ 125 x 125 mm with PAG layer 300 µm
  - Electrode wicks 20
  - Applicator strips 1
  - Electrode buffer solutions 2 x 10 ml
  - Heat exchange liquid 10 ml
  - SERVA Blue W 100 mg
  - SERVA Violet 17 100 mg
  - IEF marker 3-10 SERVA Liquid Mix 60 µl

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>3060.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

### IgG Sample Diluter IEF

- HS 38220000
- Dilution for CSF analysis on IEF gels.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>3060.01</td>
<td>100 µl</td>
</tr>
</tbody>
</table>

### Imidazole

- research grade
- C₃H₄N₂ M 68.08 CAS [288-32-4]
- DANGER: H301-H314-H361
- EINECS 206-019-2
- WGK 1L
- HS 29332990
- Assay (GC) min. 99.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>26081.01</td>
<td>100 g</td>
</tr>
<tr>
<td>26081.02</td>
<td>500 g</td>
</tr>
</tbody>
</table>

### Immobilon™-P-membrane

- Pore size 0.2 µm, format: 26.5 cm x 3.75 m
- HS 39219090
- Immobilon™-P-membranes developed by Millipore Corp. are specially designed for Western Blot techniques. The membranes, made of polyvinylidenefluoride (PVDF), show excellent mechanical stability and are compatible with most staining procedures including immunological methods. Immobilon = trademark of Millipore

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>26081.01</td>
<td>100 g</td>
</tr>
<tr>
<td>26081.02</td>
<td>500 g</td>
</tr>
</tbody>
</table>

### Indole-3-acetic acid

- research grade
- (IAA; Heteroauxins; Auxins)
- C₁₀H₉NO₂ M 175.2 CAS [87-51-4]
- EINECS 201-748-2
- Storage temperature: +2 °C to +8 °C
- Plant growth regulator.
- Assay (titr.) 97.0 - 103.0 %
- MP 165 - 169 °C

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>26181.01</td>
<td>5 g</td>
</tr>
</tbody>
</table>
**Indole-3-butyric acid** research grade

- (4-D-Indoly(butyric acid; IBA; Auxins)
- C$_{10}$H$_{12}$N$_{4}$O$_{5}$ M: 203.24 CAS [133-32-4]

**DANGER**

H301-H315-H332 EINECS 205-630-1 WGK 2 HS 29241900 Storage temperature -2 °C to +8 °C

Plant growth regulator. Sensitive to light, store in the dark.

Assay (HPLC) min. 95.0 %

References:

**Inosine** research grade

- (Hypoxanthine-9-β-D-ribofuranoside; 6-Hydroxypurine riboside)
- C$_{6}$H$_{10}$O$_{5}$ M: 288.23 CAS [58-63-9]

**EINECS** 200-390-4 WGK 1 HS 29339980

EINECS 201-399-4 EINECS 201-781-2 HS 29349990

Assay from u249 nm, pH 7 min. 98.0 %

Heavy metals (Pb) max. 10 ppm

Assay (HPLC) min. 99.0 %

References:

**ino-Insitol** research grade, USP/NF

- (meso-Inositol; 1,2,3,5,6-Hexahydroxycyclohexane)
- C$_{6}$H$_{12}$O$_{6}$ M: 180.2 CAS [87-89-8]

**EINECS** 201-781-2 HS 29061390

For bacteriology. Optically inactive. Tested for its suitability in tissue culture.

Assay (HPLC) min. 97.0 %

MP 224 - 227 °C

**Ion Exchange Media**

- see 42443 SERDOLIT® PAD I, 0.1 – 0.2 mm, page 118

**Ion Exchange Media**

- see 41010 DOWEX® 1X2 (50-100 mesh), page 46

**Ionomycin-Ca-salt** research grade

- C$_{19}$H$_{13}$ClIN$_{5}$O$_{2}$ $\cdot$ Ca $\cdot$ H$_{2}$O M: 505.72 CAS [146-68-9]

**EINECS** 202-312-322 HS 29339980

For LDH detection (1).

For colorimetric measurement of enzymatic hydrolysis of terminal galactose from GM$_{1}$ ganglioside (2).

Assay (HPLC) min. 99.0 %

References:

**INT**

- see 26840 lodonitrotetrazolium chloride, page 72

**Inulin** research grade

- (Poly-β-(2 – 1) fructofuranosan with glucose endgroups; polyfructose) (C$_{2}$H$_{4}$O$_{5}$)$_{n}$ M: 162.1 CAS [9005-80-5]

EINECS 232-684-3 EINECS 201-781-2 HS 11082000

Assay min 95.0 %

**IPG Chamber Cleaner**

HS 34022090

IPG Chamber Cleaner is a pH neutral, non-toxic, highly active cleaning material. It has been specifically formulated for effectively removing protein deposits from the IPG strip holder, lids, etc. of a first dimension isoelectric focusing unit, e.g. IEF100.

**IPG Strips**

- see 43001 SERVA IPG BlueStrip 3-10 / 7 cm, page 126
IPTG
see 26600 Isopropyl-β-D-thiogalactopyranoside, page 73

Isoamy1 alcohol molecular biology grade
(3-Methyl-1-butanol; Isopentylalcohol)
C₇H₁₄O + M 116.19 + CAS [123-51-3]

WARNING
H252-H332-H335 MAK/TKR 370 mg/m³; 100 ml/m³
IATA 3 UN1105 EINECS 204-633-5 WGK 1 L HS 29051490

DNase, RNase, Proteases not detected. Suitable for use in nucleic acid
purification. Isoamyl alcohol prevents foaming during nucleic acid extraction
with Phenol:Chloroform/isooamy alcohol.

Assay (total isomers, GC) min. 99.0 %
Water (KF) max. 0.3 %

References:
Press (E.3-E.4)

Isopropyl-β-D-thiogalactopyranoside research grade
(IPTG; Isopropyl-1-thio-D-galactopyranoside)
C₉H₁₃O₅S + M 238.3 + CAS [367-91-3]

DANGER
H225-H319-H336 EG-Index 603-117-00-0 GGVSE/G
ADR 3 II UN1219 IATA 3 III UN1219 EINECS 200-661-7
WGK 1 L HS 29051200

Assay (GC) min. 99.5 %
Density (20 °C) 1.375 - 1.379
Acidity ≤ 0.0010 %
Alkalinity ≤ 0.0005 %
Water (KF) ≤ 200 ppm
Residue on evaporation ≤ 2 ppm

References:
Press (4.33, 4.37-4.38, 1.8-1.9, 17.12-17.13, 8.11)
General Hospital & Harvard Medical School (1.4.3, 16.2.3, 1.15.1)

Isopropanol
(2-Propanol)
C₃H₇O + M 60.05 + CAS [67-63-0]

DANGER
H225-H319-H336 EG-Index 603-117-00-0 GGVSE/G
ADR 3 II UN1219 IATA 3 III UN1219 EINECS 200-661-7
WGK 1 L HS 29051200

Assay (GC) min. 99.7 %
Density (20 °C) 0.784 - 0.788 g/ml
Water max. 0.1 %
Free acid max. 10 ppm
Residue on evaporation max. 10 ppm

References:
Press (E.3-E.4)

Isopropanol analytical grade
(2-Propanol)
C₃H₇O + M 60.05 + CAS [67-63-0]

DANGER
H225-H319-H336 EG-Index 603-117-00-0 GGVSE/G
ADR 3 II UN1219 IATA 3 III UN1219 EINECS 200-661-7

WGK 1 L HS 29051200

Assay (GC) min. 99.7 %
Density (20 °C) 0.784 - 0.788 g/ml
Water max. 0.1 %
Free acid max. 10 ppm
Residue on evaporation max. 10 ppm

References:
Press (E.3-E.4)

Isopropanol for LC-MS
CAS [67-63-0]

DANGER
H225-H319-H336 EG-Index 603-117-00-0 GGVSE/G
ADR 3 II UN1219 IATA 3 III UN1219 EINECS 200-661-7

WGK 1 L HS 29051200

Assay (GC) min. 99.95 %
Refractive index (20 °C) 1.375 - 1.379
Acidity ≤ 0.0010 %
Alkalinity ≤ 0.0005 %
Water (KF) ≤ 200 ppm
Residue on evaporation ≤ 2 ppm

Transmittance
220 nm min. 64.0 %
230 nm min. 80.0 %
260 nm min. 98.5 %

Fluorescence (quinine)
254 nm max. 1 ppb
365 nm max. 1 ppb

HPLC gradient max. 2 μAU

Test LC-MS TIC (50 – 2000 m/z)
ES (+)
Sensitive impurities (reserpine) max. 100 ppb
Metal Compounds max. 50 ppb

Microfiltered, 0.1 μm

References:
Press (E.3-E.4)

Isopropanol LC-MS grade
CAS [67-63-0]

DANGER
H225-H319-H336 EG-Index 603-117-00-0 GGVSE/G
ADR 3 II UN1219 IATA 3 III UN1219 EINECS 200-661-7

WGK 1 L HS 29051200

Assay (GC) min. 99.7 %
Density (20 °C) 0.784 - 0.788 g/ml
Water max. 0.1 %
Free acid max. 10 ppm
Residue on evaporation max. 10 ppm

References:
Press (E.3-E.4)

L-Isoleucine research grade, Ph. Eur., USP
(2S, 3S)-2-Amino-3-methylpentanoic acid; 2-amino-3-
methylvaleric acid; ILE)
C₉H₁₃NO₂ + M 131.17 + CAS [73-32-5]

EINECS 200-798-2 WGK 1 L HS 29224985

Assay (HPLC) 98.5 - 101.0 %
Heavy metals (Pb) max. 10 ppm

L-Isoleucine
(2S, 3S)-2-Amino-3-methylpentanoic acid; 2-amino-3-
methylvaleric acid; ILE)
C₉H₁₃NO₂ + M 131.17 + CAS [73-32-5]

EINECS 200-798-2 WGK 1 L HS 29224985

Assay (HPLC) 98.5 - 101.0 %
Heavy metals (Pb) max. 10 ppm

References:

Isoamy1 alcohol
molecular biology grade
(3-Methyl-1-butanol; Isopentylalcohol)
C₇H₁₄O + M 116.19 + CAS [123-51-3]

WARNING
H252-H332-H335 MAK/TKR 370 mg/m³; 100 ml/m³
IATA 3 UN1105 EINECS 204-633-5 WGK 1 L HS 29051490

DNase, RNase, Proteases not detected. Suitable for use in nucleic acid
purification. Isoamyl alcohol prevents foaming during nucleic acid extraction
with Phenol:Chloroform/isooamy alcohol.

Assay (total isomers, GC) min. 99.0 %
Water (KF) max. 0.3 %

References:
Press (E.3-E.4)

Isopropanol
(2-Propanol)
C₃H₇O + M 60.05 + CAS [67-63-0]

DANGER
H225-H319-H336 EG-Index 603-117-00-0 GGVSE/G
ADR 3 II UN1219 IATA 3 III UN1219 EINECS 200-661-7

WGK 1 L HS 29051200

Suitable for the precipitation of nucleic acids. When compared to ethanol
for LC-MS.

Density (20 °C) 0.784 - 0.788 g/ml
Water max. 0.1 %
Free acid max. 10 ppm
Residue on evaporation max. 10 ppm

References:
Press (E.3-E.4)
Kanamycin acid sulfate research grade, BP
\[ \text{C}_{18}\text{H}_{36}\text{N}_{4}\text{O}_{11} \cdot \text{H}_{2}\text{SO}_{4} \cdot \text{H}_{2}\text{O} \]
HS 29419000
Storage temperature: +2 °C to +8 °C
Min. 670 U/mg. Kanamycin acid sulfate is a form of kanamycin sulfate prepared by adding sulfuric acid to a solution of kanamycin sulfate and drying by a suitable method. Sulfate content: 23 - 26 %, compared to 15 - 17 % in kanamycin sulfate.

References:
3. Review:

Kanamycin sulfate research grade
CAS [25389-94-0]

\[ \text{C}_{18}\text{H}_{36}\text{N}_{4}\text{O}_{11} \cdot \text{H}_{2}\text{SO}_{4} \cdot \text{H}_{2}\text{O} \]

DANGER
H360D ✕ EG-Index 246-933-0 ✕ HS 29419000
Storage temperature: +2 °C to +8 °C
Aminoglycoside antibiotic, inhibitor of protein biosynthesis. It is active against gram negative and gram positive bacteria. Main component is kanamycin A. Suitable for prevention of bacterial contamination in cell culture.

Activity: min. 750 U/mg. Easily soluble in water.
Stock solution: 10 mg/ml in H_2O, working solution: 100 μg/ml/ml

References:

Kanamycin sulfate molecular biology grade, Ph. Eur.
\[ \text{C}_{18}\text{H}_{36}\text{N}_{4}\text{O}_{11} \cdot \text{H}_{2}\text{SO}_{4} \cdot \text{H}_{2}\text{O} \]

DANGER
H360D ✕ EG-Index 246-933-0 ✕ WKG 1 ✕ HS 29419000
Storage temperature: +2 °C to +8 °C
Aminoglycoside antibiotic, inhibitor of protein biosynthesis. It is active against gram negative and gram positive bacteria. Main component is kanamycin A. Suitable for prevention of bacterial contamination in cell culture. Used in molecular biology for the selection of resistant bacteria.

Activity: min. 750 U/mg. Easily soluble in water.
Stock solution: 10 mg/ml in H_2O, working solution: 100 μg/ml/ml

References:

Kerosene, low odor
CAS [8008-20-6]

DANGER
H304 ✕ EG-Index 649-404-00-4 ✕ EINECS 232-366-4 ✕ WKG 1 ✕ HS 2710925
Suitable as cooling fluid in horizontal electrophoresis.

LabImage 1D L-320 Gel Analysis
HS 90279050
LabImage 1D gel analysis (LabImage 1D) is a flexible solution with strong image analysis algorithms, applicable also for DNA or protein testing and western blotting techniques. Due to its workflow-based concept, this application has become a prime example of software usability. Based on the latest technology, this application works with both Mac and the latest Windows versions and requires no special user training.
LabImage 1D L-320 is the basic version for standard 1D analysis of protein and nucleic acid gels. It allows import of common image types or import of images from scanner or camera, automatic lane and band detection, manual lane and band correction, calculation of MW, RF, area, band volume, background reduction, creation of own MW or pI standard as well as multiple standards for one gel and has many different report and export functions.
LabImage 1D Gel Analysis Software - your tool in 1D gel analysis

- Full 16 bit image processing
- Intuitive User Interface/Workflow
- Runs under Windows, Mac OS X, Linux
- As single and network license available

LabImage 1D Gel Analysis
HS 90279050
LabImage 1D gel analysis (LabImage 1D) is a flexible solution with strong image analysis algorithms, applicable also for DNA or protein testing and western blotting techniques. Due to its workflow-based concept, this application has become a prime example of software usability. Based on the latest technology, this application works with both Mac and the latest Windows versions and requires no special user training.
LabImage 1D L-340 is the advanced version for standard 1D analysis of protein and nucleic acid gels. It allows import of common image types or import of images from scanner or camera, automatic lane and band detection, manual lane and band correction, calculation of MW, RF, area, band volume, background reduction, creation of own MW or pI standard as well as multiple standards for one gel and has many different report and export functions. Moreover it includes gramicide correction, RF calibration and correction of multiplesstandards, can normalize not only single band but group of bands and has an additional export report to RPT and XLS. An additional module allows FDA 21 CFR Part 11 compliance.
LabImage 1D Gel Analysis Software - your tool in 1D gel analysis

- Full 16 bit image processing
- Intuitive User Interface/Workflow
- Runs under Windows, Mac OS X, Linux
- Compliant with FDA 21 CFR Part 11 (module required)
- As single and network license available

Kanamycin acid sulfate research grade
CAS [25389-94-0]

DANGER
H360D ✕ EG-Index 246-933-0 ✕ HS 29419000
Storage temperature: +2 °C to +8 °C
Min. 670 U/mg. Easily soluble in water.

Activity: min. 750 U/mg. Easily soluble in water.
Stock solution: 10 mg/ml in H_2O, working solution: 100 μg/ml/ml

References:

Kanamycin sulfate
CAS [25389-94-0]

DANGER
H360D ✕ EG-Index 246-933-0 ✕ HS 29419000
Storage temperature: +2 °C to +8 °C
Min. 670 U/mg. Easily soluble in water.

Activity: min. 750 U/mg. Easily soluble in water.
Stock solution: 10 mg/ml in H_2O, working solution: 100 μg/ml/ml

References:
### LabImage 1D L-360-A Gel Analysis

**LabImage 1D L-360-A**

LabImage 1D gel analysis (LabImage 1D) is a flexible solution with strong image analysis algorithms, applicable also for DNA or protein testing and western blotting techniques. Due to its workflow-based concept, this application has become a prime example of software usability. Based on the latest technology, this application works with both Mac and the latest Windows versions and requires no special user training.

LabImage 1D L-360 is the advanced version for standard 1D analysis of protein and nucleic acid gels. It allows import of common image types or import of images from scanner or camera, automatic lane and band detection, manual lane and band correction, calculation of MW, RF, area, band volume, background reduction, creation of own MW or pl standard as well as multiple standards for one gel and has many different report and export functions.

Moreover it includes gramicide correction, RF calibration and correction of multiplesstandards, can normalize not only single band but group of bands and has an additional export report to RFT and XLS. An additional module allows FDA 21 CFR Part 11 compliance. As these functions are shared with the L-340, additionally the L-360 version could detect multiple regions of interest (ROIs) and is fully automatable (create and edit macros for automation, apply macros to single image or image stack).

LabImage 1D Gel Analysis Software - your tool in 1D gel analysis.

- Full 16 bit image processing
- Intuitive User Interface/Workflow
- Runs under Windows, Mac OS X, Linux
- Compliant with FDA 21 CFR part 11 (module required)
- As single and network license available

This version is for academic only. For corporate usage please ask for L-360-C.

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### LabImage 1D L-360-C Gel Analysis

**LabImage 1D L-360-C**

LabImage 1D gel analysis (LabImage 1D) is a flexible solution with strong image analysis algorithms, applicable also for DNA or protein testing and western blotting techniques. Due to its workflow-based concept, this application has become a prime example of software usability. Based on the latest technology, this application works with both Mac and the latest Windows versions and requires no special user training.

LabImage 1D L-360 is the advanced version for standard 1D analysis of protein and nucleic acid gels. It allows import of common image types or import of images from scanner or camera, automatic lane and band detection, manual lane and band correction, calculation of MW, RF, area, band volume, background reduction, creation of own MW or pl standard as well as multiple standards for one gel and has many different report and export functions.

Moreover it includes gramicide correction, RF calibration and correction of multiplesstandards, can normalize not only single band but group of bands and has an additional export report to RFT and XLS. An additional module allows FDA 21 CFR Part 11 compliance. As these functions are shared with the L-340, additionally the L-360 version could detect multiple regions of interest (ROIs) and is fully automatable (create and edit macros for automation, apply macros to single image or image stack).

LabImage 1D Gel Analysis Software - your tool in 1D gel analysis.

- Full 16 bit image processing
- Intuitive User Interface/Workflow
- Runs under Windows, Mac OS X, Linux
- Compliant with FDA 21 CFR part 11 (module required)
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This version is for academic only. For corporate usage please ask for L-360-C.

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### Lactate dehydrogenase from porcine heart

**min. 270 U/mg protein**

Lactate dehydrogenase (LDH; Lactic dehydrogenase; Lactate:NAD+ oxidoreductase)

EC 1.1.1.27

- **min. 270 U/mg protein**
- **2 x crystal suspension**
- **(L-LDH; Lactic dehydrogenase; Lactate:NAD+ oxidoreductase)**

**DANGER**

H334

- **Storage temperature +2 °C to +8 °C**

Highly purified suspension of 2x cryst. material in 70 % saturated ammonium sulphate, pH approx. 7.2.

Preparation contains predominantly isoenzymes LDH 1 and 2. LDH is used for the determination of lactate (1) and in coupled systems for detection of biological metabolites.

**Unit definition:** 1 U catalyzes the reduction of 1 μmole of pyruvate to L-lactate per minute at 25 °C, pH 7.0 in the presence of NADH (oxidation of 1 μmole NADH) (2).

**Extraneous activities:** PK, GPT, each max. 0.01 %; MDH max. 0.05 %

**References:**


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<tbody>
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</tr>
</tbody>
</table>

### Lactate:NAD+ oxidoreductase

see 27415 Lactate dehydrogenase from porcine heart min. 270 U/mg protein, page 75

### L-Lactic acid-Na-salt cryst. research grade

(Sodium lactate)

- **C₃H₅O₃·Na**

**EC 1.1.1.27**

**CAS [10039-26-6]**

**DANGER**

H334

- **Storage temperature +2 °C to +8 °C**

Highly purified suspension of 2x cryst. material in 70 % saturated ammonium sulphate, pH approx. 7.2.

Preparation contains predominantly isoenzymes LDH 1 and 2. LDH is used for the determination of lactate (1) and in coupled systems for detection of biological metabolites.

**Unit definition:** 1 U catalyzes the reduction of 1 μmole of pyruvate to L-lactate per minute at 25 °C, pH 7.0 in the presence of NADH (oxidation of 1 μmole NADH) (2).

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**References:**


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### Lactoflavin

see 34350 Riboflavin, page 114

### Lactose research grade, Ph. Eur.

[(β-D-Galactopyranosyl)-(1→4)-D-Glucose Monohydrate; milk sugar)]

- C₁₂H₂₂O₁₁·H₂O

**EC 1.1.1.27**

**CAS [10039-26-6]**

**DANGER**

H334

- **Storage temperature +2 °C to +8 °C**

Highly purified suspension of 2x cryst. material in 70 % saturated ammonium sulphate, pH approx. 7.2.

Preparation contains predominantly isoenzymes LDH 1 and 2. LDH is used for the determination of lactate (1) and in coupled systems for detection of biological metabolites.

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**Extraneous activities:** PK, GPT, each max. 0.01 %; MDH max. 0.05 %

**References:**


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<tbody>
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### Laemmli Buffer 10x, for SDS PAGE

**HS 38200000**

Running buffer for SDS PAGE. Supplied as 10 x concentrate. Contains 0.25 M Tris, 1.92 M glycine and 1 % SDS in aqueous solution.

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### Laemmli Sample Buffer 2x, for SDS PAGE

**HS 38220000**

Storage temperature +2 °C to +8 °C

Sample buffer for SDS PAGE. Supplied as 2x concentrate. Contains 126 mM Tris/HCl (pH 6.8), 20 % glycerol, 4 % SDS and 0.02 % brom phenol blue.

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<td>5 x 20 ml</td>
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</table>
For making 1 L liquid medium suspend 20 g in 900 ml distilled water, adjust the pH to 7.0 with approximately 0.2 ml of 5N NaOH, fill up to a final volume of 1 L with deionized water and sterilize by autoclaving.

5 g/l NaCl
5 g/l Yeast extract
10 g/l Tryptone

In molecular biology.

For cultivation of E. coli

WGK 1 • HS 38210000

For cultivation of E. coli in molecular biology.
10 g/l Tryptone
5 g/l Yeast extract
5 g/l NaCl
15 g/l Agar

For making 1 L liquid medium suspend 35 g in 900 ml distilled water, adjust the pH to 7.0 with approximately 0.2 ml of 5N NaOH, fill up to a final volume of 1 L with deionized water and sterilize by autoclaving. Cool to 45 °C prior to dispensing into sterile petri dishes.

References:

Lectin from Canavalia ensiformis

Lyophil.

(Concanavalin A from jack bean)
M₉ 110 000 • CAS [11028-71-0]

WARN.
H₃17-H₃34 • EINECS 234-258-2 • WGK 1 • HS 38504090

Storage temperature +2 °C to +8 °C

Affinity chromatography (1), Action on tumor cells (2).

Sugar specificity: D-glucose, D-mannose and sterically related sugars

Hemagglutination: Reference (3)

References:

Lectin from egg yolk

Pure

CAS [90685-90-6]

EINECS 297-639-2 • HS 29322000

Storage temperature -15 °C to -25 °C

Phosphatidyl choline min. 60.0 %
Iodine number min. 60.0
Peroxide value max. 3

L-Leucine

Research grade, Ph. Eur.

(Leu; L-2-Amino-4-methylpentanoic acid; 2-Amino-4-methylvaleric acid)
C₅H₁₀N₂O₂ • M₉ 131.2 • CAS [61-90-5]

EINECS 200-522-0 • HS 29232000

Storage temperature +2 °C to +8 °C

Acetone insol. substances min. 96.5 %
Toluol insoluble substances max. 0.3 %

Leupeptin

(Acetyl-L-leucyl-L-leucyl-L-argininal)
C₁₅H₂₈NO₃S • M₉ 475.6 • CAS [103476-84-9]

WARNING
H₃02-H₃32 • WGK 1 • HS 29241900

Storage temperature -15 °C to -25 °C

Inhibitor of serine and cysteine proteases.
Assay (HPLC) min. 96.5 %
(sum of tautomeric isomers)

References:

Levulose

see 21830 D-Fructose, page 55
■ Lid with 3 Electrodes for Bi-Directional Electrophoresis

HS 90272000

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■ Lowry Assay Kit

DANGER
H314-H412 | HS 38220000
Storage temperature +2 °C to +8 °C

The assay bases on Lowry’s method (1). It contains ready-to-use reagents and protein standard. The assay is fast and has a sensitivity of 50 µg protein/ml.

Sufficient for 250 2-ml assays.

References:

■ Lubrol 17A17

(Lubrol W1; Lubrol WX)

WARNING
H302-H332 | WGK 1 | EINECS 208-309-4

Ethylene oxide condensate of fatty alcohols; cetyl-stearyl ether.

Nonionic surfactant, emulsifier.

MP 34 - 38 °C
Hydroxyl number 53.0 - 60.0
pH 1 % in water 7.0 - 9.0

For microdetermination of superoxide dismutase (2). Peroxidase reagent (1).

Sufficient for 250 2-ml assays.

References:

■ Luminol research grade

(3-Aminophthalhydrazine; 5-Amino-2,3-dihydro-1,4-phthalazinedione)

C₆H₁₄N₂O₂·H₂O | M, 177.2 | CAS [521-31-3]

WARNING
H302-H332 | EINECS 208-309-4 | WGK 1 | HS 32980090

For microdetermination of superoxide dismutase (2). Peroxidase reagent (1).

Assay (lit.) min. 95.0 %

References:

■ Lysyl Endopeptidase®, MS approved

EC 3.4.21.50 | CAS [72561-05-08]
EINECS 276-716-4 | HS 35079090
Storage temperature -15 °C to -25 °C

Approved quality for use with in-gel digestion and mass spectrometric analysis.

Lysyl Endopeptidase, originally isolated from the soil bacterium discovered by Masaki, et al. cleaves specifically the peptide bonds at the carboxyterminal side of Lysine residues and S-aminoethylcysteine residues with a high degree of specificity, making it a valuable tool for protein sequence analysis and for proteome research. An added feature of Lysyl Endopeptidase is its ability to retain complete activity after incubation in 4M urea or in 0.1 % SDS solution for up to 6 hours at 30 °C.

■ Lysozyme from chicken egg white min. 15 000 units/mg

(Muramidase; Muramylpeptide-glycohydrolase; Muramylpeptide N-acetylmuramoylhydrolase)

EC 3.2.1.17 | M, ca. 14 400 | CAS [12650-88-3]

DANGER
H304 | EINECS 235-747-3 | WGK 1 | HS 35079090
Storage temperature +2 °C to +8 °C

Crystalline powder in hydrochloric form. Lysozyme hydrolyzes the β 1 - 4 linkages of the murein between N-acetylmuramic acid and N-acetyl-D-glucosamin, and degrades the heteroglycan chain to disaccharides. This reaction leads to cell lysis in most gram positive bacteria e.g. Micrococcus luteus. Lysis can be prevented if the reaction is performed in an isotonic sucrose medium. Under these assay conditions proteolasts are produced which no longer have a cell wall. The lysis of Micrococcus luteus cells is used for the activity testing of lysozyme. In gram negative bacteria a compact lipopolysaccharide layer on the exposed murein sacculus efficiently shields them from lysozyme digestion. Only when the stabilizing Ca²⁺ ions are removed by treatment with e.g. EDTA, the murein becomes susceptible to lysozyme. Suitable for hydrolysis of bacterial cell walls and of proteoglycans (1, 2, 4).

Unit definition: 1 unit catalyzes a decrease in absorbance at 450 nm of 0.001 per minute at 25 °C, pH 7.0, in a suspension of Micrococcus luteus cells (reaction volume 3 ml, light path 1 cm) (3).

Isoelectric point: 10.5 - 11.0

Optimum pH: 9.2

References:
1. Imoto, T. et al. (1972) The Enzymes VII, 3rd Ed. (Boyer, P.D., ed.) Acad. Press N.Y. 666-70
2. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press.1,2,1,3,1,6,1,8,17,38,1,25,17,12,1,7,17

■ Macerozyme from Rhizopus sp. lyophil.

EC 3.2.1.15 | CAS [9032-75-1]

DANGER
H304 | EINECS 232-885-6 | HS 35079090
Storage temperature -15 °C to -25 °C

Activities: Pectinase ca. 1 U/mg

Unit definition: 1 U catalyzes the liberation of 1 µmole of reducing groups from pectic acid per minute at 25 °C, pH 4.5 calculated as galacturonic acid. Reducing groups determined with alkaline copper reagent (1).

Hemicellulase: ca. 0.5 U/mg

Unit definition: 1 U is equivalent to 1 µmole of reducing groups released from beechwood xylan per hour at 37 °C, pH 5.5, calculated as xylose.

Unit definition: 1 U catalyzes the liberation of 1 µmole of reducing groups from sodium carbonate in a suspension of Micrococcus luteus cells (reaction volume 3 ml, light path 1 cm) (3).

Ca2⁺ ions are removed by treatment with e.g. EDTA, the murein becomes susceptible to lysozyme. Suitable for hydrolysis of bacterial cell walls and of proteoglycans (1, 2, 4).

Optimum pH: 9.2

References:
**Macerozyme R-10 from Rhizopus sp. lyophil.**

(Macerating Enzyme; Cell Separating Enzyme)

EC 3.2.1.15  CAS [9032-75-1]

**DANGER**

H334  I EINECS 232-885-6  WGK 1  I HS 35079090

Storage temperature +2 °C to +8 °C

Macerozyme R-10 is suitable for the isolation of plant cells, and can be used in combination with cellulase «Onozuka R-10» (cat. no. 16419) (1, 2) and with Cellulase «Onozuka RS» (cat. no. 16420).

**Activities:** Pectinase ca. 0.5 U/mg

**Unit definition:** 1 U catalyzes the liberation of 1 μmole of reducing groups from pectic acid per minute at 25 °C, pH 4.5 calculated as galacturonic acid. Reducing groups determined with alkali copper reagent (2).

**Hemicellulase:** ca. 0.25 U/mg

**Unit definition:** 1 U catalyzes the liberation of 1 μmole glucose from sodium carboxymethyl cellulose per minute at 40 °C, pH 4.5; glucose determined with alkaline copper reagent (3).

**pH optimum:** 3.5 - 7.0

**Temperature optimum:** 40 - 50 °C.

**References:**


**MgCl2·6H2O (cat. no. 39771)**

**Composition:** DNase/RNase not detected.

**H334  I EINECS 232-885-6  WGK 1  I HS 35079090**

Heavy metals (Pb): min. 99.5 %

Heavy metals (as Pb): max. 0.001 %

Chloride (Cl): max. 0.0005 %

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**MgCl2·6H2O (cat. no. 39772)**

**MgCl2·6H2O**

Magnesium chloride·6H2O

see 31627 Parafuchsin, page 92

Magenta O

see 33136 Polyethylene glycol 4000, page 97

**Macrogol**

see 31627 Parafuchsin, page 92

**Magnesium chloride-6H2O**

**cryst. research grade, Ph. Eur.**

MgCl2·6H2O  I M, 203.3  I CAS [7791-18-6]

EINECS 232-094-6  WGK 1L  I HS 28273100

Assay (titr.; hydrate) 98.0 - 101.0 %

Heavy metals (Pb) max. 10 ppm

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**Magnesium chloride-6H2O**

**molecular biology grade**

MgCl2·6H2O  I M, 203.3  I CAS [7791-18-6]

His 28273100

DNase/RNase not detected.

Assay (titr.; hydrate): 98.0 - 101.0 %

Heavy metals (Pb) max. 0.001 %

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**Magnesium chloride, solution 1 M**

**molecular biology grade**

His 38220000

DNase/RNase not detected.

**Composition:** MgCl2·6H2O (cat. no. 39771) 203.30 g/l

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**MgCl2·6H2O**

Magnesium chloride, solution 1 M

**molecular biology grade**

MgCl2·6H2O  I M, 24.64  I CAS [5028-93-6]

WGK 1  I HS 28323100

DNase/RNase not detected.

Assay (titr.) min. 99.5 %

Chloride (Cl): max. 0.0005 %

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**MgSO4·7H2O**

**molecular biology grade**

MgSO4·7H2O  I M, 246.48  I CAS [10034-99-8]

EG-Index 231-298-2  I HS 28352150

**DANGER**

H304  I EINECS 232-890-2  WGK 1L  I GS-VSE/ADR 1A  I UN 3261

Heavy metals (as Pb): min. 99.5 %

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**Malachite green oxalate**

**research grade**

Basic Green 4

C14.200000(C2H5N2)-2.C2H2O4·2.C2H3O2·2.C6H4O2·M. 927  I CAS [2437-29-8]

**DANGER**

H302-H318-

HS 361d-H400-H410  I EINECS 219-441-7  I WGK 3L  I HS 32041300

Suitable for bacteriology and histological staining. For fifty-fold amplification of the Lowry protein assay.

λ max. 0.0001 % in H2O 618 ±2 nm

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**Maleic acid**

**analytical grade**

C4H4O4  I M, 116.07  I CAS [110-16-7]

**WARNING**

H301d-H318-

HS 500-17-6  I EINECS 203-742-5  I WGK 1L  I HS 29171980

Assay (HPLC) 99.0 - 101.0 %

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**Maleic acid**

**research grade**

(C23H25N2O6)·2H2O  I M, 420.53  I CAS [599-87-2]

**DANGER**

H302-H318-

HS 17029010  I EINECS 203-742-5  I WGK 3L  I HS 32041300

Suitable for bacteriology and histological staining. For fifty-fold amplification of the Lowry protein assay.

λ max. 0.0001 % in H2O 618 ±2 nm

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**Maleic acid**

**research grade**

C12H22O11·H2O  I M, 248.33  I CAS [110-16-7]

**WARNING**

H301d-H318-

HS 500-17-6  I EINECS 203-742-5  I WGK 1L  I HS 29171980

Assay (HPLC) 99.0 - 101.0 %

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**D-Maltose**

**research grade**

(Maltobiose; 4-O-α-D-Glucopyranosyl-D-glucopyranose)

C12H22O11·H2O  I M, 248.33  I CAS [5028-93-6]

EINECS 203-742-5  I WGK 1L  I HS 29171980

Assay (HPLC) min. 99.5 %

Heavy metals (Pb) max. 10 ppm

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</table>
Maltotriose pure
C₆H₁₂O₆ • M, 504.44 • CAS [1109-28-0]
EINECS 214-174-2 • WGK 1 • HS 29400000
Assay (HPLC) min. 90.0 %

Manganese (II) chloride·4H₂O

Manganese (II) chloride·4H₂O other functional assays.

Mammalian Membrane Protein Extraction Kit
HS 38220000
Storage temperature +2 °C to +8 °C
The Mammalian Membrane Protein Extraction Kit provides a fast and efficient method to extract membrane proteins from mammalian cells and tissues. Native proteins can be obtained within 70 minutes without ultracentrifugation. Up to 90 % efficiency for membrane proteins which have at least 1 – 2 transmembrane domains. The extracted proteins are suitable for SDS PAGE, Western Blot, ELISA, and other functional assays.

Mammalian Nuclear and Cytoplasmic Protein Extraction Kit
HS 38220000
Storage temperature +2 °C to +8 °C
The Mammalian Nuclear and Cytoplasmic Protein Extraction Kit provides a fast and efficient method to extract nuclear and cytoplasmic proteins from mammalian cells and tissues. Native proteins can be obtained within 80 minutes without ultracentrifugation. The extracted proteins are suitable for SDS PAGE, Western Blot, ELISA, enzyme-activity assays, immunoprecipitation and other functional assays.

Mammalian Total Protein Extraction Kit
HS 38220000
Storage temperature -15 °C to -25 °C
The Mammalian Total Protein Extraction Kit provides a fast and efficient method to extract total proteins (cytoplasmic, membrane and nuclear proteins) from mammalian cells and tissues without ultracentrifugation. The extracted proteins are suitable for SDS PAGE, Western Blot, ELISA, and other functional assays.

Manganese (II) chloride·4H₂O analytical grade
MnCl₂·4H₂O • M, 197.91 • CAS [13446-34-9]
WARNING
H302-H412 • EINECS 231-869-6 • WGK 1L
Assay min. 99.0 %

D-Mannitol analytical grade
C₆H₁₂O₆ • M, 182.2 • CAS [3458-28-4]
Ph. Eur.
Assay (HPLC) 98.0 - 102.0 %
Reducing sugars max. 0.2 %

D-Mannose research grade
(Carubinose; Seminose)
C₆H₁₂O₆ • M, 180.2 • CAS [3458-28-4]
HS 29400000
For biochemistry, microbiology and cell culture.
Assay (HPLC) min. 99.7 %
MP 120 – 134 °C

Maxi Columns
(GST-Tag Purification)
HS 39233010
For purification by gravity flow using 2 - 6 ml resin. Polypropylene columns containing a polyethylene frit with a nominal pore size of 20 µm. Capacity: 35 ml

MEMBRA-CEL® dialysis tubing, MWCO 3500
RC, diameter 16 mm
HS 39173200
Packed dry , made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.
Nominal dry flat width 25 mm
Nominal dry diameter 16 mm
Approx. filling volume 2.0 ml/cm
Nominal dry wall thickness 25 µm

MEMBRA-CEL® dialysis tubing, MWCO 3500
RC, diameter 22 mm
HS 39173200
Packed dry , made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.
Nominal dry flat width 34 mm
Nominal dry diameter 22 mm
Approx. filling volume 3.4 ml/cm
Nominal dry wall thickness 25 µm

MEMBRA-CEL® dialysis tubing, MWCO 7000
RC, diameter 16 mm
HS 39173200
Packed dry , made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.
Nominal dry flat width 25 mm
Nominal dry diameter 16 mm
Approx. filling volume 2.0 ml/cm
Nominal dry wall thickness 28 µm
MEMBRA-CEL® dialysis tubing, MWCO 7000
RC, diameter 22 mm
HS 39173200
Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.
Nominal dry flat width 34 mm
Nominal dry diameter 22 mm
Approx. filling volume 3.4 ml/cm
Nominal dry wall thickness 30 μm

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<tr>
<td>44314.02</td>
<td>30 m</td>
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3-Mercapto-1,2-propanediol
(Triethylene glycol)
C₆H₁₂O₄S • M 108.16 • CAS [96-27-5]
DANGER
H302-H315-H332-H335 • GGVSE/ADR 6.1 II UN2966 • IATA 6.1 III UN2810 • EINECS 202-495-0 • WGK 3L • HS 29309099
Filled under argon.
Assay (GC) min. 99.0 %

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2-Mercaptoethanol electrophoresis grade
(Monoethyleneglycol)
C₂H₆O₂S • M 72.13 • CAS [60-24-2]
DANGER
H302-H315-H332-H335 • GGVSE/ADR 6.1 II UN2966 • IATA 6.1 III UN2810 • EINECS 200-464-6 • WGK 3L • HS 29309099
Suitable for reducing protein disulfide bonds prior to polyacrylamide gel electrophoresis. Tested for use in sample buffers for SDS PAGE.
Assay (GC) min. 99.0 %

<table>
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2-Mercaptoethanol molecular biology grade
(Monoethyleneglycol)
C₂H₆O₂S • M 72.13 • CAS [60-24-2]
DANGER
H302-H315-H332-H335 • GGVSE/ADR 6.1 II UN2966 • IATA 6.1 III UN2810 • EINECS 200-464-6 • WGK 3L • HS 29309099
Storage temperature +2 °C to +8 °C
Assay (GC) min. 99.0 %

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<tr>
<td>28625.02</td>
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Metal Chelate Buffer Pack, includes 1 Buffer A and 1 Buffer B
HS 3820000
Contents:
250 ml 5 x PBS Buffer A
150 ml 1 x Imidazole Buffer B

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Metal Chelate Midi Bulk Pack MC Plugs
HS 3820000
The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
Quantity: 24 x 1.6 ml Ni-IMAC columns
Max. sample volume per load: 20 ml, swing bucket rotor
Collection tube: 50 ml centrifuge tubes
Min. number of purifications: 48 purifications (2 uses per column)
Typical capacity/preparation: 10 - 15 mg 6 x His-tagged protein

<table>
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Metal Chelate Midi Kit - 8 MC Plugs
HS 3820000
The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
Quantity: 8 x 1.6 ml Ni-IMAC columns
Max. sample volume per load: 20 ml, swing bucket rotor
Collection tube: 50 ml centrifuge tubes
Min. number of purifications: 16 purifications (2 uses per column)
Typical capacity/preparation: 10 - 15 mg 6 x His-tagged protein
Vivaspin 20 ultrafiltration concentrators: 8
Buffers: 5 x PBS Buffer A, 1 x Imidazole Buffer B

<table>
<thead>
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Metal Chelate Midi Pack MC Plugs
HS 3820000
The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
Quantity: 8 x 1.6 ml Ni-IMAC columns
Max. sample volume per load: 20 ml, swing bucket rotor
Collection tube: 50 ml centrifuge tubes
Min. number of purifications: 16 purifications (2 uses per column)
Typical capacity/preparation: 10 - 15 mg 6 x His-tagged protein
Vivaspin 20 ultrafiltration concentrators: None
Buffers: 5 x PBS Buffer A, 1 x Imidazole Buffer B

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MES
see 29834 Morpholinoethane sulfonic acid, page 84
Metal Chelate Mini Bulk Pack Mini MC Plugs

HS 38220000

The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
- Quantity: 24 x 0.23 ml Ni-IMAC columns
- Max. sample volume per load: 0.65 ml, fixed angle rotor
- Collection tube: 2.2 ml microfuge tubes
- Min. number of purifications: 48 purifications (2 uses per column)
- Typical capacity/preparation: 1 mg 6 x His-tagged protein

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Metal Chelate Mini Sample Pack Mini MC Plug

HS 38220000

The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
- Quantity: 24 x 0.23 ml Ni-IMAC columns
- Max. sample volume per load: 0.65 ml, fixed angle rotor
- Collection tube: 2.2 ml microfuge tubes
- Min. number of purifications: 144 purifications (2 uses per column)
- Typical capacity/preparation: 1 mg 6 x His-tagged protein

<table>
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<th>Cat.No.</th>
<th>Size</th>
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Metal Chelate Mini Kit - 4 Mini MC Plugs

HS 38220000

The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
- Quantity: 4 x 0.23 ml Ni-IMAC columns
- Max. sample volume per load: 0.65 ml, fixed angle rotor
- Collection tube: 2.2 ml microfuge tubes
- Min. number of purifications: 8 purifications (2 uses per column)
- Typical capacity/preparation: 1 mg 6 x His-tagged protein

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Metal Chelate Mini Sample Pack Mini MC Plug

HS 38220000

The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
- Quantity: 24 x 0.23 ml Ni-IMAC columns
- Max. sample volume per load: 0.65 ml, fixed angle rotor
- Collection tube: 2.2 ml microfuge tubes
- Min. number of purifications: 144 purifications (2 uses per column)
- Typical capacity/preparation: 1 mg 6 x His-tagged protein

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Metal Chelate Mini Sample Pack Mini MC Plug

HS 38220000

The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
- Quantity: 1 piece

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3-Methacryloxypropyltrimethoxysilane (Bind-Silane)

(Polyfix 1000; Bind-Silane)

C₃H₆O₃Si M 428.4 CAS [2530-85-0]

DANGER H225-H301-H311-H331-H370 EG-Index 603-001-00-X GGVSE/ADR 3 II UN1230

Assay (GC) min. 99.8 %

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Methanol analytical grade

CH₃O M 32.04 CAS [67-56-1]

DANGER H225-H301-H311-H331-H370 EG-Index 603-001-00-X GGVSE/ADR 3 II UN1230

Assay (GC) min. 99.8 %

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<th>Cat.No.</th>
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<tr>
<td>45632.01</td>
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Methanol for HPLC

CH₃O M 32.04 CAS [67-56-1]

DANGER H225-H301-H311-H331-H370 EG-Index 603-001-00-X GGVSE/ADR 3 II UN1230

Assay (GC) min. 99.8 %

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</table>
■ Methanol for UHPLC-MS

CAS [87-56-1]  

DANGER  

H225-H301-H311-H331-H370  MAK/TRK 200 ml/m³; 270 mg/m³  EG-Index 603-001-00-X  GGVSE/ADR 3 II UN1230  IATA 3 II UN1230  EINECS 200-515-2  WGK 2L  HS 29339900  Storage temperature +2 °C to +8 °C  

Assay (titr.) min. 99.0 %  

Acidity ≤ 0.0003 meq/g  

Alkalinity ≤ 0.0006 meq/g  

Residue on evaporation ≤ 1 ppm  

Transmittance max. 10 mAU  

Drift at 235 nm max. 4 mAU  

Drift at 220 nm max. 2 mAU  

Drift at 235 nm max. 10 mAU  

Test LC-MS TIC (50 – 2000 m/z) ES I(+)) Sensitive impurities (reserpine) max. 30 ppb  

Metal Compounds Na/K/Ca max. 50 ppb  

Al/Fe/Mg max. 20 ppb  

Microfiltered, 0.1 μm  

Cat.No. Size  

29821.01 25 g  

29821.02 100 g  

■ L-Methionine research grade, Ph. Eur.

C₅H₁₁NO₂S  (Met; L-2-Amino-4-(methylthio)butyric acid)  

Heavy metals (Pb) max. 10 ppm  

Assay (UV) min. 98.0 %  

Acidity ≤ 0.054 meq/g  

Alkalinity ≤ 0.0006 meq/g  

Residue on evaporation ≤ 1 ppm  

UV 235 nm  

235 nm  

220 nm  

220 nm  

Fluorescence (quinine) at 235 nm  

Assay (GC) min. 98.0 %  

Acidity ≤ 0.001 % in water  

Alkalinity ≤ 0.001 % in water  

Residue on evaporation ≤ 1 ppm  

Cat.No. Size  

29195.01 250 g  

29195.02 50 g  

29195.03 10 g  

■ N,N'-Methylene bisacrylamide 2X analytical grade

C₅H₁₀N₂O₂  (Bis(acrylamido)methane)  

WARNING  

H302  EINECS 203-750-9  WGK 2  HS 29241900  Storage temperature +2 °C to +8 °C  

Assay (titr.) min. 99.0 %  

pH 1 % in water 5.5 – 7.5  

A 290 nm/1 % in water ca. 0.25  

pH 1:1 in water 6.0 – 8.0  

Cat.No. Size  

29197.01 1 L  

29196.01 10 g  

29196.02 50 g  

29196.03 250 g  

■ N,N'-Methylene bisacrylamide 4X analytical grade

C₅H₁₀N₂O₂  (Bis(acrylamido)methane)  

WARNING  

H302  EINECS 203-750-9  WGK 2  HS 29241900  Storage temperature +2 °C to +8 °C  

Assay (titr.) min. 99.0 %  

pH 1 % in water 5.5 – 7.5  

A 290 nm/1 % in water ca. 0.25  

pH 1:1 in water 6.0 – 8.0  

Cat.No. Size  

29197.01 1 L  

29196.01 10 g  

29196.02 50 g  

29196.03 250 g  

■ Methylene Blue

(CI.52015  C₁₅H₁₄N₃S·Cl-  Mₚ 319.86  CAS [61-73-4]  

WARNING  

H302  EINECS 200-562-9  WGK 1L  HS 29304010  Storage temperature +2 °C to +8 °C  

Assay (titr.) min. 99.0 %  

pH 1 % in water 5.5 – 7.5  

A 290 nm/1 % in water ca. 0.25  

pH 1:1 in water 6.0 – 8.0  

Cat.No. Size  

29196.01 10 g  

29196.02 50 g  

29196.03 250 g  

■ Methylene Blue (Basic Blue 9; Methylene blue chloride; Methylthionine chloride)  

C₁₅H₁₄N₃S·Cl-  Mₚ 319.86  CAS [61-73-4]  

WARNING  

H302  EINECS 200-659-6  WGK 1L  HS 32049000  Storage temperature +2 °C to +8 °C  

Assay (titr.) min. 99.0 %  

pH 1 % in water 5.5 – 7.5  

A 290 nm/1 % in water ca. 0.25  

pH 1:1 in water 6.0 – 8.0  

Cat.No. Size  

29196.01 10 g  

29196.02 50 g  

29196.03 250 g  

■ Methanol for UHPLC-MS

CAS [67-56-1]  

DANGER  

H225-H301-H311-H331-H370  MAK/TRK 200 ml/m³; 270 mg/m³  EG-Index 603-001-00-X  GGVSE/ADR 3 II UN1230  IATA 3 II UN1230  EINECS 200-515-2  WGK 2L  HS 29339900  Storage temperature +2 °C to +8 °C  

Assay (titr.) min. 99.0 %  

Acidity ≤ 0.054 meq/g  

Alkalinity ≤ 0.0006 meq/g  

Residue on evaporation ≤ 1 ppm  

Transmittance max. 10 mAU  

Drift at 235 nm max. 4 mAU  

Drift at 220 nm max. 2 mAU  

Drift at 235 nm max. 10 mAU  

Test LC-MS TIC (50 – 2000 m/z) ES I(+)) Sensitive impurities (reserpine) max. 30 ppb  

Metal Compounds Na/K/Ca max. 50 ppb  

Al/Fe/Mg max. 20 ppb  

Microfiltered, 0.1 μm  

Cat.No. Size  

29821.01 25 g  

29821.02 100 g  

■ 1-Methoxyphenazine-methosulfate research grade  

(C₁₄H₁₃N₂O+CH₃SO₄-  Mₚ 351.4  CAS [65162-13-2]  

WARNING  

H302-H311-H331-H370  IATA 3 II UN1230  EINECS 206-579-6  GGVSE/ADR 3 II UN1230  EINECS 200-515-2  WGK 1L  HS 29339900  Storage temperature +2 °C to +8 °C  

Electron mediator between NAD(P)H and tetrazolium dyes in the assay and activity staining of enzymes of diagnostic importance, e.g. LDH; photochemically stable substitute for PMS.  

Assay (UV) min. 98.0 %  

References:  


■ Methyl Violet 10B  

see 27335 Crystal Violet, page 37
**Methylnadic anhydride**

(NMA; EPON hardener MNA; Methyl norbornene-2,3-dicarboxylic anhydride; Nadic methyl anhydride)

**Chemical formula:** C\(_{10}\)H\(_{10}\)O\(_3\)

**Mr 178.19**

**CAS [25134-21-8]**

**DANGER**


**GGVSE/ADR 6.1 II UN 2810**

**EINECS 246-644-8**

**WGK 3**

**HS 29172000**

Hardener component for polyester and epoxy resins, for example EPON embedding.

\(d_20 \, ^\circ C\): 1.20 - 1.25

Refractive index: 1.5040 - 1.5080

**Cat.No.**

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**Methylnorbornene-2,3-dicarboxylic anhydride**

see 29452 Methylnadic anhydride, page 83

**N-Methylphenazinium methylsulfate**

see 32030 Phenazine·methosulfate, page 95

**Methyltriocetyl ammonium chloride**

see 37076 Trioctylmethylammonium chloride, page 168

**5-Methyluracil-2'-deoxyriboside**

see 18600 2'-Deoxythymidine, page 40

**Microcentrifuge rotor / 24 microtubes for BlueSpin Cryo**

HS 84211970

Fixed angle rotor (45°) for 24 1.5 or 2.0 ml microtubes, optional adaptors for 0.5 and 0.2 ml microtubes are available. 17,000 rpm max., 27,237 xg max. for 1.5/2.0 microtubes, 23,910 xg max. for 0.5 ml microtubes, 21,648 xg max. for 0.2 ml microtubes. The rotor is autoclavable and supplied with an aerosol tight O-ring.

**Cat.No.**

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**Microcentrifuge rotor / 30 microtubes for BlueSpin Cryo**

HS 84211970

Fixed angle rotor (45°) for 30 1.5 or 2.0 ml microtubes, optional adaptors for 0.5 and 0.2 ml microtubes are available. 14,000 rpm max., 21,124 xg max. for 1.5/2.0 microtubes, 18,845 xg max. for 0.5 ml microtubes, 17,311 xg max. for 0.2 microtubes. The rotor is autoclavable and supplied with an aerosol tight O-ring.

**Cat.No.**

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**Midi Columns**

(GST-Tag Purification)

HS 39233010

For purification by centrifugation using 100 - 250 ml resin. Polypropylene columns containing a polyethylene frit with a nominal pore size of 20 μm.

Capacity: 1.5 ml

**Cat.No.**

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<tr>
<td>42173.02</td>
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**Mini Pro 300 V**

HS 90272000

Combining small size and versatility, the new Mini Pro 300 V power supply is an ideal choice for any researcher. The two terminators allow the simultaneous run of two electrophoresis chambers, saving both time and valuable bench space. Capable of providing constant voltage or constant current in 1 V or 1 mA steps, the unit is perfectly suited to run both vertical polyacrylamide or horizontal agarose gel electrophoresis experiments.

- 300 V, 400 mA, 60 W output
- Two pairs of outlet terminals
- Time with alarm function
- Constant voltage or constant current options

**Cat.No.**

<table>
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**M9-Minimal salts 5x, powder**

52.5 g for 1 liter medium

HS 38210000

For cultivation of *E. coli* and plasmid amplification in molecular biology

30 g/l Na\(_2\)HPO\(_4\)

15 g/l KH\(_2\)PO\(_4\)

5 g/l NH\(_4\)Cl

2.5 g/l NaCl

For making 1 L 5x concentrate dissolve 52.5 g in 1 L distilled water and sterilize by autoclaving. The 5x concentrate can be stored and diluted as needed to prepare 5 L of 1x M9 minimal salts.

**References:**


**Cat.No.**

<table>
<thead>
<tr>
<th>Size</th>
</tr>
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<tbody>
<tr>
<td>48505.01</td>
</tr>
</tbody>
</table>

**Mineral oil**

molecular biology grade

(Paraffin oil, low viscosity)

CAS [8042-47-5]

EINECS 232-455-8 ** WKG 1L ** HS 27101985

DNase/RNase not detected. Suitable for overlaying aqueous reactions and centrifuge gradients.

**Cat.No.**

<table>
<thead>
<tr>
<th>Size</th>
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<tbody>
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</tbody>
</table>
Minocycline hydrochloride research grade
CAS [1814-98-7]

WARNING
H315-H319-H335 EINECS 237-099-7 WGK 1 HS 29413000
Storage temperature +2 °C to +8 °C

Semi-synthetic tetracycline derivative that has a spectrum of antibacterial activity similar to tetracycline. Tetracyclines inhibit bacterial protein synthesis by entering the cell and binding to the 30S ribosomal subunit preventing binding of tRNA. It is active against streptococci, enterobacteria, and some mycobacteria, and also against such species as Staphylococcus aureus, Neisseria meningitidis, Acinetobacter, Bacteroides, Haemophilus, and Nocardia. Minimum inhibitory concentrations can range from 0.06 - 1 µg/ml for the most sensitive organisms, and from 4 - 12.5 µg/ml for moderately sensitive organisms. (1).

Minocycline has been shown to inhibit tumor growth in transgenic mice (2) and to inhibit angiogenesis in rabbit cornea in the presence of the VX2 carcinoma (3). It acts as well as metalloproteinase inhibitor (4).

Assay
890 – 950 µg/mg
Heavy metals
max. 0.005 %

References:

Mithramycin A pure
(Aureolic acid; Plicamycin)

CAS C15H18N4O5 M 298.34

WARNING
H302-H351 EINECS 200-008-6 WGK 3L HS 29419000
Storage temperature +2 °C to +8 °C

Similar to chromomycin A2 in structure and mechanism of action, inhibits RNA synthesis. Forms complexes with DNA (1). Review on structure (2). Fluorescent antibiotic used for specific staining of DNA in flow cytometry and microscopy.

Assay (HPLC, TLC) min. 95.0 %

References:

Mitomycin C, carrier-free research grade
CAS C15H10N4O5 S 334.3

WARNING
H300-H351 EINECS 200-008-6 WGK 3L HS 29419000
Storage temperature +2 °C to +8 °C

Potent anti-tumor antibiotic isolated from Streptomyces caesipitosis. Belongs to the group of aziridine-containing natural products. Causes intra- and interstrand crosslinks in DNA, which prevent dissociation of the strands, and thus inhibits replication and transcription of DNA.

Assay (TLC, HPLC) min. 98.0%

References:

Modified SPURR Embedding Kit

DANGER
HS26-H302-H312-H314-H332-H335 HS 39073000

Excellent embedding medium for tissues with dense structures like minerals and bones as well as for highly vacuolated plant cells and tissue with hard lignified cell walls. The original composition introduced by Spurr contained the highly toxic ERL-4206 (Vinylcyclohexene dioxide) which is replaced here by the much less toxic epoxy component ERL-4221 D.

One kit contains:
ERL-4221 D (cat. no. 21041) 250 g
NSA (cat. no. 30812) 650 g
D.E.R.® 736 (cat. no. 18247) 200 g
DMAE (cat. no. 20130) 25 g

D.E.R.® trademark of Dow Chemical Company.

Molecular Weight Markers for DNA
see 39314 SERVA DNA Standard 1 Kbp DNA Ladder lyophilized, page 122

Molecular Weight Markers for Proteins
see 39215 SERVA Unstained SDS PAGE Protein Marker 6.5 - 200 kDa, Liquid Mix, page 132

Monothioethylene glycol
see 28626 2-Mercaptoethanol, page 80

MOPS
see 29836 Morpholinopropane sulfonic acid, page 85

Morpholinoethane sulfonic acid analytical grade
(MES)

CAS C4H9NO3S M 195.24


Assay (HPLC) min. 99.0 %

References:

Morpholinoethane sulfonic acid
CAS C4H9NO3S M 195.24


Assay (HPLC) min. 99.0 %

References:

References:

Mitomycin C
C15H10N4O5 S 334.3

WARNING
H300-H351 EINECS 200-008-6 WGK 3L HS 29419000
Storage temperature +2 °C to +8 °C

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Assay (TLC, HPLC) min. 98.0%

References:

Molecular Weight Markers for DNA
see 39314 SERVA DNA Standard 1 Kbp DNA Ladder lyophilized, page 122

Molecular Weight Markers for Proteins
see 39215 SERVA Unstained SDS PAGE Protein Marker 6.5 - 200 kDa, Liquid Mix, page 132

Monothioethylene glycol
see 28626 2-Mercaptoethanol, page 80

MOPS
see 29836 Morpholinopropane sulfonic acid, page 85

Morpholinoethane sulfonic acid analytical grade
(MES)

CAS C4H9NO3S M 195.24


Assay (HPLC) min. 99.0 %

References:
Morpholinoethane sulfonic acid, monohydrate
analytical grade

\[ \text{C}_6\text{H}_{13}\text{NO}_4\text{S} \cdot \text{H}_2\text{O} \]

pKa 20 = 7.2. Buffering substance for biochemistry, molecular biology, and SDS PAGE. Substitute for HCO\(_3^-
\)
and cell biology. Buffer component for isoelectric focussing.

<table>
<thead>
<tr>
<th>Assay (btrc)</th>
<th>min. 99.0 %</th>
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<tr>
<td>A 1 cm/0.1 M in water</td>
<td>260 nm max. 0.05</td>
</tr>
<tr>
<td>280 nm max. 0.02</td>
<td></td>
</tr>
<tr>
<td>pH 1 % in water</td>
<td>2.5 - 4.0</td>
</tr>
</tbody>
</table>

References:

Morpholinopropanesulfonic acid, monohydrate
analytical grade

\[ \text{C}_7\text{H}_{15}\text{NO}_4\text{S} \]

pKa 20 = 7.2. Buffering substance for biochemistry, molecular biology, and SDS PAGE. Substitute for HCO\(_3^-
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and cell biology. Buffer component for isoelectric focussing.

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<tr>
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<td></td>
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<tr>
<td>pH 1 % in water</td>
<td>2.5 - 4.0</td>
</tr>
</tbody>
</table>

References:

MP 310 Power Supply

The Major Science MP 310 power supply is a microprocessor-controlled power supply that covers the broadest range of applications. It offers constant voltage, constant current or constant power. Pause/resume run capability during timed or continuous operation is allowed. MP 310 is a fully programmable model, offering up to 6 multi-step settings and saving up to 30 programs, and capable for running 4 electrophoresis systems simultaneously. Its design provides a compact and modern stackable case, and a 2.6” LCD screen, showing all the running / setting conditions. Safety devices include no load detection, leakage detection, sudden load change detection, over load detection, temperature, and over load detection.

<table>
<thead>
<tr>
<th>Cat.No.</th>
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<tr>
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<td>500 g</td>
</tr>
<tr>
<td>29830.03</td>
<td>1 kg</td>
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</table>

MP 510 Power Supply

The MP 510 power supply is a microprocessor controlled power supply that covers the broadest range of applications. It offers constant voltage, constant current or constant power. Pause/resume run capability during timed or continuous operation is allowed. MP 510 is a fully programmable model, offering up to 6 multi-step settings and saving up to 30 programs, and capable for running 4 electrophoresis systems simultaneously. Its design provides a compact and modern stackable case, and a 2.6” LCD screen, showing all the running / setting conditions. Safety devices include no load detection, leakage detection, sudden load change detection, over load detection, temperature, and over load detection.

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<thead>
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<td>29830.01</td>
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<td>29830.06</td>
<td>500 g</td>
</tr>
<tr>
<td>29830.03</td>
<td>1 kg</td>
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</tbody>
</table>

MP 320 Power Supply

In addition to running standard horizontal agarose and vertical polyacrylamide gels, the MP 320 power supply easily handles all your blotting applications. Its microprocessor control offers constant voltage, constant current or constant power and pause/resume run capability during timed or continuous operation. MP 320 is fully programmable, offering up to 6 multi-step settings and saving up to 30 programs, and capable for running 4 cells simultaneously. Its design provides a compact and modern stackable case, and a 2.6” LCD screen, which displays all the running / setting conditions. Safety devices include no load detection, leakage detection, sudden load change, over temperature protection, and over load detection.

<table>
<thead>
<tr>
<th>Cat.No.</th>
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<td>29830.06</td>
<td>500 g</td>
</tr>
<tr>
<td>29830.03</td>
<td>1 kg</td>
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</table>

MS 222

see 12396 3-Aminobenzoic acid ethyl ester-methanesulfonate, page 11

MS White Light Table A4

White light table with filter size of 210 x 297 mm. Suitable for digital image analysis and other daily routine work.

<table>
<thead>
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mTOR Inhibitor

see 34145 Rapamycin from Streptomyces hygroscopicus, page 110

MTT

see 20395 3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium bromide, page 42
Murashige and Skoog Minimal Organic Powder Medium

DANGER
H271 ▶ GGVS/ADR 5.1 III UN1479 ▶ IATA 5.1 III UN1479 ▶ HS 38210000

Storage temperature +2 °C to +8 °C

Murashige and Skoog Plant Salts with i-inositol and thiamine hydrochloride. Without agar and without sucrose.

Supplements:
- Agar (cat. no. 11396) 8 g/l
- Sucrose (cat. no. 35579) 30 g/l

References:

---

Murashige and Skoog Plant Salts

DANGER
H271 ▶ GGVS/ADR 5.1 III UN1479 ▶ IATA 5.1 III UN1479 ▶ HS 38210000

References:

---

MycoDecon

DANGER
H225-H318-H336

Highly effective disinfectant, particularly active against mycoplasma, but also against bacteria, virus and fungus.

One of the sources of mycoplasma contamination is the formation of aerosols that can occur during handling of infected cells. Cell culture labs should therefore thoroughly disinfect all surfaces of the laboratories and equipment, including benches, incubators, storage boxes of cells, liquid nitrogen containers.

MycoDecon is an alcohol based, non-corrosive and non-carcinogenic solution which can be easily sprayed on all surfaces without leaving any traces.

Supplied in a spray bottle (250 ml) or as refill (500 ml).

---

Mycorase Solution (50x) for mycoplasma removal

HS 38220000

Storage temperature -15 °C to -25 °C

Mycorase is a highly effective antibiotic solution especially developed for safe eradication of mycoplasma contamination in most cell lines. It is active against a broad range of different mycoplasma strains without effect on eukaryotic cell proliferation.

- Ready-to-use solution
- Broad range of action
- Safe eradication without effect on cell proliferation
- Permanent cure for most cell types

---

Mycostatin

see 29870 Nystatin min. 4 400 units/mg, page 91

---

NAD

see 30311 β-Nicotinamide adenine dinucleotide, page 89

NADH

see 30312 β-Nicotinamide adenine dinucleotide reduced-Na⁺-salt, page 89

Nadic methyl anhydride

see 29452 Methyl nadic anhydride, page 83

NADPH

see 30316 β-Nicotinamide adenine dinucleotide phosphate reduced -Na⁺-salt, page 89

Naphthalene Black B

see 12310 Amido Black 10 B, page 11

Naphthol-AS-D-chloroacetate pure

C₁₇H₁₇NO₃Cl ▶ M, 353.8 ▶ CAS [35245-26-2] ▶ EINECS 252-463-5 ▶ HS 29241900

Storage temperature -15 °C to -25 °C

Histochemical substrate for esterase with improved stability.

Assay (HPLC) min. 97.0 %

References:

---

Naphthol-AS-MX-phosphate research grade

C₁₉H₁₈NO₅P ▶ M, 371.32 ▶ CAS [1596-56-1] ▶ EINECS 216-480-1 ▶ HS 29241900

Storage temperature -15 °C to -25 °C


Assay (HPLC) min. 99.0 %

References:
■ Naphtol-AS-BI-phosphate research grade

(6-Bromo-2-phosphoyloxy-3-naphthoic acid o-anisidine)

\[ \text{C}_{12} \text{H}_{10} \text{O}_2 \cdot \text{Na} \cdot \text{H}_2 \text{O} \]

**WARNING**

H315-H319-H335 | EINECS 217-645-0 | WGK 1 | HS 29322985

Storage temperature -15 °C to -25 °C

Histochemical substrate for phosphatase.

Purity (HPLC) min. 95.0 %

**References:**


■ 1-Naphthyl acetate analytical grade

(1-Naphthyl acetate; Acetic acid o-naphthyl ester)

\[ \text{C}_{18} \text{H}_{15} \text{BrNO}_6 \text{P} \]

**EINECS 217-645-0**

**H315-H319-H335**

**WARNING**

Storage temperature +2 °C to +8 °C

Substrate for esterases.

**References:**


■ 1-Naphthyl phosphate-Na-salt analytical grade

(Sodium-1-naphthyl hydrogen phosphate)

\[ \text{C}_{18} \text{H}_{15} \text{O}_2 \cdot \text{Na} \cdot \text{H}_2 \text{O} \]

**EINECS 29153900**

**MP**

42 - 46 °C

Storage temperature +2 °C to +8 °C

**References:**


■ Native Anode Buffer for BN/CN (10x)

HS 38220000

Running buffer for the use as anode buffer in Blue or Clear Native PAGE.

Supplied as 10x concentrate. Contains 500 mM BisTris-HCl (pH 7.0).

**Cat.No.** | **Size**
--- | ---
29988.01 | 100 mg
29988.02 | 500 mg
29988.03 | 1 g

■ Native Cathode Buffer for BN/CN (10x)

HS 38220000

Running buffer for the use as cathode buffer in Blue or Clear Native PAGE.

Supplied as 10x concentrate. Contains 500 mM Tricine, 150 mM BisTris.

**Cat.No.** | **Size**
--- | ---
42535.01 | 1 L

■ NBT

Free naphthol

Specially purified product for assay of phosphatase activity.

**References:**


■ NC 2 Nitrocellulose Membrane

Pore size 0.2 μm, format: 80 mm x 85 mm

**CAS [9004-70-0]**

**WARNING**

H228 | GGVSE/ADR 4.1 II UN3270 | IATA 4.1 II UN3270 | WGK 1 | HS 39122019

Especially for use with proteins of low molecular weight (< 20 000 Dalton).

Nitrocellulose membranes are the most popular membranes for Western, Southern and Northern Blotting. The membranes bind both proteins and nucleic acids. Nitrocellulose exhibits high binding capacity and has low background.

**References:**


■ NC 2 Nitrocellulose Membrane, white

Pore size 0.2 μm, format: 30 cm x 3 m

**CAS [9004-70-0]**

**WARNING**

H228 | GGVSE/ADR 4.1 II UN3270 | IATA 4.1 II UN3270 | WGK 1 | HS 39122019

Especially for use with proteins of low molecular weight (< 20 000 Dalton).

Nitrocellulose membranes are the most popular membranes for Western, Southern and Northern Blotting. The membranes bind both proteins and nucleic acids. Nitrocellulose exhibits high binding capacity and has low background.

**References:**


■ NC 2 Supported Nitrocellulose Membrane

Pore size 0.2 μm, format: 30 cm x 3 m

**CAS [9004-70-0]**

**DANGER**

H228 | GGVSE/ADR 4.1 II UN3270 | IATA 4.1 II UN3270 | HS 39122019

Especially for use with proteins of low molecular weight (< 20 000 Dalton).

Nitrocellulose membranes are the most popular membranes for Western, Southern and Northern Blotting. The membranes bind both proteins and nucleic acids. Nitrocellulose exhibits high binding capacity and has low background. The fibre-reinforced nitrocellulose membrane enables easier handling and cutting of membrane, stripping and repeated hybridization as well as automated immobilizing.

**References:**


---

www.serva.de

---
NC 2 Supported Nitrocellulose Membrane
Pore size 0.2 μm, format: 80 mm x 85 mm
CAS [9004-70-0]

**DANGER**
H228 ● GGVSE/ADR 4.1 II UN3270 ● IATA 4.1 II UN3270 ● WGK 1 ● HS 39122019

Especially for use with proteins of low molecular weight (< 20 000 Dalton). Nitrocellulose membranes are the most popular membranes for Western, Southern and Northern Blotting. The membranes bind both proteins and nucleic acids. Nitrocellulose exhibits high binding capacity and has low background. The fibre-reinforced nitrocellulose membrane enables easier handling and cutting of membrane, stripping and repeated hybridization as well as automated immobilizing.

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NC 45 Nitrocellulose Membrane, plain, white
Pore size 0.45 μm, format 30 cm x 3 m
CAS [9004-70-0]

**WARNING**
H228 ● GGVSE/ADR 4.1 II UN3270 ● IATA 4.1 II UN3270 ● WGK 1 ● HS 39122019

Nitrocellulose membranes are the most popular membranes for Western, Southern and Northern Blotting. The membranes bind both proteins and nucleic acids. Nitrocellulose exhibits high binding capacity and has low background.

<table>
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<tr>
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NC 45 Supported Nitrocellulose Membrane
Pore size 0.45 μm, format: 30 cm x 3 m
CAS [9004-70-0]

**WARNING**
H228 ● GGVSE/ADR 4.1 II UN3270 ● IATA 4.1 II UN3270 ● HS 39122019

Nitrocellulose membranes are the most popular membranes for Western, Southern and Northern Blotting. The membranes bind both proteins and nucleic acids. Nitrocellulose exhibits high binding capacity and has low background. The fibre-reinforced nitrocellulose membrane enables easier handling and cutting of membrane, stripping and repeated hybridization as well as automated immobilizing.

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NC 45 Nitrocellulose Membrane, plain, white
Pore size 0.45 μm, format: 88 mm x 88 mm
CAS [9004-70-0]

**WARNING**
H228 ● GGVSE/ADR 4.1 II UN3270 ● IATA 4.1 II UN3270 ● WGK 1 ● HS 39122019

Nitrocellulose membranes are the most popular membranes for Western, Southern and Northern Blotting. The membranes bind both proteins and nucleic acids. Nitrocellulose exhibits high binding capacity and has low background.

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NCDS-201 research grade

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NEM

see 11331 N-Ethylmaleimide, page 51

Neodol PB

see 35796 Teepol 610, page 165

Neomycin-sulfate research grade, Ph. Eur.

C₆H₁₈N₅O₈·xH₂SO₄, mol 614.7 (base) ● CAS [1405-10-3]

**DANGER**
H315-H317-H319-H334-H335-H361

EINECS 215-773-1

Storage temperature +2 °C to +8 °C

Min. 680 U/mg. Aminoglycoside antibiotic complex. Inhibits protein biosynthesis by binding to the 30S subunit of bacterial ribosomes. Causes misreading of mRNA.

<table>
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<tr>
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<td>25 g</td>
</tr>
<tr>
<td>30250.03</td>
<td>100 g</td>
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</tbody>
</table>

NetFix™ for PAG Size: 265 mm x 125 mm
HS 38220000

NetFix™ is an inert, reinforcing fabric which serves as an ideal support for gel layers. The polyester fabric is activated to bind polyacrylamide.

NetFix is a registered trademark of SERVA.

<table>
<thead>
<tr>
<th>Cat.No.</th>
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Neutral Red pure

(Basic Red 5; Toluylene Red; 3-Amino-7-dimethylamino-2-methylphenazinium chloride)

C₁₅H₁₇N₄·Cl ● CAS [553-24-2]

EINECS 215-773-1

Indicating pH 6.8 - 8.0. For use in histology and supravital staining.

Water (KF) max. 15.0 %
λ max. 523 nm - 533 nm
A 1 cm/0.001 % in water 528 nm
TLC homogeneous
ε528 nm/water min. 14 440

<table>
<thead>
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**Ni**-IDA-Metal Chelate Sepharose Resin

**Specifications**
- **Specificity:** Polyhistidine tag
- **Matrix:** Agarose
- **Couples ligand:** Iminodiacetic acid (IDA)
- **Storage:** Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8 °C

**Ni**-IDA-Metal Chelate Sepharose Resin

**Specifications**
- **Specificity:** Polyhistidine tag
- **Matrix:** Agarose
- **Couples ligand:** Iminodiacetic acid (IDA)
- **Storage:** Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8 °C

**β-Nicotinamide adenine dinucleotide phosphate-Na₂-salt research grade**

(NADP; TPNH)

C₉H₆N₂O₇P₂Na₂ • M, 833.4 • CAS [24239-60-2]  
EINECS 246-129-8 • WGK 1 • HS 29349990  
Storage temperature -15 °C to -25 °C  
Assay (enzymatic) min. 97.0 %  
Assay (HPLC) min. 95.0 %  
Water (KF) max. 6.0 %

**β-Nicotinamide adenine dinucleotide phosphate-Na₂-salt research grade**

(NADP; TPNH)

C₉H₆N₂O₇P₂Na₂ • M, 833.4 • CAS [24239-60-2]  
EINECS 246-129-8 • WGK 1 • HS 29349990  
Storage temperature -15 °C to -25 °C  
Assay (enzymatic) min. 97.0 %  
Assay (HPLC) min. 95.0 %  
Water (KF) max. 6.0 %

**β-Nicotinamide adenine dinucleotide phosphate-Na₂-salt research grade**

(NADP; TPNH)

C₉H₆N₂O₇P₂Na₂ • M, 833.4 • CAS [24239-60-2]  
EINECS 246-129-8 • WGK 1 • HS 29349990  
Storage temperature -15 °C to -25 °C  
Assay (enzymatic) min. 97.0 %  
Assay (HPLC) min. 95.0 %  
Water (KF) max. 6.0 %

**β-Nicotinamide adenine dinucleotide phosphate-Na₂-salt research grade**

(NADP; TPNH)

C₉H₆N₂O₇P₂Na₂ • M, 833.4 • CAS [24239-60-2]  
EINECS 246-129-8 • WGK 1 • HS 29349990  
Storage temperature -15 °C to -25 °C  
Assay (enzymatic) min. 97.0 %  
Assay (HPLC) min. 95.0 %  
Water (KF) max. 6.0 %
**Nitro blue tetrazolium chloride** analytical grade
(NBTC; Nitro BT, Nitrotryazolium blue chloride, Ditetrazolium dye)

C₆H₅N₃O₅ · Na₂ · 2H₂O, M, 315.2 · CAS [10344-94-2]

**WARNING**

H317 - H319 - EINECS 216-023-6 - CAS [1476-53-3]
Storage temperature +2 °C to +8 °C

- A ditetrazolium compound for demonstrating succinic dehydrogenase activity (1), glucose-6-phosphate dehydrogenase (2) and xanthine oxidase (3).
- Used in conjunction with BCIP (cat. no. 15247) for detection of alkaline phosphatase.

**Stock solution:** 50 mg/ml in 70 % DMF. Store at 4 °C or -20 °C.

**Staining solution for Western Blots:** 66 μl NBT stock solution and 33 μl BCIP stock solution in 10 ml staining buffer (100 mM NaCl, 5 mM MgCl₂, 100 mM Tris; pH 9.5).

**Purity (HPLC):** > 99.0 %

**References:**
1. Nachlas, M.M. et al. (1957) J. Histochem. Cytochem. 5, 149-54
9. See Nitro blue tetrazolium chloride, page 90

**Cat.No.** | **Size**
--- | ---
30812.01 | 250 ml

---

**Nitro BT**

See 30550 Nitro blue tetrazolium chloride, page 90

---

**2-Nitrophenyl-β-D-galactopyranoside** research grade
(GNP-G)

C₁₂H₁₅NO₈, M, 224.3 · CAS [28828-97-4]

**WARNING**

H317 - H319 - EINECS 242-317-8 - CAS [29171980]
Storage temperature +2 °C to +8 °C

- Especially purified for electron microscopy. Hardener component for SPURR embedding.

**Cat.No.** | **Size**
--- | ---
30890.01 | 100 g
30890.02 | 1 kg

---

**4-Nitrophenyl-β-D-glucuronide** research grade

C₁₂H₁₃NO₉, M, 315.2 · CAS [10344-94-2]

**WARNING**

H317 - H319 - EINECS 216-023-6 - CAS [1476-53-3]
Storage temperature +2 °C to +8 °C

Coumarin-glycoside antibiotic. Inhibitor of bacterial DNA gyrase (1).

**Mechanism of action:**
Antagonist of heat shock protein 90 (Hsp90) (3, 4, 5).

**Assay (from N):**
- Min. 95.0 %
- [α] 24 °C/D (c=2.5 % in water) -34.0 ° to -38.0 °
- MP 210 - 220 °C

**References:**

**Cat.No.** | **Size**
--- | ---
30995.01 | 1 g

---

**NMA**

See 29452 Methylene anhydride, page 83

---

**Non-Detergent Sulfofetaine 201**

See 20762 NDSB-201, page 86

---

**Nonenylsuccinic anhydride** pure
(NA; ERL-4206 hardener)

C₁₁H₁₄O₂ · Na₂ · CAS [369-07-3]

**WARNING**

H317 - H319 - EINECS 242-317-8 - CAS [29171980]
Especially purified for electron microscopy. Hardener component for SPURR embedding.

**Cat.No.** | **Size**
--- | ---
30812.01 | 250 ml

---

**Norit® A pract.**

(Activated charcoal)
CAS [64365-11-3]
HS 38021000
Activated charcoal from peat. Acid washed.

Norit = registered trademark of Norit B.V.

**Cat.No.** | **Size**
--- | ---
30890.01 | 100 g
30890.02 | 1 kg

---

**Novobiocin-Na-salt** research grade

C₁₀H₁₄O₅ · Na₂ · CAS [1476-53-3]

**WARNING**

H317 - H319 - EINECS 216-023-6 - CAS [29191900]
Storage temperature +2 °C to +8 °C

**References:**
6. See 20762 NDSB-201, page 86

**Cat.No.** | **Size**
--- | ---
30995.01 | 1 g

---

**NSA**

See 30812 Nonenylsuccinic anhydride, page 90

---

**NTA-Agarose Resins**

See 42139 SERVA Ni-NTA Agarose Resin, page 132

---

**dNTP PCR Mix, solution 10 mM molecular biology grade**

HS 38290000

Storage temperature -15 °C to -25 °C

**Ready to use dNTP mixture for the 5th DNA polymerase and Taq DNA polymerase.**

**Mixture of dATP, dCTP, dGTP, dTTP; 10 mM of each, free of DNase, RNase, Phosphatase and Protease. Absolutely free of substances that may inhibit PCR, e.g. pyrophosphates etc. Ultrapure dNTPs qualified for use in standard and long PCR, RT-PCR, manual and automated sequencing, cDNA synthesis, DNA footprinting and labelling reactions.**

**Every lot is tested in a 30 kb PCR and real-time PCR reaction.**

**Purity:** > 98.0 %
**pH:** 8.5 - 0.1

**Cat.No.** | **Size**
--- | ---
30712.01 | 0.2 ml
30712.02 | 5 x 0.2 ml

---

**References:**
**NTP PRODUCTS A - Z**

**Purity**

0.25 ml correspond to 25 reaction.

**dNTPs Set, solution 100 mM**

molecular biology grade

HS 38220000

Storage temperature -15 °C to -25 °C

Set of 100 mM solutions of each dATP, dCTP, dGTP, dTTP.

Free of DNase, RNase, Phosphatase and Protease. Absolutely free of substances that may inhibit PCR, e.g. pyrophosphates etc.

Ultrapure dNTPs qualified for use in standard and long PCR, RT-PCR, manual and automated sequencing, cDNA synthesis, DNA footprinting and labelling reactions. Every lot is tested in a 30 kb PCR and real-time PCR reaction.

0.25 ml correspond to 25 μmol.

Purity > 99.0 %

pH 8.5 ± 0.1

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**Nycodenz® 60 % (w/v) solution in water**

(Nycodenz® Universal)

C_{29}H_{58}N_{16}O_{12}·2H_{2}O, M = 921.1

HS 38220000

Storage temperature +2 °C to +8 °C

Non-ionic density gradient medium, similar to the former Metrizamide but potentially retain better functional integrity than in Metrizamide gradients.

Nycodenz® is suitable for the isolation of a wide range of different cell types, viruses, subcellular organelles and other membrane compartments. Gradient preparation and resolution of cellular organelles are largely similar with both media. In contrast to Metrizamide, solutions of Nycodenz® can be sterilized by autoclaving.

Density (20 °C) 1.310 ± 0.002 g/ml

Osmolarity 580 ± 10 mOsm

Refractive index (20 °C) 1.4273 ± 0.0003

Nycodenz + Nycoprep = registered trademarks of Axis-Shield, Norway.

**References:**


**Cat.No.**

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**Nycodenz® Universal**

see 31000 Nycodenz®, 60 % (w/v) solution in water, page 91

**Nylon-Bind B Membrane, positive surface**

Pore size 0.45 μm, format 30 cm x 3 m

HS 39219090

Nylon-Bind Membranes feature low background, high sensitivity and high binding capacities for blotting of proteins and nucleic acids. The high inner surface of Nylon-Bind membranes is based on the unique microporous structure of the nylon material.

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**Nystatin min. 4.000 units/mg**

research grade, Ph. Eur.

(Fungcidin, Mycostatin)

C_{14}H_{28}O_{6}·H_{2}O, M = 262.13

CAS [4100-61-9]

EINECS 215-749-0

Storage temperature +2 °C to +8 °C

Polyene macrolide antibiotic isolated from Streptomyces noursei. Used in animal and plant cell cultures against fungi and yeasts. Forms complexes with ergosterol in the fungal cell membrane resulting in the formation of pores and loss of ions and small molecules.

**References:**


**Octenidin Dihydrochloride**

analytical grade

274-861-8 CAS [70775-75-6]

WARNING

H3002-H315-H319-H332-H335 + EINECS 274-861-8 + WKG 3 + HS 29333999

Cation-active chemical compound that binds to negatively charged bacterial cell envelope thereby disrupting the vital functions of the cell membrane. Broad spectrum bactericidal, fungicidal and virucidal against some lipophilic viruses (Herpes, Hepatitis B). Approved by European Medicines Agency as a broad antiseptic for disinfection of skin, mucous membranes and open wounds. Used as 0.1 – 2.0 % solution (often with phenoxyethanol and propanol). Alternative to other antiseptics like benzalkonium chloride, chlorhexidine and PVP-iodine.

Free of dimethylformamide and toluid due to a novel production process.

Purity (HPLC) min. 99.5 %

Water (KF) max. 2.0 %

Heavy metals (Pb, As, Cr) max. 20 ppm

**References:**


**Cat.No.**

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**Octyl-β-D-glucopyranoside**

research grade

(OGP, n-Octyl glucoside)

C_{14}H_{28}O_{6}·H_{2}O, M = 399-8

CAS [28936-26-8]

EINECS 249-847-8 + HS 29399090

Storage temperature +2 °C to +8 °C

Non-ionic detergent. Especially suitable for the isolation and stabilization of membrane-bound enzymes, whereby in comparison to other detergents e.g. Triton X-100, a markedly higher yield is obtained. Easily removed by dialysis.

Assay (HPLC) min. 98.0 %

[α] 20°C/D (c= 1 % in methanol), -28.0 ° to -32.0 °

**References:**


**OGP**

see 31055 Octyl-β-D-glucopyranoside, page 91

**ONPG**

see 30710 2-Nitrophenyl-β-D-galactopyranoside, page 90

**Oramix L30**

see 27570 N-Lauroylsarcosine-Na-salt, page 76
**Orthophosphoric-monoester phosphohydrolase (alkaline optimum)**
see 32471 Alkaline Phosphatase from calf intestine ca. 3000 U/mg protein (ca. 60 U/µl), page 11

**Osmic acid**
see 31253 Osmium tetroxide, page 92

**Osmium (VIII) oxide**
see 31253 Osmium tetroxide, page 92

**Osmium tetroxide for electron microscopy**
(Osmium (VIII) oxide; Osmic acid)
OsO₄, M 254.2, CAS [20816-12-0]

**Parafilm™, 0.5 m x 15 m**
HS 39209990
Roll: width 50 cm (20"), length 15 m (50 ft). Supplied in sturdy cardboard container.

**Parafilm™, 0.1 m x 38 m**
HS 39209990
Roll: width 10 cm (4"), length 38 m (125 ft). Supplied in dispenser box.

**Paraformaldehyde pure**
(Polyoxymethylene) (CH₂O)n, M (30.0)n, CAS [30525-89-4]

**Pararosaniline research grade**
(Basic Red 9; Magenta O; Pararosaniline) C.I.42500, M 323.82, CAS [569-61-9]

**Pancreatopeptidase E**
see 20929 Elastase from porcine pancreas min. 200 U/mg, page 48

**PaperPool**
HS 90272000
Tray for soaking the electrode wicks in buffer (up to 80 ml) used for all FlatBed gels.

**Paraffin oil, low viscosity**
see 39776 Mineral oil, page 83

**Paraffin oil, low viscosity**
see 14500 Bayol F, page 16

**Parafuchsin**
research grade
Homogeneous in TLC (1). Indicator pH 1.0 - 3.1. Suitable for aldehyde fuchsin staining and Schiff's reagent. For staining elastic fibres (2). For formaldehyde determination (3). λ max. 0.003 %/l in EtOH:H₂O/1:1 543 - 549 nm A 1 cm/λ max. 0.0003 % in EtOH:H₂O/1:1 min. 85 000 Water (KF) max. 10.0 %

**References:**
**Patulin**

- **Chemical Formula**: C_{6}H_{10}O_{2}
- **CAS**: [149-29-1]
- **Purity (HPLC)**: min. 98.0%
- **Interaction with cellular membranes**: (5).
- **Antitumor activity**: (6).
- **Inhibits aminoacyl-tRNA synthetase**: (4).
- **Influence on intracellular ion flux and species**: carcinogenic
- **Penicillium** Mycotoxin; antibiotic from *Aspergillus*

- **WGK**: 3
- **EINECS**: 205-735-2
- **HS**: 29322090

**References**:

**PBS Buffer** (10x) sterile

- **Composition**: NaCl (cat. no. 30183) 1.37 M
- **pH**: 7.2 - 7.6

**PCR Tube Rotor for 8 rows of PCR strips** for BlueSpin Cryo

**PCR Tube Rotor for 4 rows of PCR strips** for BlueSpin Mini

**PDT disulfonate**

see 21326 Ferrozine®, page 51

**PEFABLOC® SC**

(4-O-Aminophenyl)benzenesulfonfluoride-HCl)

- **Chemical Formula**: C_{6}H_{11}NO_{3}F·HCl
- **CAS**: [30827-99-7]
- **Purity (HPLC)**: min. 95.0%

**References**:
### Pepstatin A

**Description:**
Peptone from casein is a high-quality source of peptides and amino acids produced by enzymatic digestion of casein. It is refined hydrolysate that has been specially processed to increase solubility. Suitable as nutrient for laboratory media and industrial fermentation.

**Specifications:**
- **Molecular Weight:** ca. 500 Dalton
- **Amino Acid Composition:**
  - Total nitrogen (TN) min. 6.0 %
  - Amino nitrogen min. 3.0 %
  - Loss on drying max. 5.0 %
  - Residue on ignition max. 44.0 %
  - pH (1 % solution) 5.5 – 7.5

**References:**

**Cat.No.:**
- 48668.01 250 g
- 48668.02 1 kg

---

### Peptone from lactalbumin

**Description:**
Peptone from lactalbumin is a readily soluble pancreatic digest of lactalbumin recommended for production of Lactobacilli and other fermentations.

**Specifications:**
- **Molecular Weight:** ca. 500 Dalton
- **Amino Acid Composition:**
  - Total nitrogen (TN) min. 10.0 %
  - Amino nitrogen 4.8 %
  - Solubility (5 % in water) complete
  - pH (5 % solution) 6.7 - 7.7

**References:**

**Cat.No.:**
- 48666.01 250 g
- 48666.02 1 kg

---

### Peptone from soybean

**Description:**
Peptone from soybean is produced by controlled enzymatic hydrolysis of soybean meal. Contains a mix of peptides, free amino acids and growth factors.

**Specifications:**
- **Molecular Weight:** ca. 1000 Dalton
- **Amino Acid Composition:**
  - Total nitrogen (TN) 15.0 - 16.0 %
  - Amino nitrogen 3.0 - 4.0 %
  - AN/TN x 100 18 - 26
  - Solubility (5 % in water) complete
  - pH (5 % solution) 5.0 - 6.0

**References:**

**Cat.No.:**
- 48666.01 250 g
- 48666.02 1 kg
### Peroxidase from horseradish min. 1000 U/mg lyophil.

(POD; HRP; Donar: hydrogen-persoxide oxidoreductase)
EC 1.11.1.7 • M ca. 40 000 • CAS [9003-99-0]

**DANGER**
H334 • EINECS 232-668-6 • HS 35079090

Storage temperature +2 °C to +8 °C

For the determination of peroxide (1). Used as an indicator enzyme in reactions where peroxide is produced (2). For labelling antibodies in ELISA (3, 4). RZ (= A 403/A 275) ≥ 3.0.

**Unit definition:** 1 U catalyzes the decomposition of 1 μmol hydrogen peroxide per minute at 25 °C, pH 7.0; reaction coupled with phenol-aminonitripleine (5).

**Activity in other units:** min. 250 purpurogallin units/mg
(1 purpurogallin unit catalyzes the oxidation of 1 mg pyrogallol to purpurogallin in 20 seconds at 20 °C and pH 6.0. The purpurogallin is extracted and determined spectrophotometrically at 420 nm (6). 1 mg purpurogallin requires 13.5 μmole peroxide, 1 purpurogallin unit corresponds to the decomposition of 12 μmole peroxide at 25 °C.)

**References:**

### Phenol Red research grade

(Phenylsulfonphthalein)
C₆H₆O₄S • M 354.4 • CAS [143-74-8]
EINECS 205-609-7 • WGK 2L • HS 29349990

Indicator pH 6.5 - 8.0. Tested for use in tissue culture.

**Assay (titr.)** min. 99.0 %

**References:**

### Phenolphthalein diphasphatase-Na-salt research grade

C₂₉H₃₀Na₂P • M 566.20 • CAS [88807-90-9]
EINECS 272-326-3 • HS 29322985

Storage temperature -15 °C to -25 °C

Substrate for phosphatase.

**Assay (titr.)** min. 95.0 %

**References:**

### L-Phenylalanine research grade, Ph. Eur.

(Phe; L-2-Amino-3-phenylpropionic acid)
C₉H₁₁NO₂ • M 165.19 • CAS [83-91-2]
EINECS 200-568-1 • WGK 1L • HS 29224985

Assay (titr.) 98.5 - 101.0 %

**Heavy metals (Pb)** max. 10 ppm

**References:**
4. Altman, F.P. Biochem. J.
5. Faber, E. et al. (1958) J. Histochem. Cytochem.

### Phenazine-methosulfate pure

(PMS; N-Methylphenazinium methylsulfate)
C₁₀H₁₀N₂•H₂SO₄ • M 306.34 • CAS [299-11-6]

**DANGER**
H315-H319-H335 • EINECS 206-350-2 • WGK 1 • IATA 8 II UN2923

**WARNING**
H315-H319-H335 • EINECS 206-072-1 • WGK 3 • HS 29339980

Storage temperature +2 °C to +8 °C

Electron coupler, transfers electrons from NADH to tetrazolium salts, e.g. MTT, and thus makes NAD reductions visible.

**Assay (UV)** min. 99.0 %

**References:**
1. Faber, E. et al. (1956) J. Histochem. Cytochem. 6, 389

### Phenol analytical grade, Ph. Eur., USP

(Hydroxybenzene)
C₆H₅OH • M 94.11 • CAS [108-95-2]

**DANGER**
H334 • EINECS 232-668-6 • HS 35079090

Storage temperature +2 °C to +8 °C

**Index 604-001-00-2 • GGVS/ADR 6.1 II UN1671 • IATA 6.1 II UN1671 • EINECS 203-632-7 • WGK 2L • HS 29071100**

For separation of proteins during purification of nucleic acids.

**Assay (titr.)** 99.0 - 100.5 %

**References:**
4. Altman, F.P. Biochem. J.
5. Faber, E. et al. (1958) J. Histochem. Cytochem.
■ Phosphatase-Inhibitor-Mix I, powder

**DANGER**

H302-H314-H361 • WGK 1


The content of 1 vial dissolved in 1 ml water will give a 100-fold concentrate suitable for the treatment of 100 ml tissue extract.

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<td>5 vials</td>
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<td>10 vials</td>
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■ Phosphatase-Inhibitor-Mix II, solution

HS 38220000

Storage temperature +2 °C to +8 °C

Mixture of 7 different inhibitors dissolved in water, suitable for the inhibition of acid and alkaline phosphatases, protein phosphatases 2A, 2B and 2C, phosphoprotein phosphatase, and protein-tyrosine phosphatase, and serine/threonine phosphatase.

Contains EDTA, ß-glycerophosphate-disodium salt, imidazole, sodium fluoride, sodium molybdate, sodium-ortho-vanadate, and sodium tartrate. 1 ml solution is suitable for the treatment of 100 ml tissue extract.

<table>
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■ Phosphate buffered salt solution

see 42595 PBS Buffer (10x), page 93

■ Phosphoramidon research grade

(N-α-Rhamnopyranosoyoxyhydroxyphosphinyl)-L-Leu-L-Trip-Na • 2H(O)

C_{15}H_{18}N_{2}O_{6}P_{2}Na • M • 587.5 • CAS [119942-99-3]

HS 29419000

Storage temperature +2 °C to +8 °C


Microbial product.

Store dry and protect from light!

Assay (HPLC) min. 90.0 %

References:

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■ o-Phthalaldehyde analytical grade

(o-Phthalaldehyde)

C_{8}H_{6}O_{2} • M • 134.14 • CAS [643-79-8]

**DANGER**

H301-H314-H317-H400 • GGVSE/ADR 8 II UN2923 • IATA 8 II UN2923

EINECS 211-402-2 • WGK 3

HS 29122900

Especially purified for fluorimetric histidine determination (1). Reagent for amines and alkaloids (2) as well as for amino acids (3, 4) and peptides (5, 6).

Assay (GC) min. 99.0 %

MP 54 - 57 °C

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■ Piperazine-N,N’-bis(2-ethane sulfonic acid) analytical grade

(PIPES; 1,4-Piperazinediethane sulfonic acid)

C_{8}H_{18}N_{2}O_{6}S_{2} • M • 302.4 • CAS [5625-37-6]

HS 2933595


Assay (titr.) min. 99.0 %

A 1 cm/2 % in NaOH

250 mm max. 0.2

Heavy metals (Pb) max. 0.0005 %

References:
1. Good, N.E. et al. (1966) Biochemistry 5, 467-77

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■ PIPES see 32981 Piperazine-N,N’-bis(2-ethane sulfonic acid), page 96

■ Plicamycin see 29803 Mithramycin A, page 84

■ PMA see 32496 Phorbol (12-myristoyl-13-acetyl), page 95

■ PMS see 32030 Phenazine methosulfate, page 95

■ PMSF see 32395 Phenylmethylsulfonyl fluoride, page 95
**PNGase F, recombinant**

M, 36 000  
HS 35079090

Supplied in 20 mM Tris-HCl pH 7.5, 50 mM NaCl and 5 mM EDTA.  

PNGase F is a mutant recombinant glycosidase from *Flavobacterium meningosepticum* and expressed and purified from *E. coli*. The enzyme catalyzes the cleavage of N-linked oligosaccharides between the innermost GlcNAc and asparagine residues of high mannose, hybrid and complex oligosaccharides from N-linked glycoproteins. The proprietary changes made to PNGase F have been shown to have unique characteristics when compared to other commercially-available sources of PNGase F. The enzyme works on native glycoproteins and serum glycoproteins in minutes at room temperature. Glycan analysis of the digestion products show that digestion led to a more complete glycan release. Moreover, it also allowed for the cleavage of glycans not normally released by the commercially-available enzymes when used at the same concentrations with the same digestion conditions.

**Unit definition:**  
1 unit catalyzes the deglycosylation of 1 nanomole of denatured Ribonuclease B (RNase B) in one minute at 37 °C. One unit is equal to 1 IUB milliunit.

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**Poly-D-lysine 70 000-HBr** research grade  
(C$_6$H$_{14}$N$_2$O$_{2n}$·HBr) , M, 70 000 - 150 000  
CAS [27964-99-4]

HS 35040090  
Storage temperature -15 °C to -25 °C  
Hygroscopic. „Attachment factor“ in cell culture and proteinase inhibitor.

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**Poly-L-lysine 70 000-HBr** research grade  
(C$_6$H$_{14}$N$_2$O$_{2n}$·HBr), M, ca. 70 000 - 150 000  
CAS [25988-63-0]

WGK 1  
HS 35040090  
Storage temperature -15 °C to -25 °C

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**Polyamide-6-powder** research grade  
(Polycaprolactam; Perlon; Nylon-6)  
HS 39081000

For column chromatography.

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**Polyclar® AT** pract.  
CAS [9003-39-8]

WGK 1  
HS 39049000  
Water-insoluble polyvinylpyrrolidone for binding phenols.  
Heavy metals (Pb) max. 10 ppm  
Polyclar = registered trademark of GAF Corp. USA.

**References:**  

---

**Polyethylene glycol 4000 Ph. Eur., USP**  
(PEG 4000; Macrogol 4000; Macrogol)  
CAS [25322-68-3]  
EINECS 500-038-2(NLP)  
WGK 1L  
HS 34042000  
Degree of polymerization ca. 70 - 80.  
Polyethylene glycol for chromatography, histology, microscopy and for special biochemical purposes.  
Average M, 3600 - 4400  
Hydroxyl value, 26.0 - 31.0  
Heavy metals (Pb) max. 5 ppm

<table>
<thead>
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<tbody>
<tr>
<td>33136.01</td>
<td>500 g</td>
</tr>
<tr>
<td>33136.02</td>
<td>5 kg</td>
</tr>
</tbody>
</table>

---

**Polyethylene glycol 6000 Ph. Eur., USP**  
(PEG 6000; Macrogol 6000)  
CAS [25322-68-3]  
EINECS 500-038-2(NLP)  
WGK 1L  
HS 34042000  
Degree of polymerization ca. 140 - 170.  
Polyethylene glycol for chromatography, histology, microscopy and for special biochemical purposes.  
Average M, 5400 - 6600  
Hydroxyl value, 17.0 - 21.0  
Heavy metals (Pb) max. 5 ppm

<table>
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<th>Size</th>
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<tbody>
<tr>
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<td>500 g</td>
</tr>
<tr>
<td>33137.02</td>
<td>5 kg</td>
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</tbody>
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**Polyethylene glycol 6000 molecular biology grade**  
(PEG 6000; Macrogol 6000)  
CAS [25322-68-3]  
EINECS 500-038-2(NLP)  
WGK 1L  
HS 34042000  
Degree of polymerization ca. 140 - 170.  
Polyethylene glycol for chromatography, histology, microscopy and for special biochemical purposes.  
Average M, 5400 - 6600  
Heavy metals (as Pb) max. 5 ppm

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**Polyethylene glycol 20 000 Ph. Eur., USP**  
(PEG 20000; Macrogol 20000)  
CAS [25322-68-3]  
EINECS 500-038-2(NLP)  
WGK 1L  
HS 34042000  
Degree of polymerization ca. 400 - 500.  
Polyethylene glycol for chromatography, histology, microscopy and for special biochemical purposes.  
Average M, 16 000 - 25 000  
Hydroxyl value, 4.5 - 7.0  
Heavy metals (Pb) max. 5 ppm

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<tr>
<td>33138.02</td>
<td>5 kg</td>
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---

**Polyethylene glycol 40 000 Ph. Eur., USP**  
(PEG 35000; Macrogol 35000)  
CAS [25322-68-3]  
EINECS 500-038-2(NLP)  
WGK 1L  
HS 34042000  
Degree of polymerization ca. 800 - 900.  
Polyethylene glycol for chromatography, histology, microscopy and for special biochemical purposes.  
Heavy metals (Pb) max. 5 ppm

<table>
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<tbody>
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<tr>
<td>33139.02</td>
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</table>
■ *Polyethyleneimine* 50 % solution in water pract.  
(Polimin P)  

**WARNING**  
H302 H315 H319 H335  
Storage temperature +2 °C to +8 °C  

Non-volatile matter  48.0 - 52.0 %

<table>
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<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
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<tr>
<td>33141.04</td>
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■ *Polyoxymyxin-B*-sulfate  
research grade, Ph. Eur.  
(Aerosporin)  
CAS [9005-65-6]  

**WARNING**  
H302 H315 H319 H335  
Storage temperature +2 °C to +8 °C  

Mixture of the sulfates of polypeptides produced by the growth of certain strains of *Bacillus polymyxa*, the main component being *Polyoxymyxin B1*. Assay (HPLC): sum of *Polyoxymyins B1, B2, B3 and B1-I* min. 80 %; *Polyoxymycin B1-I* max. 15 % (all data based on dried substance). Peptide antibiotic that mainly acts against gram negative bacteria. Causes changes in membrane structure resulting in leakage of small molecules. Used in cell culture media against the contamination of bacteria or in other media for suppression of pathogenic germs (2,3). Inhibitor of the mitogenic response to lipopoly saccharide (4).

**References:**  

■ *Polyoxymyxin E* sulfate  
see 17420 Colistin sulfate, page 34

■ *Polysorbate 80 VG*  
Ph. Eur., USP/NF  
(Montanox® 80; Tween® 80; Polyoxethylene sorbitane monooleate, n ca. 20)  
Mₚ ca. 1300  
CAS [9003-20-5]  

**WARNING**  
H302 H315 H319 H335  
Storage temperature +2 °C to +8 °C  

Non-volatile matter  48.0 - 52.0 %

<table>
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<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
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<td>33141.04</td>
<td>500 ml</td>
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</table>

■ *Polyoxyethylene monolauryl ether*  
see 15230 Brij 35*, page 23

■ *Polysorbate 20*  
see 39796 Tween® 20, page 172

■ *Polysorbate 80*  
see 37475 Tween® 80, page 172

■ *Polysorbate 80 VG*  
Ph. Eur., USP/NF  
(Montanox® 80; Tween® 80; Polyoxethylene sorbitane monooleate, n ca. 20)  
Mₚ ca. 1300  
CAS [9003-65-6]  

EINECS 500-019-9  
WGK 1  
HS 34016.01

The fatty acids of this detergent are of vegetable origin.  

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■ *Polyvinylpyrrolidone 15* pract.  
Mₚ ca. 10000  
CAS [9003-39-8]  
WS 39059990  

Intrinsic viscosity (K-value)  ca. 15.0  
Heavy metals (Pb)  max. 0.001 %

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■ *Polyvinylpyrrolidone 30*  
Mₚ ca. 40 000  
CAS [9003-39-8]  
WS 39059990  

Intrinsic viscosity (K-value)  27.0 - 33.0

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■ *Polyvinylpyrrolidone 25* pract., Ph. Eur., USP  
(Collidon; Plasdone)  
Mₚ ca. 29000  
CAS [9003-39-8]  
WS 39059990  

Intrinsic viscosity (K-value)  22.5 - 27.0  
Heavy metals (Pb)  max. 10 ppm

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■ *Polyvinylpyrrolidone 90* pract.  
Mₚ ca. 1 100000  
CAS [9003-39-8]  
WS 39059990  

Intrinsic viscosity (K-value)  90.0 - 100.0

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■ *Polyvinylsulfate-K-salt* pure  
(C₈H₉O₂S)·(Na)ₙ, Mₚ (162.21)n, n ≥1500  
CAS [26837-42-3]  
WS 39059990  

Esterification degree min. 90 %.  

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<td>500 ml</td>
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■ *Ponceau S*  
(Acid Red 112; Fast Ponceau 2B)  
C₈H₇N₃O₅S Naₙ, Mₚ 760.61  
CAS [6226-79-5]

**WARNING**  
H315 H319 H335  
EINECS 228-319-2  
WGK 1  
HS 29270000

For reversible protein staining on membranes and for microscopy.  

λ max. 0.001 % in water  517 - 523 nm  
Water (KF)  max. 15.0 %  
A 1 cm/0.001 % in water/λ max.  min. 0.355  
ε₅ max. in water  min. 27 000  
TLC  corresponds

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■ *Ponceau S solution for electrophoresis (0.2 %)*  
DANGER  
H314-H412  
WGK 1  
HS 38220000

In 3 % TCA. For reversible protein staining on membranes.

<table>
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<tbody>
<tr>
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</table>
**Potassium acetate** molecular biology grade  
C₂H₃O₂K • M, 98.14 • CAS [127-08-2]  
EINECS 204-822-2 • WGK 1L • HS 29152900  
DNase/RNase not detected.  
Assay (titr.) min 99.0 %  
Heavy metals (as Pb) max. 0.001 %  
pH 5 % in water 7.5 - 9.0

**Potassium chloride** analytical grade  
CAS [7447-40-7]  
EINECS 231-211-8 • WGK 1L • HS 28273985  
Assay (titr.) min. 99.5 %  
pH 5 % solution 5.5 - 8.5  
Heavy metals (Pb) max. 0.0005 %

**Potassium chloride** research grade, Ph. Eur.  
KCl • M, 74.55 • CAS [7447-40-7]  
EINECS 231-211-8 • WGK 1L • HS 28273985  
Assay (titr.) 99.0 - 100.5 %  
Heavy metals (Pb) max. 10 ppm

**Potassium dihydrogen phosphate anhydrous** analytical grade  
(Potassium phosphate monobasic (prim. potassium phosphate); Potassium biphosphate)  
KH₂PO₄ • M, 136.1 • CAS [7778-77-0]  
EINECS 231-913-4 • WGK 1 • HS 28352400  
Buffering substance for biochemistry and enzymology.  
Assay (titr.) min. 99.5 %  
pH 5 % in water 4.2 - 4.5  
Heavy metals max. 0.001 %  
Nitrogen (N) max. 0.001 %  
Sodium (Na) max. 0.02 %

**Di-Potassium hydrogen phosphate anhydrous** analytical grade  
(Dipotassium hydrogen phosphate; Potassium phosphate dibasic (sec. potassium phosphate))  
K₂HPO₄ • M, 174.18 • CAS [7758-11-4]  
EINECS 231-834-5 • WGK 1 • HS 28352400  
Buffering substance for biochemistry and enzymology.  
Assay min. 99.0 %  
pH 5 % in water 8.7 - 9.3  
Heavy metals (Pb) max. 10 ppm

**L-Proline** research grade, Ph. Eur.  
(Pro; 2-Pyrrolidinecarboxylic acid)  
C₅H₉NO₂ • M, 115.13 • CAS [147-85-3]  
EINECS 205-702-2 • WGK 1 • HS 29224895  
Assay (titr.) 98.5 - 101.0 %  
Heavy metals (Pb) max. 10 ppm

**Precast Gels for IEF**  
see 42965 SERVALYT™ PRECOTES® Wide Range pH 3-10, page 145

**PRECOTES™**  
see 42965 SERVALYT™ PRECOTES® Wide Range pH 3-10, page 145

**PreNets™**  
see 42738 SERVALYT™ PreNets™ pH 3-10, page 147

**Potassium dihydrogen phosphate anhydrous** analytical grade  
(Potassium phosphate monobasic (prim. potassium phosphate); Potassium biphosphate)  
KH₂PO₄ • M, 136.1 • CAS [7778-77-0]  
EINECS 231-913-4 • WGK 1 • HS 28352400  
Buffering substance for biochemistry and enzymology.  
Assay (titr.) min. 99.5 %  
pH 5 % in water 4.2 - 4.5  
Heavy metals max. 0.001 %  
Nitrogen (N) max. 0.001 %  
Sodium (Na) max. 0.02 %


**Pronase E from Streptomyces griseus**

min. 6.0 DMC-U/mg (lyophil.

(Streptomyces griseus neutral protease; Actinase E)

CAS [9036-06-0]

**DANGER**

H315 H319 H334 H335 EINECS 252-909-5 WKG 1 HS 35079090

Storage temperature +2 °C to +8 °C

For structural analysis of proteins (1, 2). Suitable for preparation of bacteriophage lambda DNA (3).

**Unit definition:** 1 DMC-U (1U) is that amount of enzymatic activity which catalyzes the cleavage of 1 μ-equivalent peptide bond from dimethyl casein per minute at 25 °C, pH 7.5, expressed in terms of the appearance of new terminal amino groups (4).

**Activity in other units:** ca. 20 000 PUK-units/g (casein substrate, 40 °C, pH 7.5).

Pronase = registered trademark of Calbiochem-Novabiochem Corp.

**References:**


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**2-Propanone**

see 45632 Aceton, page 2

---

**Propidium iodide**

research grade

(3,8-Dimino-5-[3-dithethylammonio]propyl-6-phenylphenanthridinium· diiodide)

C₂₃H₂₄N₈I₂ CAS [57-57-8]

**WARNING**

H315 H319 H334 H335 EINECS 247-081-0 WKG 2 HS 29239000

Storage temperature +2 °C to +8 °C

For selective labelling of DNA in dead cells; used in tumor diagnosis (flow cytometry) (1, 2). For the study of microsomal morphology of protozoa (3).

**References:**


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**β-Propiolactone**

research grade

(2-Oxetanone; 3-Hydroxypropionic acid lactone)

C₁₀H₁₆O₂ CAS [97-57-8]

**DANGER**

H315 H319 H334 H335 H350 EINECS 232-909-5 GGVSE/ADR 6.1 II UN2810

Storage temperature -15 °C to -25 °C

Miscibility with water 37 %. Polymerizes on warming and in the presence of ions (1). For enzyme sterilization (2). Carcinogen (3).

Assay (H-NMR) min. 98.5 %

**References:**


---

**Proylene oxide**

research grade

(1,2-Epoxypropane)

C₃H₆O CAS [75-56-9]

**DANGER**

H224 H302 H312 H315 H319 H332 H335 H340 H350 Muta. 1B, Carc. 1B MAK/TKR 6 mg/m³, 2.5 mm/m³ EG-Index 603-05S-00-4 GGVSE/ADR 3 I UN1280 IATA 1 I WTK 3 L HS 29102000

Storage temperature +2 °C to +8 °C

96-well format assay kit for protein quantification. The kit bases on the precipitation of proteins as insoluble dye complexes with acidic, methanolic amido black 10B solution (1, 2). After precipitation the protein–dye complexes are spun down. The pellet is washed and resolubilized. The thereby released dye amount is measured at 620 nm. In triple measurement 23 samples can be analysed (plus BSA standard and blank).

- Precise, reproducible, reliable assay data
- Completed in 45 min.
- No interference with detergents or reducing agents
- High-throughput format (96-well plate)
- Linear detection range from approx. 100 - 1750 μg/ml protein

The kit contains 10x dye concentrate, elution solution, bovine serum albumin as standard reference, 96-well plates.

**References:**


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**Protease-Inhibitor Mix G**

WGK 2 HS 38220000

Storage temperature -15 °C to -25 °C

Special mixture of 5 water-soluble protease inhibitors with broad specificity for the inhibition of cysteine-, serine- and metalloproteases. Recommended for general applications and where the use of organic solvents should be avoided. Contains AEBSF, Aprotinin, E-64, Leupeptin and EDTA. The content of 1 vial dissolved in 1 ml water results in a 100-fold concentrate suitable for the treatment of 100 ml tissue extract.

**Protease-Inhibitor Mix B**

WGK 1 HS 38220000

Storage temperature -15 °C to -25 °C

Mixture of 5 water-soluble protease inhibitors with broad specificity for aspartate-, cysteine-, serine- and metallopeptases as well as aminopeptidases. It is especially formulated for use with bacterial extracts. Contains ABEBSF, Bestatin, E-64, Pepstatin A and EDTA. Supplied as a kit: each vial is provided with an extra vial of 1 ml DMSO. The content of 1 vial dissolved in 1 ml DMSO will give a 100-fold concentrate, suitable for the treatment of 100 ml extract.
Protease-Inhibitor Mix FY

**DANGER**

H301-H410 GGVSE/ADR 6.1 II UN2811

IATA 6.1 III UN2811 • EINECS 200-664-3 • WGK 1

HS 38220000
Storage temperature -15 °C to -25 °C

Special mixture of 4 protease inhibitors with broad specificity for the inhibition of aspartate-, cysteine-, and serine-proteases. It is especially formulated for use with plant extracts. It is especially recommended for purification of polyHis-tagged proteins and for other applications, where metal-chelators should be avoided. Contains AEBSF, Bestatin, E-64, Leupeptin, and 1,10-Phenanthroline.

Supplied as a kit: each vial is provided with an extra vial of 1 ml DMSO. The content of 1 vial dissolved in 1 ml DMSO will give a 100-fold concentrate, suitable for the treatment of 100 ml extract.

<table>
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<td>39104.03</td>
<td>10 vials</td>
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</table>

Protease-Inhibitor Mix P

**DANGER**

H301-H410 GGVSE/ADR 6.1 II UN2811

IATA 6.1 III UN2811 • EINECS 200-664-3 • WGK 2

HS 38220000
Storage temperature -15 °C to -25 °C

Special mixture of 6 protease inhibitors with broad range of activity for the inhibition of aspartate-, cysteine-, and metallo proteases as well as aminopeptidases. It is especially formulated for use with plant extracts. Contains AEBSF, Bestatin, E-64, Leupeptin, Pepstatin A, and 1,10-Phenanthroline.

Supplied as a kit: each vial is provided with an extra vial of 1 ml DMSO. The content of 1 vial dissolved in 1 ml DMSO will give a 100-fold concentrate, suitable for the treatment of 100 ml extract.

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<tr>
<td>39103.03</td>
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Protease-Inhibitor Mix M

EINECS 200-664-3 • WGK 1 • HS 38220000

Storage temperature -15 °C to -25 °C

Mixture of 6 protease inhibitors with broad spectrum of activity for the inhibition of aspartate-, cysteine-, and serine-proteases as well as aminopeptidases (metallo-proteases). It is free of EDTA and contains AEBSF, Aprotinin, Bestatin, E-64, Leupeptin and Pepstatin A.

Supplied as a kit: each vial is provided with an extra vial of 1 ml DMSO. The content of 1 vial dissolved in 1 ml DMSO will give a 100-fold concentrate, suitable for the treatment of 100 ml extract.

<table>
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Protease-Inhibitor Mix HP

HS 38220000
Storage temperature -15 °C to -25 °C

Special mixture of 4 water-soluble protease inhibitors with broad specificity for the inhibition of cysteine- and serine-proteases. Free of metal-chelators. Recommended for purification of polyHis-tagged proteins and for other applications where metal-chelators should be avoided. Contains AEBSF, Aprotinin, E-64, and Leupeptin.

The content of 1 vial dissolved in 1 ml water will give a 100-fold concentrate suitable for the treatment of 100 ml tissue extract.

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Protease-Inhibitor Mix HP PLUS

HS 38220000
Storage temperature -15 °C to -25 °C

Mixture of 6 protease inhibitors with broad spectrum of activity for the inhibition of aspartate-, cysteine-, and serine proteases as well as aminopeptidases, Thermolysin and other microbial metalloendoproteases. It is especially recommended for purification of polyHis-tagged proteins and for other applications, where metal-chelators should be avoided.

Contains AEBSF, Bestatin, E-64, Leupeptin, Pepstatin A, and Phosphoramidon.

Supplied as a kit: each vial is provided with an extra vial of 1 ml DMSO. The content of 1 vial dissolved in 1 ml DMSO will give a 100-fold concentrate, suitable for the treatment of 100 ml extract.

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Proteasome Inhibitor MG-132

(Carbobenzoxy-L-leucyl-L-leucyl-leucinal; Z-Leu-Leu-Leu-H (aldehyde))

C_{26}H_{41}N_{3}O_{5} • M, 475.62 • CAS [133407-82-6]

HS 29420000
Storage temperature -15 °C to -25 °C

Potent, reversible and cell-permeable proteasome inhibitor.

Assay (HPLC) min. 90.0 %

References:
1. Salto, Y. et al. (1990) Neurosci. Lett. 120, 1

<table>
<thead>
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Proteasome Inhibitor MG-115

(Carbobenzoxy-L-leucyl-L-leucyl-leucinal; Z-Leu-Leu-Nva-H (aldehyde))

C_{25}H_{39}N_{3}O_{5} • M, 461.59

HS 29420000
Storage temperature -15 °C to -25 °C

Potent reversible proteasome inhibitor.

Purity (HPLC) min. 90.0 %

References:
1. Salto, Y. et al. (1990) Neurosci. Lett. 120, 1

<table>
<thead>
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</tr>
</tbody>
</table>

Protein A Buffer Pack

HS 38220000

Contents:
1 x Binding Buffer pH 9.0 A (250 ml)
1 x Elution Buffer pH 5.5 B1 (125 ml)
1 x Elution Buffer pH 2.5 B2 (125 ml)
1 x Neutralization Buffer pH 9.0 C (30 ml)
Protein A Midi Bulk Pack Midi A Plugs

HS 38220000

The Mini Protein A & G spin column permits semi-preparative purification of concentrated monoclonal and polyclonal antibodies for all downstream applications. Both the Mini and Midi kits contain all the resin spin columns, buffers and ultrafiltration spinners necessary for rapid and convenient purifications of your target antibodies.

Contents:
- Quantity: 4 x 1.6 ml Protein A Mini spin columns
- Max. sample volume per load: 20 ml, swing bucket rotor
- Collection tube: 8 x 20 ml centrifuge tubes
- Min. number of purifications: 20 purifications (5 uses per column)
- Typical capacity/preparation: 20 mg human IgG

Typical capacity/preparation: 1 mg human IgG

Cat.No. Size
42258.01 1 kit

Protein A Mini Sample Kit: 2 Mini A Plugs

HS 38220000

The Mini Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunoassays, immuno-histochemical and immuno-fluorescence studies. Western Blotting and immuno-precipitation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

Contents:
- Quantity: 2 x 0.23 Protein A Mini spin columns
- Max. sample volume per load: 0.65 ml, fixed angle rotor
- Collection tube: 2.2 ml microcentrifuge tubes
- Min. number of purifications: 6 purifications (3 uses per column)
- Typical capacity/preparation: 1 mg human IgG

Vivaspin 500 ultrafiltration concentrators: 2
- Buffers: 1 x Binding Buffer pH 9.0 A, 1 x Elution Buffer pH 5.5 B1, 1 x Elution Buffer pH 2.5 B2, 1 x Neutralization Buffer pH 9.0 C

Cat.No. Size
42255.01 1 kit

Protein A Midi Kit - 4 Midi A Plugs

HS 38220000

The Midi Protein A & G spin column permits semi-preparative purification of concentrated monoclonal and polyclonal antibodies for all downstream applications. Both the Mini and Midi kits contain all the resin spin columns, buffers and ultrafiltration spinners necessary for rapid and convenient purifications of your target antibodies.

Contents:
- Quantity: 48 x 0.23 Protein A Midi spin columns
- Max. sample volume per load: 20 ml, swing bucket rotor
- Collection tube: 24 x 20 ml centrifuge tubes
- Min. number of purifications: 144 purifications (3 uses per column)
- Typical capacity/preparation: 1 mg human IgG

Typical capacity/preparation: 20 mg human IgG

Cat.No. Size
42257.01 48 pieces

Protein A Mini Sample Pack: 1 Mini A Plug

HS 38220000

The Mini Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunoassays, immuno-histochemical and immuno-fluorescence studies. Western Blotting and immuno-precipitation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

Contents:
- Quantity: 4 x 1.6 ml Protein A Mini spin columns
- Max. sample volume per load: 20 ml, swing bucket rotor
- Collection tube: 24 x 20 ml centrifuge tubes
- Min. number of purifications: 64 purifications (5 uses per column)
- Typical capacity/preparation: 20 mg human IgG

Typical capacity/preparation: 1 mg human IgG

Cat.No. Size
42256.01 1 kit

Protein G Buffer Pack

HS 38220000

Contents:
- 1 x Binding Buffer pH 9.0 A (250 ml)
- 1 x Elution Buffer pH 5.5 B1 (125 ml)
- 1 x Elution Buffer pH 2.5 B2 (125 ml)
- 1 x Neutralization Buffer pH 9.0 C (30 ml)

Cat.No. Size
42254.01 1 piece

Protein G Midi Bulk Pack Midi G Plugs

HS 38220000

The Midi Protein A & G spin column permits semi-preparative purification of concentrated monoclonal and polyclonal antibodies for all downstream applications. Both the Mini and Midi kits contain all the resin spin columns, buffers and ultrafiltration spinners necessary for rapid and convenient purifications of your target antibodies.

Contents:
- Quantity: 12 x 1.6 ml Protein G Midi spin columns
- Max. sample volume per load: 20 ml, swing bucket rotor
- Collection tube: 24 x 20 ml centrifuge tubes
- Min. number of purifications: 60 purifications (5 uses per column)
- Typical capacity/preparation: 20 mg human IgG

Typical capacity/preparation: 20 mg human IgG

Cat.No. Size
42276.01 1 kit

Protein G Midi Kit - 4 Midi G Plugs

HS 38220000

The Midi Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunoassays, immuno-histochemical and immuno-fluorescence studies. Western Blotting and immuno-precipitation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

Contents:
- Quantity: 4 x 1.6 ml Protein G Midi spin columns
- Max. sample volume per load: 20 ml, swing bucket rotor
- Collection tube: 24 x 20 ml centrifuge tubes
- Min. number of purifications: 20 purifications (5 uses per column)
- Typical capacity/preparation: 20 mg human IgG

Typical capacity/preparation: 20 mg human IgG

Cat.No. Size
42264.01 1 kit

Protein G Midi Bulk Pack Midi G Plugs

HS 38220000

The Midi Protein A & G spin column permits semi-preparative purification of concentrated monoclonal and polyclonal antibodies for all downstream applications. Both the Mini and Midi kits contain all the resin spin columns, buffers and ultrafiltration spinners necessary for rapid and convenient purifications of your target antibodies.

Contents:
- Quantity: 4 x 1.6 ml Protein G Midi spin columns
- Max. sample volume per load: 20 ml, swing bucket rotor
- Collection tube: 24 x 20 ml centrifuge tubes
- Min. number of purifications: 20 purifications (5 uses per column)
- Typical capacity/preparation: 20 mg human IgG

Typical capacity/preparation: 20 mg human IgG

Cat.No. Size
42276.01 1 kit
Protein G Mini Bulk Pack Mini G Plugs
HS 38220000
The Mini Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunosassays, immuno-histochemical and immuno-fluorescence studies, Western Blotting and immuno-preciptation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

Contents:
Quantity: 48 x 0.23 Protein G Mini spin columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microcentrifuge tubes
Min. number of purifications: 144 purifications (3 uses per column)
Typical capacity/preparation: 1 mg human IgG

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Protein G Mini Kit: 16 Mini G Plugs
HS 38220000
The Mini Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunosassays, immuno-histochemical and immuno-fluorescence studies, Western Blotting and immuno-preciptation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

Contents:
Quantity: 16 x 0.23 Protein G Mini spin columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microcentrifuge tubes
Min. number of purifications: 48 purifications (3 uses per column)
Typical capacity/preparation: 1 mg human IgG

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Protein G Mini Sample Kit: 2 Mini G Plugs
HS 38220000
The Mini Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunosassays, immuno-histochemical and immuno-fluorescence studies, Western Blotting and immuno-preciptation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

Contents:
Quantity: 2 x 0.23 Protein G Mini spin columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microcentrifuge tubes
Min. number of purifications: 6 purifications (3 uses per column)
Typical capacity/preparation: 1 mg human IgG

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Protein G Mini Sample Pack Mini G Plug
HS 38220000

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Protein Molecular Weight Standards
HS 38220000
Storage temperature -15 °C to -25 °C
To determine the molecular weight of proteins separated in polyacrylamide gels in their native state SERVA offers a set of 8 proteins. Proteins are either in solution or lyophilized, the lyophilized proteins can easily be dissolved in water or sample buffer. The molecular weights of the proteins range from 12,400 Da (Cytochrome C) up to 450,000 Da (Ferritin horse).

Please note: In the presence of SDS most of the proteins will fall into their subunits, therefore this marker should not be used for SDS PAGE.

25 mg of each. For native electrophoresis:
- Ferritin horse: M= 450 000
- Catalase bovine: M= 240 000
- Aldolase rabbit: M= 160 000
- Albumin bovine (BSA): M= 67 000
- Albumin egg: M= 45 000
- Chymotrypsinogen A: M= 25 000
- Myoglobin equine: M= 17 800
- Cytochrome C: M= 12 400

Protein Standards (Markers) for IEF
see 39212 IEF Marker 3-10, Liquid Mix, page 71

Protein Test Mixture 4 for SDS PAGE
Molecular weight markers for SDS gel electrophoresis. The bovine albumin (BSA) contains monomers and oligomers. Reconstitute with SDS sample buffer (125 mM Tris-HCl pH 6.8, 2 % SDS, 15 % glycerol, 10 mM DTT, 0.025 % bromophenol blue, 0.025 % Orange G) to final concentration of 1 mg/ml and apply 5 µl per lane when staining with SERVA Blue G, SERVA Blue R or Coomassie®.

For silver staining, e.g. using SERVA’s Silver Staining Kit (cat.no. 39076), dilute 1:5 in 1x Laemmli buffer and apply 5 µl.

Phosphorylase B: M= 97 400
Albumin bovine (BSA): M= 67 000
Albumin egg: M= 45 000
Carbonic anhydrase: M= 29 000

Coomassie = registered trademark of ICI Ltd.
**Protein Test Mixture 5 for SDS PAGE**

DANGER

H302-H334-H341-H61D HS 38220000

Storage temperature: +2 °C to +8 °C

Molecular weight markers for SDS gel electrophoresis.

Reconstitute with SDS sample buffer (125 mM Tris-HCl pH 6.8, 2 % SDS, 15 % glycerol, 10 mM DTT, 0.025 % bromophenol blue, 0.025 % Orange G) to final concentration of 1 mg/ml and apply 5 μl per lane when staining with SERVA Blue G, SERVA Blue R or Coomassie®.

For silver staining, e.g. using SERVA's Silver Staining Kit (cat.no. 39076), dilute 1:5 in 1x Laemmli buffer and apply 5 μl.

<table>
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<tr>
<th>Protein</th>
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<tr>
<td>6.5 kDa</td>
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Coomassie = registered trademark of ICI Ltd.

**Protein Test Mixture 6 for SDS PAGE**

DANGER

H334 WGK HS 38220000

Storage temperature: +2 °C to +8 °C

Molecular weight markers for SDS gel electrophoresis.

Reconstitute with SDS sample buffer (125 mM Tris-HCl pH 6.8, 2 % SDS, 15 % glycerol, 10 mM DTT, 0.025 % bromophenol blue, 0.025 % Orange G) to final concentration of 1 mg/ml and apply 5 μl per lane when staining with SERVA Blue G, SERVA Blue R or Coomassie®.

For silver staining, e.g. using SERVA's Silver Staining Kit (cat.no. 39076), dilute 1:5 in 1x Laemmli buffer and apply 5 μl.

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<td>21.0 kDa</td>
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<tr>
<td>12.5 kDa</td>
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<td>6.5 kDa</td>
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</tbody>
</table>

Coomassie = registered trademark of ICI Ltd.

**Proteinase K from Tritirachium album min. 8 DMC-U/mg yophi**

EC 3.4.21.14 M ca. 28 000 CAS [39450-01-6]

DANGER

H335-H319-H334-H335 EG-Index 647-014-00-9

Storage temperature: +2 °C to +8 °C

Serine protease with very broad range of action: cleaves peptide bonds at the carboxylic side of aliphatic, aromatic, and hydrophobic amino acids. Suitable for the isolation of DNA and RNA (1, 3).

**Unit definition** 1 DMC-U/mg unit catalyzes the hydrolysis of 1 μmol dimethyl casein per minute at 25 °C (pH 7.0); the liberated amino groups are liberates folin-positive amino acids and peptides, corresponding to 1 μmol tyrosine per minute at 37 °C and pH 7.4 using urea-denatured hemoglobin as substrate (4).

**Activity (U/mg):** ≈ 600

Inhibitors for protease: AEBSF (cat. no. 12745), (PEFABLOC® SC (cat. no. 31682), PMSF (cat. no. 32395) and disopropylfluorophosphate (cat. no. 77205).

**Extraneous activities:** DNases and RNases not detectable.

**References:**

2. Lin, Y. et al. (1969) J. Biol. Chem. 244, 789-93

**Proteinase K from Tritirachium album solution 20 mg solid/ml, ≈ 600 mAnson-U/ml**

EC 3.4.21.14 M, M, 28.000

DANGER

H334 WGK HS 38220000

Storage temperature: -15 °C to -25 °C

Serine protease with very broad range of action: cleaves peptide bonds at the carboxylic side of aliphatic, aromatic, and hydrophobic amino acids. Suitable for the isolation of DNA and RNA (1, 3).

**Unit definition** 1 mAnson unit is defined as the amount of enzyme that liberates folin-positive amino acids and peptides, corresponding to 1 μmol tyrosine per minute at 37 °C and pH 7.4 using urea-denatured hemoglobin as substrate (4).

**Activity (U/ml):** ≈ 600

Inhibitors for protease: AEBSF (cat. no. 12745), (PEFABLOC® SC (cat. no. 31682), PMSF (cat. no. 32395) and disopropylfluorophosphate (cat. no. 77205).

**Extraneous activities:** DNases and RNases not detectable.

**References:**

2. Lin, Y. et al. (1969) J. Biol. Chem. 244, 789-93

**Amyloglucosidase**

Proteinase K from *Tritirachium album* solution 20 mg solid/ml, ≈ 600 mAnson-U/ml

EC 3.4.21.14 M, M, 28.000

DANGER

H334 WGK HS 38220000

Storage temperature: -15 °C to -25 °C

Serine protease with very broad range of action: cleaves peptide bonds at the carboxylic side of aliphatic, aromatic, and hydrophobic amino acids. Suitable for the isolation of DNA and RNA (1, 3).

**Unit definition** 1 mAnson unit is defined as the amount of enzyme that liberates folin-positive amino acids and peptides, corresponding to 1 μmol tyrosine per minute at 37 °C and pH 7.4 using urea-denatured hemoglobin as substrate (4).

**Activity (U/ml):** ≈ 600

Inhibitors for protease: AEBSF (cat. no. 12745), (PEFABLOC® SC (cat. no. 31682), PMSF (cat. no. 32395) and disopropylfluorophosphate (cat. no. 77205).

**Extraneous activities:** DNases and RNases not detectable.

**References:**

2. Lin, Y. et al. (1969) J. Biol. Chem. 244, 789-93
Proteinase K, recombinant, min. 30 mAnson-U/mg

*lyophil., molecular biology grade*

EC 3.4.21.14 M, ca. 28 000 CAS [39450-01-6]

**DANGER**

H315-H339-H334-H335 EINECS 254-457-8 WGK 1

Storage temperature -15 °C to -25 °C

A recombinant proteinase K from *Tricharachium album* expressed in *Pichia pastoris*. Subtilisin-related serine protease with a very high specific activity and a broad spectrum of action. It is widely used for digestion of proteins, including DNases and RNases during nucleic acid preparations without compromising the integrity of the isolated DNA or RNA. Free of DNase and RNase activity.

**Unit definition:** One unit will hydrolyze urea-denatured 2 % hemoglobin to produce color equivalent 1 µmol of tyrosine per minute at pH 7.5 at 37 °C (color by Fiolin & Ciocalteu’s Phenol Reagent).

**Proteus 1-Step Batch Midi Plus Spin Columns**

HS 38220000

Proteus 1-Step Batch Midi Plus Spin Columns are designed for small scale protein purifications such as those required for expression trials, solubility determination tests, screening, tittering and scouting studies. These innovative columns incorporate a SelfSeal™ membrane technology which retains the resin and sample in the batch incubation chamber. When the column is spun in a benchtop centrifuge at 750 g, the pores of the membrane dilate and the filtered eluate is collected in the bottom of the centrifuge tube.

**Specifications**

- Sinter type: ultra high density polyethylene
- Construction: Polypropylene
- Pore size: 0.1 - 0.2 µm low protein binding PVDF
- SelfSeal: Proprietary coating
- Maximum vol: 20 ml
- Maximum g force: 750 g
- Typical spin times: 5 min for up to 20 ml sample at 750 g
- Storage: Store at RT (non-sterile)
- Shelf-life: 24 months

**Proteus 1-Step Batch Mini Spin Columns**

HS 38220000

Proteus 1-Step Batch Mini Spin Columns are designed for small scale protein purifications such as those required for expression trials, solubility determination tests, screening, tittering and scouting studies. These innovative columns incorporate a SelfSeal™ membrane technology which retains the resin and sample in the batch incubation chamber. When the column is spun in a microfuge at 12 - 14,000 g for up to 1 min, the pores of the membrane dilate and the filtered eluate is collected in the bottom of the centrifuge tube.

**Specifications**

- Sinter type: ultra high density polyethylene
- Construction: Polypropylene
- Pore size: 0.1 - 0.2 µm low protein binding PVDF
- SelfSeal: Proprietary coating
- Maximum vol: 600 ml
- Maximum g force: 12 – 14,000 g (45° fixed angle rotor)
- Minimum g force: 2,500 g for 1 min
- Typical spin times: 30 sec-1 min for up to 0.6 ml sample at 12 - 14,000 g
- Storage: Store at RT (non-sterile)
- Shelf-life: 24 months

**Proteus 1-Step Batch Mini Spin Columns**

HS 38220000

Proteus 1-Step Batch Mini Spin Columns are designed for small scale protein purifications such as those required for expression trials, solubility determination tests, screening, tittering and scouting studies. These innovative columns incorporate a SelfSeal™ membrane technology which retains the resin and sample in the batch incubation chamber. When the column is spun in a microfuge at 12 - 14,000 g for up to 1 min, the pores of the membrane dilate and the filtered eluate is collected in the bottom of the centrifuge tube.

**Specifications**

- Sinter type: ultra high density polyethylene
- Construction: Polypropylene
- Pore size: 0.1 - 0.2 µm low protein binding PVDF
- SelfSeal: Proprietary coating
- Maximum vol: 100 ml
- Maximum g force: 12 – 14,000 g (45° fixed angle rotor)
- Minimum g force: 2,500 g for 1 min
- Typical spin times: 5 min for up to 0.6 ml sample at 12 - 14,000 g
- Storage: Store at RT (non-sterile)
- Shelf-life: 24 months

**Proteus Detergent Anion Exchange (DetEx) Mini Spin Columns**

**Proteus Detergent Anion Exchange Mini Spin Column Kit (20 pc)**

HS 38220000

Proteus Detergent Anion Exchange (DetEx) Mini Spin Columns designed for rapid and effective removal of free detergents micelles and complete detergent exchange. They are optimized for membrane proteins with pI <8 in complex with non-ionic or zwitterionic detergents. Simple and adaptable to your protein requiring only a microfuge for operation. Ideal for applications such as ELISA, IEF, MS and NMR which suffer from interference with excess detergents.

**Features**

- Weak Anion Exchanger for binding membrane proteins with pI <8
- Complete detergent exchange/removal
- Column bed volume: 0.2 ml
- Max. sample loading volume: 0.4 ml
- Typical protein binding capacity: 2 mg
- Elution in a small volume (minimum volume 50 µl)

**Benefits**

- Universal appeal as most proteins have a pI between 4 - 8
- Rapid removal and exchange of free detergent micelles in 10 min
- Generate concentrated protein free of detergent micelles
- Only requires a microfuge for use

**Proteus Detergent Anion Exchange Mini Spin Column**

HS 38220000

Proteus Detergent Anion Exchange (DetEx) Mini Spin Columns designed for rapid and effective removal of free detergents micelles and complete detergent exchange. They are optimized for membrane proteins with pI <8 in complex with non-ionic or zwitterionic detergents. Simple and adaptable to your protein requiring only a microfuge for operation. Ideal for applications such as ELISA, IEF, MS and NMR which suffer from interference with excess detergents.

**Features**

- Weak Anion Exchanger for binding membrane proteins with pI <8
- Complete detergent exchange/removal
- Column bed volume: 0.2 ml
- Max. sample loading volume: 0.4 ml
- Typical protein binding capacity: 2 mg
- Elution in a small volume (minimum volume 50 µl)

**Benefits**

- Universal appeal as most proteins have a pI between 4 - 8
- Rapid removal and exchange of free detergent micelles in 10 min
- Generate concentrated protein free of detergent micelles
- Only requires a microfuge for use
Proteus Detergent Anion Exchange Mini Spin Columns

**Trial Kit (4 pc)**

HS 38220000

Proteus Detergent Anion Exchange (DetEx) Mini Spin Columns designed for rapid and effective removal of free detergents micelles and complete detergent exchange. They are optimized for membrane proteins with pl <8 in complex with non-ionic or zwitterionic detergents. Simple and adaptable to your protein requiring only a microfuge for operation. Ideal for applications such as ELISA, IEF, MS and NMR which suffer from interference with excess detergents.

**Features:**
- Weak Anion Exchanger for binding membrane proteins with pl <8
- Complete detergent exchange/removal
- Column bed volume: 0.2 ml
- Max. sample loading volume: 0.4 ml
- Typical protein binding capacity: 2 mg
- Elution in a small volume (minimum volume 50 μl)

**Benefits:**
- Universal appeal as most proteins have a pl between 4 - 8
- Rapid removal and exchange of free detergent micelles in 10 min
- Generate concentrated protein free of detergent micelles
- Only requires a microfuge for use

<table>
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<tr>
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Proteus Mini Clarification Spin Column,
0.2 μm PVDF membrane

HS 38220000

Proteus Mini Clarification Spin Columns are designed to remove microorganisms, particles and precipitates larger than 0.2 μm pore size from aqueous solutions. These are ideal for HPLC/FPLC sample preparation. The PVDF membrane provides high flow rates and throughput, low extractables and broad chemical compatibility. The membrane binds far less protein than nylons, cellulose or PES membranes. The columns fit all standard microfuges and allow you to process multiple samples in parallel.

**Specifications**
- Membrane type: Hydrophilic PVDF
- Plastic construction: Polyypropylene
- Pore size: 0.2 μm
- Maximum sample volume: 0.65 ml
- Hold-up volume: < 5 μl
- Maximum g force: 16,000 g
- Typical spin times: 1 - 2 mins for 0.65 ml sample at 14,000 g
- Storage: Store at RT (non-sterile)
- Shelf-life: 24 months

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Proteus NoEndoµ (Micro) 100 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control. Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns. The Proteus NoEndoµ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through in vivo studies requires pure preparations of the samples.

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Proteus NoEndoµ (Micro) 2 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control. Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns. The Proteus NoEndoµ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through in vivo studies requires pure preparations of the samples.

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Proteus NoEndoµ (Micro) 24 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control. Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns. The Proteus NoEndoµ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through in vivo studies requires pure preparations of the samples.

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Proteus NoEndoHC (High Capacity) 12 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control. Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns. The Proteus NoEndo+ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through in vivo studies requires pure preparations of the samples.

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The proprietary FlowGo™ technology regulates sample movement through the technologically-advanced affinity resin cartridge, increasing both endotoxin removal and protein recovery. Uniquely, we offer flow rate control for endotoxin removal in a centrifuge.

### Proteus NoEndoM (High Capacity) 2 Column Kit

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### Proteus NoEndoHC (High Capacity) 48 Column Kit

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### Proteus NoEndoM (Mini) 12 Column Kit

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### Proteus NoEndoS (Standard) 12 Column Kit

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### Proteus NoEndoHC (High Capacity) 48 Column Kit

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The proprietary FlowGo™ technology regulates sample movement through the technologically-advanced affinity resin cartridge, increasing both endotoxin removal and protein recovery. Uniquely, we offer flow rate control for endotoxin removal in a centrifuge.
Trial pack contains the following X-Spinner with MWCOs of: 2x 5 kDa, 3x 10 kDa. Maximum sample volume is 2.5 ml, hold-up volume is 25 μl. Pack contains 24 X-Spinner with MWCO of 5 kDa.

This is the first centrifugal concentrator designed with membrane proteins as centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

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Cat.No.   Size
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Cat.No.   Size
42228.01  96 pieces

Residual endotoxin contamination in advanced biotechnology products is an expensive and often difficult contaminant to control. Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns. The Proteus NoEndo* spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through in vivo studies requires pure preparations of the samples.

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Cat.No.   Size
42229.01  24 pieces

Residual endotoxin contamination in advanced biotechnology products is an expensive and often difficult contaminant to control. Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns. The Proteus NoEndo* spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through in vivo studies requires pure preparations of the samples.

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Cat.No.   Size
42230.01  96 pieces
Proteus X-Spinner 2.5, 20 kDa MWCO
HS 38220000
The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 μl. Pack contains 24 X-Spinner with MWCO of 20 kDa.

Cat.No.  Size    
42231.01 24 pieces

Proteus X-Spinner 2.5, 20 kDa MWCO
HS 38220000
The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 μl. Pack contains 96 X-Spinner with MWCO of 20 kDa.

Cat.No.  Size    
42232.01 96 pieces

Proteus X-Spinner 2.5, 100 kDa MWCO
HS 38220000
The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 μl. Pack contains 24 X-Spinner with MWCO of 100 kDa.

Cat.No.  Size    
42233.01 24 pieces

Proteus X-Spinner 2.5, 100 kDa MWCO
HS 38220000
The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 μl. Pack contains 96 X-Spinner with MWCO of 100 kDa.

Cat.No.  Size    
42234.01 96 pieces

Proteus X-Spinner 2.5, 300 kDa MWCO
HS 38220000
The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 μl. Pack contains 24 X-Spinner with MWCO of 300 kDa.

Cat.No.  Size    
42235.01 24 pieces

Pterylosmonoglutaric acid
see 21700 Folic acid, page 54

Puromycin-2HCl research grade
C_{41}H_{47}N_{15}O_{17}·2HCl • M, 544.4 • CAS [58-58-2]

WARNING
H302-H341 • EINECS 200-387-8 • WGK 1 • HS 29419000

Storage temperature -15 °C to -25 °C
From Streptomyces albo-niger. Free base (M, 471.5) 86 %. Inhibitor of protein biosynthesis. Causes premature termination of the nascent polypeptide chain by its action as aminoacyl-tRNA analog (in procaryotes and eucaryotes).

Purity (HPLC, TLC) min. 98.0 %

References:

PVDF 0.2 Transfer Membrane
Pore size 0.2 μm, format: 30 cm x 3 m
HS 39219090
Especially for use with proteins of low molecular weight (< 20 000 Dalton). Transfer membrane based on PVDF-type chemistry with high protein binding capacity, low background and excellent mechanical stability. Applicable for all standard and special applications in the field of protein analysis.

Cat.No.  Size    
33835.01 10 mg
33835.02 50 mg
33835.03 250 mg

PVDF 0.45 Transfer Membrane
Pore size 0.45 μm, format: 30 cm x 3 m
HS 39219090
Transfer membrane based on PVDF-type chemistry with high protein binding capacity, low background and excellent mechanical stability. Applicable for all standard and special applications in the field of protein analysis.

Cat.No.  Size    
42514.01 1 roll
**Pyridoxine·HCl**

Research grade, Ph. Eur.

(Pyridoxin-HCl; Vitamin B6)  
C₆H₁₁NO₃·HCl  |  M 194.6  |  CAS [58-56-0]  
EINECS 205-503-2  |  WGK 1  |  HS 29362500  
Assay (titr.) 99.0 - 101.0 %  
Heavy metals (Pb) max. 20 ppm

**Pyridoxol·HCl**

see 33990 Pyridoxine-HCl, page 110

- [2-Pyridyl]-5,6-diphenyl-1,2,4-triazine-4,4′-disulfonic acid Na-salt
  
see 21326 Ferrozine®, page 51

**Pyruvic acid·Na-salt**

see 33582 L-Proline, page 99

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**Quick Coomassie**

Stain

HS 38220000  
Storage temperature +2 °C to +8 °C  
There are several benefits of our QC stain compared to other rapid and traditional Coomassie™ stains:  
**Rapid:** 15 min non-toxic safe 1-step stain. No organic solvents and no phosphoric acid!  
**Sensitive:** 50 x more sensitive than other rapid stains. Lower limit is 5 ng protein standard.  
**Linear range:** Very low background enabling accurate quantitation of proteins.  
**High resolution:** Sharp protein bands that you would expect with traditional Coomassie™ staining. Also MS compatible!  
**Durable:** Re-usable up to 3 times!  
**Shell life:** 1 year at room temperature. No precipitate forms over time, thus no shaking required!  
Coomassie is a trademark of ICI Ltd.

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**α-D-Raffinose**

research grade  
(α-D-Galactopyranosyl[1→6]-α-D-glucopyranosyl-  
1→2)-β-D-fructofuranoside)  
C₁₈H₂₂O₁₆·5H₂O  |  M 594.56  |  CAS [17629-30-0]  
EINECS 208-146-9  |  WGK 1  |  HS 29400000  
For bacteriology.  
Purity (HPLC) min. 98.0 %  
MP 78 - 82 °C  
[a]D 20°C/D (c=10 in water) +103.0° to +108.0°  

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**Ralufon DL**

see 20761 N-Dodecyl-N,N-dimethylammonio-3-propane sulfonate, page 45

**RAPA**

see 34145 Rapamycin from Streptomyces hygrosopicus, page 110
### ReadyLyzer 0.8, MWCO 3.5 kDa

**HS 39173200**

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.  
- **Volume size:** 50 – 800 μl  
- **High recovery 98 %**  
- **Ultrapure regenerated cellulose membrane**

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### ReadyLyzer 0.8, MWCO 6 - 8 kDa

**HS 39173200**

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.  
- **Volume size:** 0.1 – 3 ml  
- **High recovery 98 %**  
- **Ultrapure regenerated cellulose membrane**

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### ReadyLyzer 3, MWCO 3.5 kDa

**HS 39173200**

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- **Volume size:** 0.1 – 3 ml  
- **High recovery 98 %**  
- **Ultrapure regenerated cellulose membrane**

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### ReadyLyzer 3, MWCO 6 - 8 kDa

**HS 39173200**

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### ReadyLyzer 10, MWCO 1 kDa

**HS 39173200**

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.  
- **Volume size:** 10 ml  
- **High recovery 98 %**  
- **Ultrapure regenerated cellulose membrane**

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### ReadyLyzer 10, MWCO 3.5 kDa

**HS 39173200**

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.  
- **Volume size:** 10 ml  
- **High recovery 98 %**  
- **Ultrapure regenerated cellulose membrane**

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### ReadyLyzer 10, MWCO 6 - 8 kDa

**HS 39173200**

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.  
- **Volume size:** 10 ml  
- **High recovery 98 %**  
- **Ultrapure regenerated cellulose membrane**

<table>
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<th>Cat.No.</th>
<th>Size</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>44632.01</td>
<td>10 pieces</td>
<td></td>
</tr>
</tbody>
</table>

### ReadyLyzer 10, MWCO 12 - 14 kDa

**HS 39173200**

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.  
- **Volume size:** 10 ml  
- **High recovery 98 %**  
- **Ultrapure regenerated cellulose membrane**

<table>
<thead>
<tr>
<th>Cat.No.</th>
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<tbody>
<tr>
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### ReadyLyzer 20, MWCO 1 kDa

**HS 39173200**

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.  
- **Volume size:** 20 ml  
- **High recovery 98 %**  
- **Ultrapure regenerated cellulose membrane**

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ReadyLyzer 20, MWCO 3.5 kDa
HS 39173200
Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.
- Volume size: 20 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

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ReadyLyzer 20, MWCO 6 - 8 kDa
HS 39173200
Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.
- Volume size: 20 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

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ReadyLyzer 20, MWCO 12 - 14 kDa
HS 39173200
Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.
- Volume size: 20 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

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Realtime Stain (0.2 ml)
HS 38220000
Realtime Stain is a revolutionary dual use protein visualization and sample loading buffer specially formulated for SDS polyacrylamide gel electrophoresis (PAGE). Realtime Stain binds specifically to amine groups in proteins offering a unique alternative to the current post-staining techniques. Simply add the Realtime Stain to your protein sample (in a 1:1 ratio) and heat. Watch your protein visibly running directly down the gel in realtime. The simple protocol offers you the flexibility to optimize and customize the labelling efficiency with the capability to generate your own pre-stained molecular weight standards. Realtime Stain is currently optimized for pure and partially-pure protein samples, recombinant protein fragments, FPLC fractions and antibodies. Realtime should be stored at room temperature.
Contents: 0.2 ml Realtime Stain solution, 5 mg BSA, 2 x white screen, 1 x Vivaspin 20, 10,000 Da MWCO, user guide, easy guide.

<table>
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<tbody>
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Realtime Stain (2 ml)
HS 38220000
Realtime Stain is a revolutionary dual use protein visualization and sample loading buffer specially formulated for SDS polyacrylamide gel electrophoresis (PAGE). Realtime Stain binds specifically to amine groups in proteins offering a unique alternative to the current post-staining techniques. Simply add the Realtime Stain to your protein sample (in a 1:1 ratio) and heat. Watch your protein visibly running directly down the gel in realtime. The simple protocol offers you the flexibility to optimize and customize the labelling efficiency with the capability to generate your own pre-stained molecular weight standards. Realtime Stain is currently optimized for pure and partially-pure protein samples, recombinant protein fragments, FPLC fractions and antibodies. Realtime should be stored at room temperature.
Contents: 2 ml Realtime Stain solution, 5 mg BSA, 2 x white screen, 1 x Vivaspin 20, 10,000 Da MWCO, user guide, easy guide.

<table>
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<tbody>
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Recombinant Protein A Sepharose FF Resin
HS 38220000
Protein A Sepharose® FF Resin designed for simple, one-step and rapid antibody purification from serum, ascites and tissue culture supernatant such as those derived from static cultures and bioreactors. Recombinant protein A has been coupled to Sepharose® to obtain a stable matrix with a high binding capacity for immunoglobulins via the heavy chain of the FC region (up to 30 mg/ml Human IgG). Antibody samples purified using this affinity resin may be used in a wide range of laboratory procedures such as 1D or 2D polyacrylamide gel electrophoresis, Western blotting, ELISA etc. Binding affinity varies depending upon the source species and subclass.

Specifications
- Specificity: Protein A affinity antibodies
- Matrix: Sepharose®
- Coupled ligand: 3.5 mg Protein A/ml resin
- Binding capacity (human IgG): 30 mg/ml
- Bead size: 60 - 165 µm
- Flow rate: 0.25 - 1 ml/min (recommended)
- Maximum pressure: 120 - 140 psi
- Buffer compatibility: Common aqueous buffers from pH 2.5-10
- Elution buffer example (1): 0.1 M sodium citrate pH 5.5
- Elution buffer example (2): 0.2 M Glycine/HCl pH 2.5
- Neutralization buffer example: 1 M Tris/HCl pH 9.0
- Shipping/delivery: 50 % (v/v) resin suspension in 0.01 % thimerosal
- Storage: 0.01 % thimerosal at 2 - 8 °C for up to 2 years from manufacture
**Recombinant Protein A Sepharose FF Resin**

HS 38220000

Protein A Sepharose® FF Resin designed for simple, one-step and rapid antibody purification from serum, ascites and tissue culture supernatant such as those derived from static cultures and bioreactors. Recombinant protein A has been coupled to Sepharose® to obtain a stable matrix with a high binding capacity for immunoglobulins via the heavy chain of the FC region (up to 30 mg/ml Human IgG). Antibody samples purified using this affinity resin may be used in a wide range of laboratory procedures such as 1D or 2D polyacrylamide gel electrophoresis, Western Blotting, ELISA etc. Binding affinity varies depending upon the source species and subclass.

**Specifications**
- Specificity: Protein A affinity antibodies
- Matrix: Sepharose®
- Coupled ligand: 3.5 mg Protein A/ml resin
- Binding capacity (human IgG): 30 mg/ml
- Bead size: 60 - 165 µm
- Flow rate: 0.25 - 1 ml/min (recommended)
- Maximum pressure: 120 - 140 psi
- Buffer compatibility: Common aqueous buffers from pH 2.5 - 10
- Elution buffer example: 1.5 M Glycine/NaOH, 3 M NaCl pH 9.0
- Elution buffer example (1): 0.1 M sodium citrate pH 5.5
- Elution buffer example (2): 0.2 M Glycine/HCl pH 2.5
- Neutralization buffer example: 1 M Tris/HCl pH 9.0
- Shipping/delivery: 50 % (v/v) resin suspension in 0.01 % thimerosal
- Storage: 0.01 % thimerosal at 2 - 8 °C for up to 2 years from manufacture

<table>
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**Recombinant Protein G Sepharose FF Resin**

HS 38220000

Protein G Sepharose® FF Resin designed for simple, one-step and rapid antibody purification from serum, ascites and tissue culture supernatant such as those derived from static cultures and bioreactors. Recombinant protein G has been coupled to Sepharose® to obtain a stable matrix with a high binding capacity for immunoglobulins via the heavy chain of the FC region (up to 20 mg/ml Human IgG). Antibody samples purified using this affinity resin may be used in a wide range of laboratory procedures such as 1D or 2D polyacrylamide gel electrophoresis, Western Blotting, ELISA etc. Binding affinity varies depending upon the source species and subclass.

**Specifications**
- Specificity: Protein G affinity antibodies
- Matrix: Sepharose®
- Coupled ligand: 2 mg Protein G/ml resin
- Binding capacity (human IgG): 20 mg/ml
- Bead size: 45 - 165 µm
- Flow rate: 0.25 - 1 ml/min (recommended)
- Maximum pressure: 120 - 140 psi
- Buffer compatibility: Common aqueous buffers from pH 2.5 - 10
- Elution buffer example: 0.1 M sodium phosphate, 0.15 M NaCl, pH 7.4
- Elution buffer example: 0.2 M Glycine/HCl pH 2.5
- Neutralization buffer example: 1 M Tris/HCl pH 9.0
- Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol
- Storage: 20 % ethanol at 2 - 8 °C for up to 2 years from manufacture

<table>
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**Recombinant Protein G Sepharose FF Resin**

HS 38220000

Protein G Sepharose® FF Resin designed for simple, one-step and rapid antibody purification from serum, ascites and tissue culture supernatant such as those derived from static cultures and bioreactors. Recombinant protein G has been coupled to Sepharose® to obtain a stable matrix with a high binding capacity for immunoglobulins via the heavy chain of the FC region (up to 20 mg/ml Human IgG). Antibody samples purified using this affinity resin may be used in a wide range of laboratory procedures such as 1D or 2D polyacrylamide gel electrophoresis, Western Blotting, ELISA etc. Binding affinity varies depending upon the source species and subclass.

**Specifications**
- Specificity: Protein G affinity antibodies
- Matrix: Sepharose®
- Coupled ligand: 2 mg Protein G/ml resin
- Binding capacity (human IgG): 20 mg/ml
- Bead size: 45 - 165 µm
- Flow rate: 0.25 - 1 ml/min (recommended)
- Maximum pressure: 120 - 140 psi
- Buffer compatibility: Common aqueous buffers from pH 2.5 - 10
- Elution buffer example: 0.1 M sodium phosphate, 0.15 M NaCl, pH 7.4
- Elution buffer example: 0.2 M Glycine/HCl pH 2.5
- Neutralization buffer example: 1 M Tris/HCl pH 9.0
- Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol
- Storage: 20 % ethanol at 2 - 8 °C for up to 2 years from manufacture

<table>
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www.serva.de
**Recombinant Protein G Sepharose FF Resin**

HS 38220000

Protein G Sepharose® FF Resin designed for simple, one-step and rapid antibody purification from serum, ascites and tissue culture supernatant such as those derived from static cultures and bioreactors. Recombinant protein G has been coupled to Sepharose® to obtain a stable matrix with a high binding capacity for immunoglobulins via the heavy chain of the FC region (up to 20 mg/ml Human IgG). Antibody samples purified using this affinity resin may be used in a wide range of laboratory procedures such as 1D or 2D polyacrylamide gel electrophoresis, Western Blotting, ELISA etc. Binding affinity varies depending upon the source species and subclass.

**Specifications**

- **Specificity:** Protein G affinity antibodies
- **Matrix:** Sepharose®
- **Coupled ligand:** 2 mg Protein G/ml resin
- **Binding capacity (human IgG):** 20 mg/ml
- **Bead size:** 45 - 165 µm
- **Flow rate:** 0.25 - 1 ml/min (recommended)
- **Maximum pressure:** 120 - 140 psi
- **Buffer compatibility:** Common aqueous buffers from pH 2.5 - 10
- **Binding buffer example:** 0.1 M sodium phosphate, 0.15 M NaCl, pH 7.4
- **Elution buffer example:** 0.2 M Glycine/HCl pH 2.5
- **Neutralization buffer example:** 1 M Tris/HCl pH 9.0
- **Shipping/delivery:** 50 % (v/v) resin suspension in 20 % ethanol
- **Storage:** 20 % ethanol at 2 - 8 °C for up to 2 years from manufacture

**Rehydration Tray for IPG Strips**

HS 90272000

To rehydrate up to 12 IPG strips in lengths up to 24 cm. The rehydration tray is form stable and resistant against chemicals normally used when rehydrating IPG strips. The binding capacity to proteins is very low. The lid protects the IPG strips during rehydration against contamination. After usage the tray can easily be cleaned using a mild washing-up liquid and rinsed with distilled water.

**Resazurin Cell Viability Assay**

HS 38220000

Storage temperature - 15 °C to -25 °C

The Resazurin Cell Viability Assay is a fluorescent assay that detects the cellular metabolic activities. The kit offers a simple, rapid, reliable, sensitive, safe, and cost-effective measurement of cell viability. Resazurin is a blue non-fluorescent dye until it is irreversibly reduced to the pink colored, highly red fluorescent resorufin by dehydrogenase enzymes in metabolically active cells. The fluorescent signal is monitored using 530 – 560 nm excitation wavelength and 590 nm emission wavelength. The absorbance is monitored at 570 nm and 600 nm. The fluorescent or colorimetric signal generated is proportional to the number of living cells in the sample.

**Replacement Bulb 8 W, 254 NM**

HS 90278017

**Replacement Bulb 8 W, 312 NM**

HS 90278017

**Replacement Electrode for BM-100 (one pair)**

HS 90279050

**Replacement Electrode for BM-200 (one pair)**

HS 90279050

**Resazurin-Na-salt analytical grade**

(Diazoresorcinol)

CH$_3$N$_2$O$_7$Na $\cdot$ M 251.2 $\cdot$ CAS [62758-13-8] $\cdot$

**Assay (UV) 97.0 - 103.0 %**

**Riboflavin research grade**

(Lactoflavin; Vitamin B2)

C$_{17}$H$_{20}$N$_4$O$_6$ $\cdot$ M 376.4 $\cdot$ CAS [83-88-5] EINECS 201-507-1 $\cdot$ WGK - $\cdot$ HS 29362300

Ph. Eur.

Assay (UV) 97.0 - 103.0 %
Ribonuclease A from bovine pancreas

- min. 80 Kunitz units/mg lyophil.
- EC 3.1.27.5 \( M \), ca. 13 700 \( CAS [9001-99-4] \)
- DANGER

Ribonuclease A is an endonuclease which specifically attacks pyrimidine sites (Py/pN) at the 3'-phosphate group. This preparation is salt-free, protease-free and chromatographically homogeneous.

RNase A content: min. 90 % by ion exchange chromatography. DNHase not detected.

Unit definition: 1 unit is that amount of activity which is capable of causing within 1 minute a decrease in absorbance at 25 °C, pH 5.0 of maximum possible change in a 0.05 % solution of yeast RNA at 25 °C, min. 99.0 % by ion exchange chromatography. DNase not detected.

References:

Ribonuclease A from bovine pancreas

- min. 70 Kunitz units/mg lyophil.
- EC 3.1.27.5 \( M \), ca. 13 700 \( CAS [9001-99-4] \)
- DANGER

RNase A content approx. 70 %. DNHase-free RNase: To prepare RNase A free of DNase dissolve RNase A in TE buffer at 1 mg/ml and boil 10 to 30 minutes. Store aliquots at -20 °C to prevent microbial growth.

Unit definition: 1 unit is that amount of activity which is capable of causing within 1 minute a decrease in absorbance at 300 nm equivalent to the maximum possible change in a 0.05 % solution of yeast RNA at 25 °C, pH 5.0.

Ribonuclease Inhibitor from human placenta, 40 U/μl molecular biology grade

- \( M \), 50 000
- HS 3820000
- Storage temperature -15 °C to -25 °C

Recombinant Ribonuclease Inhibitor inhibits ribonuclease activities like RNase A, RNase B and RNase C by non-covalent binding in a 1:1 ratio. It is used in applications like in vitro translation, cdNA synthesis, RNA in vitro analysis, RNA purification, etc.

One unit is the amount of protein required to inhibit the activity of 5 μg of Ribonuclease A by 50 %. A minimal concentration of DTT (0.5 - 1mM) is required to maintain the activity.

Solution in 20 mM Hepes/KOH, 8 mM DTT, 50 mM KCl, 50 % Glycerol.

Unit definition: 1 unit is that amount of activity which is capable of inhibiting the activity of 50 % of Ribonuclease A by 50 %. A minimal concentration of DTT (0.5 - 1mM) is required to maintain the activity.

Ribose analytical grade

- \( C_{4}H_{8}O_{4} \), 150.1 \( CAS [50-69-1] \)
- EINECS 200-059-4 \( WGK 1 \), CAS 29400000

Assay (HPLC)
- min. 99.0 %
- 20 °C/D (d=4 in water)
- Heavy metals (Pb)
- max. 0.001 %

Rifampicin research grade

(Rifampin „Lepetit“; Rifamycin-AMP)

C\( \text{H}_{33}\text{N}_{4}\text{O}_{12}\), 822.96 \( CAS [13292-46-1] \)

WARNING

- H302-H332 \( EINECS 236-312-0 \), WGK 1
- HS 29141000
- Storage temperature +2 °C to +8 °C

Semi-synthetic derivative of rifamycins SV which is produced from certain strains of Amycolatopsis mediterranei. Belongs to the group of ansamycin antibiotics. Inhibitor of DNA-dependent RNA-polymerase. Specifically inhibits the initiation step of RNA synthesis.

Assay
- 98.0 - 102.0 %

References:
2. Orta, S. et al. (1990), Plant Cell Physiol.
3. Dreher, J. et al. (1991), Molecular Microbiology.

Rocking Table Kick II, temperable

Format 45 x 30 cm

Large size incubation platform (45 x 30 cm) suitable for various incubation and preparation techniques (e. g. staining/destaining procedures, ELISAs, immunodiffusion, immunoblotting, histochemistry, in-situ-hybridization).

Kick II is equipped with electronic regulation of lifting frequency (10 - 100/min) including newly developed lifting technique performing a continuous light „kick“ agitation to prevent gels and membranes from sticking to their containment support.

Roller for Electrophoresis

HS 9030000

Safranin O pure

(Basic Red 2; 3,7-Diamino-2,8-dimethyl-5-phenazinium-chloride; Safranin T)

C\( \text{H}_{33}\text{N}_{4}\text{O}_{12}\), 822.96 \( CAS [477-73-6] \)

WARNING

- H315-H319-H335
- HS 3041300
- Storage temperature +2 °C to +8 °C

Basic azine dye, soluble in water and ethanol, well-suited to visualise chromosomes. Used for staining of bacteria, e.g. for gram staining or staining of spores according to Wirtz.

\( \lambda \) max. (0.001 % in water)
A 1 cm (\( \lambda \) max./0.001 % in water)
min. 0.9

Water
max. 15.0 %

References:

D-Ribose analytical grade

- \( C_{4}H_{8}O_{4} \), 150.1 \( CAS [50-69-1] \)
- EINECS 200-059-4 \( WGK 1 \), CAS 29400000

Assay (HPLC)
- min. 99.0 %
- 20 °C/D (d=4 in water)
- Heavy metals (Pb)
- max. 0.001 %

References:

www.serva.de
**Salt Active Nuclease**

HS 35079000

Storage temperature -15 °C to -25 °C

Supplied as solution in 25 mM Tris-HCl pH 7.5, 5 mM MgCl₂, 0.5 M NaCl, 0.01 % Triton® X-100, 50 % (v/v) glycerol.

Salt Active Nuclease is a highly active non-specific endonuclease from a marine bacterium that cleaves both DNA and RNA. It digests DNA versus RNA in a 10:1 ratio.

Salt Active Nuclease has optimum activity at 0.5 M NaCl, is active in the pH range of 7 to 10 and low temperatures, which makes the enzyme ideal for use in removal of nucleic acids from cell extracts and proteins samples. It will remove contaminating nucleic acids in a traditional protein buffer system. That guarantees the full protection of proteins while the nucleic acids are fully removed.

- Non-specific endonuclease
- Optimum activity at high salt concentration (0.5 M NaCl)
- Active at low temperatures (20 % at -6 °C)
- Broad pH range
- Easily inactivated by reducing agents

**Sample Application Pieces** 10 x 5 mm

HS 48230000

**Sample Buffer for Blue Native (2x)**

HS 38220000

Storage temperature -15 °C to -25 °C

Sample buffer for Blue Native PAGE. Supplied as 2x concentrate.

Contains 1 M 6-aminocaproic acid, 100 mM Bis-Tris-HCl (pH 7.0), 100 mM NaCl, 20 % glycerol, 0.1 % SERVA Blue G.

**Sample Buffer for Clear Native (2x)**

HS 38220000

Storage temperature -15 °C to -25 °C

Sample buffer for Clear Native PAGE. Supplied as 2x concentrate.

Contains 1 M 6-aminocaproic acid, 2 mM EDTA, 0.02 % Ponceau S, 20 % glycerol.

**Saponin** pure, DAB

CAS [8047-15-2]

WARNING

H315-H319-H335

EINECS 232-462-6

WGK 2L

HS 29389090

Isolated from Quillaja bark. For permeabilization of cells.

**References:**


**Sarkosyl NL-30**

see 27570 N-Lauroylsarcosine-Na-salt, page 76

**Schneider's Drosophila Powder Medium Revised**

HS 38210000

Storage temperature +2 °C to +8 °C

**Without** sodium bicarbonate, **without** calcium chloride.

**Supplements:**

Penicillin G-K-salt (cat. no. 31749) 50 U/ml

Streptomycin sulfate 0.1 mg/ml

(cat. no. 35500)

**References:**


**SDS**

see 20760 Dodecylsulfate-Na-salt, page 45

**SDS Gel Kit 10 % 25S**

Size: 250 x 125 x 0.45 mm

HS 38220000

Kit for horizontal SDS polyacrylamide gel electrophoresis.

Contains 4 film-backed 10 % T precast SDS PAGE gels (size 250 x 125 x 0.45 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit.

For the run on horizontal flatbed systems like HPE® BlueTower, HPE® BlueHorizon and Multiphor II®.

**SDS Gel Kit 10 % 52S**

Size: 250 x 125 x 0.45 mm

HS 38220000

Kit for horizontal SDS polyacrylamide gel electrophoresis.

Contains 4 film-backed 10 % T precast SDS PAGE gels (size 250 x 125 x 0.45 mm, 50 slots for 6 µl) and a SDS PAGE buffer kit.

For the run on horizontal flatbed systems like HPE® BlueTower, HPE® BlueHorizon and Multiphor II®.

**SDS Gel Kit 15 % 25S**

Size: 250 x 125 x 0.45 mm

HS 38220000

Kit for horizontal SDS polyacrylamide gel electrophoresis.

Contains 4 film-backed 15 % T precast SDS PAGE gels (size 250 x 125 x 0.45 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit.

For the run on horizontal flatbed systems like HPE® BlueTower, HPE® BlueHorizon and Multiphor II®.

**SDS Gel Kit 15 % 52S**

Size: 250 x 125 x 0.45 mm

HS 38220000

Kit for horizontal SDS polyacrylamide gel electrophoresis.

Contains 4 film-backed 15 % T precast SDS PAGE gels (size 250 x 125 x 0.45 mm, 50 slots for 6 µl) and a SDS PAGE buffer kit.

For the run on horizontal flatbed systems like HPE® BlueTower, HPE® BlueHorizon and Multiphor II®.

**SDS Gel Kit NF 12.5 % 25S**

Size: 250 x 125 x 0.45 mm

HS 38220000

Ready-to-use gel kit for 1-dimensional DIGE samples and all other fluorescent visualizations. Contains 4 film-backed 12.5 % T precast SDS PAGE gels (size 250 x 125 x 0.45 mm, 25 slots for 6 µl) and a SDS PAGE buffer kit.

On non-fluorescent film support for HPE® BlueTower, HPE® BlueHorizon and Multiphor II®.
SDS Gel Kit NF 15 % 25S Size: 250 x 125 x 0.45 mm
HS 38220000
Ready-to-use gel kit for 1-dimensional DIGE samples and all other fluorescent visualizations. Contains 4 film-backed 15 % T precast SDS PAGE gels (size 250 x 125 x 0.45 mm, 25 slots for 6 µl) and a SDS PAGE buffer kit. On non-fluorescent film support for HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No. | Size     | Qty
--|----------|----
43364.01 | 1 kit   |   

SDS pellets
see 20765 Dodecylsulfate-Na-salt in Pellets, page 46

SDS Solution, 20 %
WARNING
H315-H319-H335  WGK 2  HS 38220000
SDS (cat. no. 20770): 200 g/L

Cat.No. | Size     | Qty
--|----------|----
20767.01 | 100 ml   |   
20767.02 | 500 ml   |   
20767.03 | 1 L      |   

SDS Solution, 20 % molecular biology grade
WARNING
H315-H319-H335  WGK 2  HS 38220000
DNase/RNase not detected. 0.2 µm filtered
Composition:
SDS (cat. no. 39574): 200 g/L

Cat.No. | Size     | Qty
--|----------|----
39575.01 | 100 ml   |   
39575.02 | 1 L      |   

SDS Solution, 20 % electrophoresis grade
WARNING
H315-H319-H335  HS 38220000
Ultrapure SDS solution, suitable for standard and high resolution electrophoresis techniques.
Composition:
SDS (cat. no. 20771): 200 g/L

Cat.No. | Size     | Qty
--|----------|----
20768.01 | 100 ml   |   
20768.02 | 500 ml   |   
20768.03 | 1 L      |   

1D SDS TA Gel Gel Kit 7.5 %
HS 38220000
Storage temperature +2 °C to +8 °C
The ready-to-use precast horizontal 1D SDS TA gels are the ideal tool to run high resolution horizontal SDS PAGE. Up to 25 samples can be run in one gel, sample volume is 15 µl. The thin gel layer and running conditions at temperature-controlled 15 °C enable high resolution of protein bands, fast staining/destaining and much easier handling compared to vertical PAGE. Due to the horizontal method, low buffer consumption is an extra plus in comparison with operating a vertical system. The standard support film is recommended for Coomassie® or silver staining. For fluorescence detection of proteins, gels cast on a non-fluorescence support film are available. The 1D SDS TA Gel Kits are the ideal alternative for Excel™ SDS gels from GE. The gels have been developed in Heidelberg in close co-operation with researchers formerly using GE’s Excel gels ensuring comparable results.

Contains: 4 film-backed precast 7.5 % T SDS PAGE gels with a Tris/ Acetate buffer system (size: 260 x 125 x 0.43 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. For run in horizontal flatbed chambers like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No. | Size     | Qty
--|----------|----
43416.01 | 1 kit   |   

1D SDS TA Gel Gel Kit 12.5 %
HS 38220000
Storage temperature +2 °C to +8 °C
The ready-to-use precast horizontal 1D SDS TA gels are the ideal tool to run high resolution horizontal SDS PAGE. Up to 25 samples can be run in one gel, sample volume is 15 µl. The thin gel layer and running conditions at temperature-controlled 15 °C enable high resolution of protein bands, fast staining/destaining and much easier handling compared to vertical PAGE. Due to the horizontal method, low buffer consumption is an extra plus in comparison with operating a vertical system. The standard support film is recommended for Coomassie® or silver staining. For fluorescence detection of proteins, gels cast on a non-fluorescence support film are available. The 1D SDS TA Gel Kits are the ideal alternative for Excel™ SDS gels from GE. The gels have been developed in Heidelberg in close co-operation with researchers formerly using GE’s Excel gels ensuring comparable results.

Contains: 4 film-backed precast 12.5 % T SDS PAGE gels with a Tris/ Acetate buffer system (size: 260 x 125 x 0.43 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. For run in horizontal flatbed chambers like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No. | Size     | Qty
--|----------|----
43415.01 | 1 kit   |   

1D SDS TA Gel Gel Kit NF 7.5 %
HS 38220000
Storage temperature +2 °C to +8 °C
The ready-to-use precast horizontal 1D SDS TA gels are the ideal tool to run high resolution horizontal SDS PAGE. Up to 25 samples can be run in one gel, sample volume is 15 µl. The thin gel layer and running conditions at temperature-controlled 15 °C enable high resolution of protein bands, fast staining/destaining and much easier handling compared to vertical PAGE. Due to the horizontal method, low buffer consumption is an extra plus in comparison with operating a vertical system. The gels are cast on a non-fluorescence support film making them suitable for all fluorescent applications. For Coomassie® or silver staining, gels cast on a standard support film are available. The 1D SDS TA Gel Kits are the ideal alternative for Excel™ SDS gels from GE. The gels have been developed in Heidelberg in close co-operation with researchers formerly using GE’s Excel gels ensuring comparable results.

Contains: 4 film-backed precast 7.5 % T SDS PAGE gels with a Tris/ Acetate buffer system (size: 260 x 125 x 0.43 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. For run in horizontal flatbed chambers like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No. | Size     | Qty
--|----------|----
43414.01 | 1 kit   |   

1D SDS TA Gel Gel Kit NF 12.5 %
HS 38220000
Storage temperature +2 °C to +8 °C
The ready-to-use precast horizontal 1D SDS TA gels are the ideal tool to run high resolution horizontal SDS PAGE. Up to 25 samples can be run in one gel, sample volume is 15 µl. The thin gel layer and running conditions at temperature-controlled 15 °C enable high resolution of protein bands, fast staining/destaining and much easier handling compared to vertical PAGE. Due to the horizontal method, low buffer consumption is an extra plus in comparison with operating a vertical system. The gels are cast on a non-fluorescence support film making them suitable for all fluorescent applications. For Coomassie® or silver staining, gels cast on a standard support film are available. The 1D SDS TA Gel Kits are the ideal alternative for Excel™ SDS gels from GE. The gels have been developed in Heidelberg in close co-operation with researchers formerly using GE’s Excel gels ensuring comparable results.

Contains: 4 film-backed precast 12.5 % T SDS PAGE gels with a Tris/ Acetate buffer system (size: 260 x 125 x 0.43 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. For run in horizontal flatbed chambers like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No. | Size     | Qty
--|----------|----
43379.01 | 1 kit   |   

www.serva.de
<table>
<thead>
<tr>
<th>SDS Urine Gel Kit 25S</th>
<th>Size: 250 x 125 x 0.45 mm</th>
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<tr>
<td>Storage temperature</td>
<td>+2 °C to +8 °C</td>
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<tr>
<td>Ready-to-use kit for analysis of urine proteins by SDS polyacrylamide gel electrophoresis: 25 slots for 15 µl, 4 gels + buffer kit suitable for urine protein analysis; for HPE® BlueTower, HPE® BlueHorizon and Multiphor II.</td>
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<td>Cat.No.</td>
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<table>
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<tr>
<th>Sealing Strips for Xpress Micro Dialyzer</th>
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<tr>
<td>The sealing foils for the Micro Dialyzer consist of high-quality PP and protect the sample against contamination and evaporation.</td>
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<th>Sealing Strips for Xpress Micro Dialyzer</th>
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<tr>
<td>M, 196.1</td>
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<td>39.0 - 41.0 %</td>
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<tr>
<td>Cat.No.</td>
</tr>
<tr>
<td>77765.02</td>
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<td>77765.01</td>
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</tbody>
</table>

| Semi-Dry Blotting Buffer Kit for Western Blotting |
| DANGER H370 | WKG 1 | HS 38220000 |
| For Western Blotting in the „Semi-Dry“ System. Ready-to-use kit, consisting of 3 components: |
| Buffer I (conc. anode buffer): 0.3 M Tris and 20 % methanol in aqueous solution. |
| Buffer II (diluted anode buffer): 0.03 M Tris and 20 % methanol in aqueous solution. |
| Buffer III (cathode buffer): 0.025 M Tris/HCl (pH 9.4), 0.04 M 6-aminocaproic acid and 20 % methanol in aqueous solution. |
| Cat.No.             | Size                        |
| 42559.01            | 3 x 500 ml                  |

| SERDOLIT® Blue analytical grade |
| HS 39140000 |
| Strongly basic anion exchanger with exhausting indicator. Supplied in OH− form. Exhausted colour: yellow. |
| Cross linkage | 6 % DVB |
| Capacity      | min. 0.8 eq/l |
| Particle size | 16 - 50 mesh (0.3 - 1.2 mm) |
| Loss on drying| 60 - 70 % |
| Bulk density  | 720 g/l |
| Cat.No.       | Size        |
| 45520.03      | 500 g       |

| SERDOLIT® Chelite® P analytical grade |
| HS 39140000 |
| Off-white beads with a macroporous resin structure and a general affinity for polyvalent metal cations which may be employed for special techniques (e.g. ¹³⁵Sr; determination). Styrene-DVB matrix with aminomethylphosphonic acid groups. Sodium form. The total capacity, expressed in g Cu/l is 45. Maximum working temperature: 65 °C. Complete desorption can be effected by 5 volumes of 2N HCl. |
| Capacity      | min. 1.1 eq/l |
| Particle size | 20 - 50 mesh (0.3 - 0.8 mm) |
| Loss on drying| 60 - 70 % |
| Cat.No.       | Size        |
| 41706.01      | 250 g       |
| 41706.02      | 1 kg        |

| SERDOLIT® MB analytical grade |
| HS 39140000 |
| Mixed-bed ion exchanger with exhaustion indicator composed of SERDOLIT® Blue (OH−-form) and SERDOLIT® CS-2 (H+-form) in a ratio at approx. 1.5:1 (v/v); ready-to-use, suitable for demineralizing water. |
| Capacity      | min. 0.8 eq/l |
| Particle size | 16 - 50 mesh (0.3 - 1.2 mm) |
| Loss on drying| 55 - 65 %     |
| Cat.No.       | Size        |
| 43500.03      | 500 g       |

| SERDOLIT® MB-1 analytical grade |
| HS 39140000 |
| Mixed-bed ion exchanger composed of a strongly acidic cation exchanger and a strongly basic anion exchanger (type I) in a ratio of 1:1.5 (v/v). |
| Capacity      | min. 1.0 eq/l |
| Particle size | 16 - 50 mesh (0.3 - 1.2 mm) |
| Loss on drying| 55 - 65 %     |
| Cat.No.       | Size        |
| 40701.03      | 500 g       |
| 40702.01      | 1 kg        |

| SERDOLIT® MB-2 analytical grade |
| HS 39140000 |
| Mixed-bed ion exchanger similar to SERDOLIT® MB-1 but with a type II basic anion exchanger. |
| Capacity      | min. 0.8 eq/l |
| Particle size | 16 - 50 mesh (0.3 - 1.2 mm) |
| Loss on drying| 50 - 60 %     |
| Cat.No.       | Size        |
| 40711.02      | 1 kg        |

| SERDOLIT® PAD I, 0.1 - 0.2 mm analytical grade |
| (Ion Exchange Media) HS 39140000 |
| Apolar polystyrene/DVB matrix, macroporous. |
| Particle Size | 0.1 - 0.2 mm |
| Pore Size      | ca. 25 nm |
| Loss on Drying | 40 - 50 %   |
| Cat.No.       | Size        |
| 42443.01      | 100 g       |

| SERDOLIT® PAD I, 0.3 - 1.0 mm analytical grade |
| (Ion Exchange Media) HS 39140000 |
| Apolar polystyrene/DVB matrix, macroporous. Recommended as alternative product to replace AMBERLITE® XAD-2. |
| Particle size | 0.3 - 1.0 mm |
| Pore Size      | ca. 25 nm |
| Loss on Drying | 40 - 50 %   |
| Cat.No.       | Size        |
| 42442.01      | 100 g       |

| SERDOLIT® PAD II, 0.1 - 0.2 mm analytical grade |
| (Ion Exchange Media) HS 39140000 |
| Apolar polystyrene/DVB matrix, macroporous. Larger surface than SERDOLIT® PAD I. |
| Particle size | 0.1 - 0.2 mm |
| Pore Size      | ca. 25 nm |
| Loss on Drying | 40 - 50 %   |
| Cat.No.       | Size        |
| 42446.01      | 100 g       |
SER PRODUCTS A - Z

**Loss on drying**
Particle size: 0.3 - 1.0 mm
Spec. surface: min. 400 m²/g
Pore size: ca. 25 nm
Loss on drying: 30 - 40 %

**Pore size**
Min. 400 m²/g

**Spec. surface**
Ca. 25 nm

**Particle size**
30 - 40 %

- **SERDOLIT® PAD II, 0.3 - 1.0 mm analytical grade**
  - HS 39140000
  - Apolar polystyrene/DVB matrix, macroporous. Larger surface area than SERDOLIT® PAD I.
  - Particle size: 0.3 - 1.0 mm
  - Spec. surface: min. 400 m²/g
  - Pore size: ca. 25 nm
  - Loss on drying: 30 - 40 %

- **SERDOLIT® PAD III, 0.1 - 0.2 mm analytical grade**
  - HS 39140000
  - Apolar polystyrene/DVB matrix, macroporous. Extremely large specific surface resulting in high adsorption capacity and kinetics.
  - Particle size: 0.1 - 0.2 mm
  - Spec. surface: min. 800 m²/g
  - Pore size: ca. 25 nm
  - Loss on drying: 45.0 - 55.0 %

- **SERDOLIT® Red analytical grade**
  - HS 39140000
  - Strongly acidic cation exchanger with exhaustion indicator. Supplied in gel form. Dark yellow.
  - Cross Linkage: 8 % DVB
  - Capacity: min. 1.6 eq/l
  - Particle size: 16 - 50 mesh (0.3 - 1.2 mm)
  - Loss on drying: 50.0 - 60.0 %

- **L-Serine research grade, Ph. Eur.**
  - (Ser; L-2-Amino-3-hydroxypropionic acid)
  - C₇H₁₄N₂O₃
  - M: 154.2
  - EINECS: 227-511-3
  - WGK 1
  - WL: 225-H314
  - DANGER
  - Soluble in water
  - Corrosive
  - Toxic by inhalation
  - Harmful by inhalation
  - Irritating to skin
  - Irritating to eyes

- **SERVA Blue R**
  - (Acid Blue 83; COOMASSIE® Brilliant Blue R-250)
  - C₁₄H₂₈N₄O₉S₂Na • M: 826.0
  - CAS: [6104-59-2]
  - EINECS: 228-060-5
  - WGK 2L
  - HS 32041200
  - For preparation of staining solution for protein detection in gel electrophoresis. R stands for „reddish“.
  - λ max.: 558 - 562 nm
  - A 1 cm/λ max.: 0.0002 % pH 7
  - λ max./pH 7
  - min. 0.06
  - Water
  - max. 10.0 %
  - TLC
  - corresponds
  - COOMASSIE® TM of ICI Ltd.

- **SERVA Blue W**
  - (Acid Blue 15)
  - C₁₄H₂₈N₄O₉S₂Na • M: 776.0
  - CAS: [5863-46-7]
  - EINECS: 227-511-3
  - WGK 2L
  - HS 32041200
  - A triphenylmethane dye, more lipophilic methyl homologue of SERVA Violet R. Suitable for round gels of PAGE, also for flat gels 0.1 - 1.0 mm thick.
  - λ max.: 566 - 564 nm
  - A 1 cm/max.: 0.001 % pH 7
  - min. 0.5

- **SERVA Blue R Staining Kit**
  - Contains 500 ml 0.2 % SERVA Blue R in ethanol and 500 ml 20 % acetic acid.

- **SERVA Blue Cube 300**
  - HS 90275000
  - The SERVA Blue Cube 300 is a small and compact documentation system for capturing SERVA DNA Stain Clear G and EtiB stained nuclei acids separated in agarose and acrylamide gels.

www.serva.de
SERVA BlueCube 300L

The SERVA BlueCube 300L is a small and compact documentation system for capturing SERVA DNA Stain Clear G and EBBr stained nucleic acids separated in agarose and acrylamide gels. The BlueCube is a compact instrument of 30 cm (W) x 26 cm (D) x 23.5 (H) cm and a weight of 10.4 kg. It is equipped with a CMOS sensor, a two-filter system, a UV filter (25 mm) and a UV table drawer (312 mm, filter size is 180 x 140 mm).

A magnetic protection shield for safe handling of the gel (e.g. when cutting out gel bands) is included as well. An external computer (included with "L"-version) is connected via USB. A gel capture and 1D analysis software comes with the system for fast and easy going analysis of the captured gel, including automatic band detection, determination of molecular weights and quantification of bands.

Cat.No. | Size
--- | ---
BC-300L | 1 piece

SERVA Bluemager

The SERVA Bluemager is a compact gel documentation system with user-friendly features of easy operation and quick response when in WiFi environment under standalone condition. This imaging system consists of a scientific CCD camera, motor driven lens, RGB light illuminator. The five-fold filter changer is equipped with a 595 nm filter.

Fluorescence stains such as SERVA Lightning Red, SERVA Lightning Sci3 and Cy3 are detectable with the standard emission filter. In addition and by the use of additional filters (additional filters like 535 nm and 665 nm are available) SERVA Lightning Sci2, SERVA Lightning Sci5, Cy2, Cy5, Alexa 488, Alexa 546, Alexa 647, SYPRO Ruby, SYBR Green I/II, SYBR Safe, DNA Stain G, etc. excited by blue, red, and green lights can easily be observed and captured by Bluemager.

Followed the design concept of a single, independent workstation with a single all-in-one processor embedded inside, Bluemager does not require any extra desktop computer to operate the system on. The 8" built-in touch screen LCD panel that Bluemager possesses can directly handle the image data without any difficulty. Moreover, the Bluemager’s smart user interface and vivid icons can rapidly capture gel images with high accuracy. With the use of Bluemager, you will enjoy a worry-free experience in collecting the gel imaging data while conducting some advanced chemi-fluorescence staining related experiments in your research.

Features:
- Wide applications for colorimetric and fluorescence detection
- Patent-registered light source design: effectively excite the dye on gel sample
- High sensitivity: detection limit may reach to 1 ng
- Highly efficient filter lens suitable for the emission wavelength excited from each light source
- Ready for DIGE, multiplex analysis
- Low energy consumption: Energy saving
- Cost efficient: affordable imager system that may process some advanced research experiments

Applications:
The three light sources equipped in Bluemager are red, green, and blue LED lights. Thus, wide range of color fluorescence applications may be processed through light source excitations:
- Red light applications: SERVA Lightning Sci5, Alexa™ 647, Alexa™ 660, allophycocyanin, Cy5, TO-PRO™-3, etc....
- Green light applications: SERVA Lightning Sci3, Alexa™ 546, Alexa™ 555, Alexa™ 568, Cy3, Nile red, Rhodamine B, TRITC, etc....
- Blue light applications: SERVA Lightning Sci2, Alexa™ 488, Cy2, SYBR Safe, SYBR Green, SYBR Gold, SYPRO Ruby, FITC, ethidium bromide, etc.

Cat.No. | Size
--- | ---
BL-RGB | 1 piece

SERVA BlueLight Table

The SERVA BlueLight Table is a blue light LED transilluminator for the detection of nucleic acids or proteins under non-UV conditions. There is no need for any special personal eye or skin protection.

The wavelength of the LED light is 470 nm, the viewing area is 200 x 120 mm. An amber filter, on hinges, is lowered into position once the gel is mounted. It is designed to view the gel after running electrophoresis stained with SERVA DNA Stain Clear G and other fluorescent staining reagents.

- Ergonomic fusion-patented 4° ergonomic viewing angle ("Golden Angle")
- Optimized for use with nucleic acid and protein fluorescent dyes
- Blue light source good for 30,000 hours
- No risk of UV damage
- Smart power-save function - Automatic power shut-down option at 5 minutes
- Gel cutting knife - Cut out the target from the gel for further experiment
- Weight < 1.3 kg
- Cardboard hood for image capturing with your smartphone!

Cat.No. | Size
--- | ---
BL-T | 1 piece

SERVA Blue-White Light Table

The Blue/White Light Table is a blue light LED transilluminator for bottom-up LED illumination. It is adjustable to 3 individual light intensities, the amber filter is hinge-free, magnetic positioned. A gel cutting knife as well as a cardboard hood for image capturing with a smartphone are included.

- Filter size 180 mm x 120 mm
- 5 minutes automatic power-off
- Stable metal housing
- Enhanced portability with PowerBank (optional)
- Dimensions and weight: 185 mm x 30 mm x 220 mm, 1.45 kg

Cat.No. | Size
--- | ---
BWL-T | 1 piece
SERVA BluePrep Major Serum Protein Removal Kit

25 reactions

HS 38220000

The SERVA BluePrep Major Serum Protein Removal Kit bases on spin-column chromatography and provides a fast and simple procedure for the effective depletion of major serum proteins including albumin, alpha-antitrypsin, transferrin and haptoglobin from serum and plasma samples. Process up to 10 samples in only 30 minutes. Based on ion exchange mechanism and not using specific antibodies, the kit can be used with serum samples from humans and various animals. The kit depletes 70 % of albumin, 90 % of alpha-antitrypsin, and 50 % of transferrin and haptoglobin, enabling the visualization of low abundance proteins. The final elution is performed with choices of several different buffers suitable for:

- Mass spectrometry
- SDS-PAGE
- 2D PAGE
- Microarrays

Kit specifications:

Max. protein input/spin column: 500 µg
Min. protein input/spin column: 200 µg
Min. elution volume: 100 µl (for max. protein recovery 200 µl)

Serum Prep Major Serum Protein Removal Kit

Cat.No. Size
42079.01 25 reactions

SERVA BlueShake 3D

HS 84798200

3D Shaker with large size incubation platform (350 x 350 mm) suitable for various incubation and preparation techniques (e.g. staining/destaining procedures). Smooth start and stop to avoid gel break. Robust housing and metal platform with anti-slipping mat.

- Shaking frequency: 5 - 50 rpm
- Timer: 0 - 120 min
- Max. load: 5 kg
- Dimensions (W x D x H): 340 x 400 x 140 mm

Cat.No. Size
20785.01 1 kit

SERVA BN PAGE Detergent Sampler

DANGER
H301-H311-H318-H331

Blue Native PAGE (BN PAGE), originally described by Schägger and von Jagow, in combination with 2D PAGE or liquid chromatography of proteins is a powerful technique for functional proteomics. It allows the study of protein-protein interactions, and the separation and analysis of very hydrophobic proteins, such as membrane proteins, their complexes, and even super-complexes. As a first step hydrophobic proteins and complexes have to be solubilized with a mild nonionic detergent, like Triton® X-100, digitonin or dodecyl-beta-D-maltoside. Digitonin is the mildest and therefore allows the separation of intact super-complexes.

The SERVA BN PAGE Sampler contains three non-ionic detergents for optimizing solubilization of protein complexes for Blue Native PAGE:

- 500 mg Triton® X-100 (cat. no. 37240)
- 250 mg Dodecyl-beta-D-maltoside (cat. no. 20780)
- 250 mg Digitonin (cat. no. 19550)

References:

Cat.No. Size
42524.01 1 kit

SERVA Cellophane Sheets II

HS 39207100

Format: 140 x 133 mm. For drying of mini vertical slab gels (up to 10 x 10 cm).

Cat.No. Size
BS-3D 1 piece

SERVA Co-IDA HD Agarose Resin

HS 38220000

High density cobalt-iminodiacetic acid (IDA) crosslinked agarose resin for low pressure affinity chromatography. The high amount of available cobalt chelate groups allows for high binding capacity. Cobalt chelates recognize two exposed vicinal histidine tags with excellent specificity, but lower affinity as nickel or zinc chelates. The Co-IDA agarose resin is therefore the optimal choice, if highly pure proteins are needed or difficult to separate proteins have to be purified. Suitable for batch or column purifications.

Binding/loading capacity: 20 - 40 µmol Me²⁺/ml gel.

Cat.No. Size
42143.01 25 ml
42143.02 100 ml

SERVA Co-IDA HD Mini Column

HS 38220000

Pre-packed, ready-to-use gravity flow columns filled with 1 ml Co-IDA HD agarose resin. The high amount of available cobalt chelate groups allows for high binding capacity. Cobalt chelates recognize two exposed vicinal histidine tags with excellent specificity, but lower affinity as nickel or zinc chelates. The Co-IDA agarose resin is therefore the optimal choice, if highly pure proteins are needed or difficult to separate proteins have to be purified.

Binding/loading capacity: 20 - 40 µmol Me²⁺/ml gel.

Cat.No. Size
42152.01 8 x 1 ml

SERVA Co-IDA HD Midi Column

HS 38220000

Pre-packed, ready-to-use gravity flow columns filled with 5 ml Co-IDA HD agarose resin. The high amount of available cobalt chelate groups allows for high binding capacity. Cobalt chelates recognize two exposed vicinal histidine tags with excellent specificity, but lower affinity as nickel or zinc chelates. The Co-IDA agarose resin is therefore the optimal choice, if highly pure proteins are needed or difficult to separate proteins have to be purified.

Binding/loading capacity: 20 - 40 µmol Me²⁺/ml gel.

Cat.No. Size
42153.01 5 x 5 ml
**SERVA CSF Silver Staining Kit**

High sensitive silver staining kit for staining of up to 5 film-backed, ultra-thin horizontal IEF gels for CSF analysis.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>43396.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

**SERVA Cu-IDA LD Agarose Resin**

HS 382200000

Low density Copper-iminodiacetic acid (IDA) crosslinked agarose resin for low pressure affinity chromatography. The lower amount of available copper chelate groups allows for higher selectivity/specificity in the binding of the tagged-protein. Copper chelates recognize one single exposed histidine tag with higher affinity, but lower specificity as nickel or zinc chelates. Therefore a copper charged matrix is recommended if a very low amount of protein has to be purified with minimal loss.

Suitable for batch or column purifications.

Binding/loading capacity: 5 - 20 μmol Me2+/ml gel

<table>
<thead>
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<th>Cat.No.</th>
<th>Size</th>
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<tr>
<td>42147.02</td>
<td>100 ml</td>
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**SERVA DensiStain Blue G Staining Solution, 2x concentrate** for 20 mini gels

HS 38220000

Ready-to-use colloidal staining solution.

- For SDS PAGE gels and native PAGE gels
- For SDS PAGE gels: no fixation is required
- Extreme low background
- Allows analysis by densitometry
- Sufficient for 20 mini gels (15 x 10 cm) or 10 standard gels (14 x 16 cm) up to 20 x 20 cm
- Detects proteins down to 30 ng protein/band (BSA)
- Economical - use staining solution 3 times
- Staining procedure will take approx. 1 to 2 hours
- Stable for at least 12 months

<table>
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<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>35078.01</td>
<td>500 ml</td>
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**SERVA DNA Stain G**

**WARNING**

H315-H319 • HS 38220000

SERVA DNA Stain G is a safer alternative to traditional ethidium bromide stain for detecting nucleic acids in agarose gels. It is at least as sensitive as ethidium bromide and can be used in exactly the same way in agarose gel electrophoresis. SERVA DNA Stain G can be added to the gel solution, working dilution is 1:20,000 to 1:50,000.

SERVA DNA Stain G emits green fluorescence when bound to DNA or RNA. It has one fluorescence excitation maximum at ca. 530 nm when bound to nucleic acid.

**Cat.No.** | **Size** |
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>39804.01</td>
<td>1 ml</td>
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<tr>
<td>39804.02</td>
<td>5 x 1 ml</td>
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**SERVA DNA Stain Clear G**

**WARNING**

H315-H319 • HS 38220000

SERVA DNA Stain Clear G is a new, non-carcinogenic, much more sensitive and convenient version of our SERVA DNA Stain G. It can be used instead of highly carcinogenic ethidium bromide for detecting nucleic acids in agarose gels.

SERVA DNA Stain Clear G emits green fluorescence when bound to DNA or RNA. It has two secondary fluorescence excitation peaks (ca. 270 nm and 295 nm) and one strong excitation peak centered around 490 nm. The fluorescence emission is similar to EtBr at ca. 530 nm when bound to nucleic acid.

Pre-casting and post-staining protocols are applicable.

1 ml of this stain is sufficient for 17 - 25 L of agarose gel.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
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<tbody>
<tr>
<td>39314.01</td>
<td>4 x 50 µg</td>
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</tbody>
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**SERVA DNA Standard 1 Kbp DNA Ladder, lyophilized**

(DNA Molecular Weight Markers; Molecular Weight Markers for DNA)

HS 38220000

Storage temperature -15 °C to -25 °C

The SERVA DNA Standard 1 Kbp DNA Ladder contains 11 fragments ranging from 500 bp to 10000 bp: 500, 1000, 1500, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10000 bp.

All fragments with EcoRI ends for easy 5’-end labelling. Ideal for the analysis of larger DNA fragments generated by enzymatic restriction of plasmid DNA or for fragments generated by PCR in combination with SERVA DNA Standard 100 bp Ladder (cat. no. 39311 or 39312). The larger sized fragments are represented in lower mass, resulting in a clear grouping of the bands. The separation distance is 70 mm in a 1.2 % agarose gel.

Instructions of use and 2 ml loading dye solution for resuspension of the lyophilized DNA fragments are included.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>39313.01</td>
<td>20 µg</td>
</tr>
</tbody>
</table>

**SERVA DNA Standard 100 bp Ladder Equalized, lyophilized**

HS 38220000

Storage temperature -15 °C to -25 °C

The SERVA DNA Standard 100 bp Ladder equalized contains 11 fragments ranging from 100 bp to 1000 bp: 100, 150, 200, 300, 400, 500 (3x), 600, 700, 800, 900 and 1000 bp.

Ideal for the analysis of DNA fragments generated from plasmid DNA or for PCR generated DNA fragments. For optimal results use 1.5 - 2.0 % agarose gels. A separation distance of 45 - 80 mm is recommended. 500 bp band 3fold for easy identification, all bands with the same intensity after staining for easy mass estimation. All fragments with EcoRI ends for easy 5’-end labelling.

For at least 65 applications. Instructions of use and 1 ml separate loading dye solution for resuspension of the lyophilized DNA fragments are included.

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<th>Cat.No.</th>
<th>Size</th>
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</tbody>
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For detailed information and product specifications, please visit the official SERVA website at www.serva.de.
SERVA DNA Standard 100 bp Ladder Equimolar, lyophilized
HS 38220000
Storage temperature -15 °C to -25 °C
The SERVA DNA Standard 100 bp Ladder equimolar contains 11 fragments ranging from 100 bp to 1000 bp: 100, 150, 200, 300, 400, 500, 600, 700, 800, 900 and 1000 bp. Ideal for the analysis of DNA fragments generated from plasmid DNA or for PCR generated DNA fragments. For optimal results use 1.5 - 2 % agarose gels. A separation distance of 60 - 80 mm is recommended. All fragments with EcoRI ends for easy labelled, the 5'-end labeled DNA marker behaves like an equalized DNA marker.
For at least 50 applications. Instructions of use and 1 ml separate loading dye solution for resuspension of the lyophilized DNA fragments are included.

Cat.No. Size
39311.01 50 µg

SERVA DNA Standard 100 bp Ladder Extended, lyophilized
HS 38220000
Storage temperature -15 °C to -25 °C
The SERVA DNA Standard 100 bp Ladder extended contains 17 fragments ranging from 100 bp to 5000 bp: 100, 150, 200, 300, 400, 500 (2x), 600, 700, 800, 900, 1000, 1500, 2000, 2500, 3000, 4000 and 5000 bp. Ideal for the analysis of DNA fragments generated from plasmid DNA or for PCR generated larger DNA fragments. For optimal results use 1.0 - 2.0 % agarose gels. A separation distance of 60 - 80 mm is recommended. All fragments with EcoRI ends for easy 5'-end labelling.
For at least 50 applications. Instructions of use and 1 ml separate loading dye solution for resuspension of the lyophilized DNA fragments are included.

Cat.No. Size
39312.01 50 µg

SERVA DNA Standard 100 bp Ladder Lambda x BstE II, lyophilized
HS 38220000
Storage temperature -15 °C to -25 °C
The SERVA Lambda x BstEII DNA Marker contains 14 fragments ranging from 117 bp to 8454 bp: 117, 224, 702, 1284, 1371, 1929, 2323, 3675, 4324, 4822, 5667, 6369, 7242 and 8454 bp (the 5687 bp and 8453 bp fragments contain the cohesive ends of bacteriophage lambda and may hybridize resulting in a high molecular weight band at 14140 bp, ends may be separated by heating to 65 °C for 5 minutes and placing on ice). Ideal for the analysis of DNA fragments generated from genomic or plasmid DNA. For optimal results use 0.8 % - 1.2 % agarose gels with a separation distance of approx. 60 - 80 mm.
For at least 100 applications. Instructions of use and 1 ml separate loading dye solution for resuspension of the lyophilized DNA fragments are included.

Cat.No. Size
39301.01 2 x 50 µg

SERVA DNA Standard pUC19 x MspI, lyophilized
HS 38220000
Storage temperature -15 °C to -25 °C
The SERVA pUC19 x MspI DNA Marker contains 13 fragments ranging from 26 bp to 501 bp: 26, 34, 38, 67, 110, 111, 147, 190, 242, 331, 404, 489 and 501 bp. Ideal for the analysis of small DNA fragments generated from plasmid DNA or for PCR generated DNA fragments. For optimal results use 2 % DNA Agarose gels or 2 - 4 % special agarose gels. For fast analysis of PCR products a separation distance of 20 mm is sufficient for band separation.
For at least 50 applications. Instructions of use and 1 ml separate loading dye solution for resuspension of the lyophilized DNA fragments are included.

Cat.No. Size
501  489
404  331
242  190
147  111/110
67

SERVA Dryer Frame Kit
HS 90330000
For drying of mini vertical slab gels (up to 10 x 10 cm). Containing 2 dryer frames and 200 cellophane sheets.

Cat.No. Size
39304.01 50 µg

SERVA FastLoad 50 bp DNA Ladder
HS 38220000
Storage temperature -15 °C to -25 °C
Ready-to-Use DNA standard for agarose gel electrophoresis containing 17 fragments from 50 – 1500 base pairs. The 200 bp and 500 bp bands have increased intensity and serve as reference points. For estimation of DNA mass of bands of similar size with comparable intensity, the approximate mass of each band is indicated (0.56 µg/load).
Recommended load is 5 µl/well. Contains Orange G as tracking dye.
Stable for 12 months at 4 °C. For long term storage store at -20 °C.

Cat.No. Size
39315.01 500 µl
**SERVA FastLoad 100 bp DNA Ladder**

HS 38220000

Storage temperature -15 °C to -25 °C

Ready-to-Use DNA standard for agarose gel electrophoresis containing 12 fragments from 100 – 3000 base pairs. The 500 bp and 1500 bp bands have increased intensity and serve as reference points. For estimation of DNA mass of bands of similar size with comparable intensity, the approximate mass of each band is indicated (0.54 µg/load).

Recommended load is 5 µl/well. Contains Orange G and Xylene Cyanol as tracking dye. Stable for 6 months at 25 °C and for 12 months at 4 °C. For long term storage store at -20 °C.

Cat.No. | Size
---|---
39316.01 | 500 µl

**SERVA FastLoad 1 kb DNA Ladder**

HS 38220000

Storage temperature -15 °C to -25 °C

Ready-to-Use DNA standard for agarose gel electrophoresis containing 14 fragments from 250 – 25000 base pairs. The 1000 bp and 3000 bp bands have increased intensity and serve as reference points. For estimation of DNA mass of bands of similar size with comparable intensity, the approximate mass of each band is indicated (0.52 µg/load).

Recommended load is 5 µl/well. Contains Orange G and Xylene Cyanol as tracking dye. Stable for 6 months at 25 °C and for 12 months at 4 °C. For long term storage store at -20 °C.

Cat.No. | Size
---|---
39317.01 | 500 µl

**SERVA HiSens Stain G**

HS 38220000

Storage temperature +2 °C to +8 °C

SERVA HiSens Stain G is a highly sensitive, non-carcinogenic fluorescent nucleic acid stain, specially designed for in-gel staining of agarose gels. It stains double-stranded or single-stranded DNA and RNA with a sensitivity several times greater than EthBr. The detection limit in in-gel staining is around 0.1 ng of a 4-kb dsDNA band.

The stain can be detected with standard UV as well as with blue light tables. When bound to nucleic acids, the stain has fluorescent excitation maxima of 250 and 480 nm, and an emission maximum of 559 nm.

The stain is provided as a ready-to-use 10 000x stock solution.

Cat.No. | Size
---|---
39805.01 | 500 µl

**SERVA HPE™ Coomassie® Staining Kit**

HS 38220000

Colloidal staining kit for highly sensitive staining of 1D and 2D gels after electrophoresis. The kit contains two components to be mixed together prior to use. Kit contains enough reagents to stain 4 large 2D HPE® gels. Reagents are MS compatible for downstream mass spectrometry analysis.

Coomassie = registered trademark of ICI Ltd.

Cat.No. | Size
---|---
43396.01 | 2 K

**SERVA HPE™ IPG Overlay**

HS 27101985

Overlay oil to cover IPG strips during high voltage isoelectric focusing of proteins with no influence on separation behaviour of the IPG strip. Usage of the SERVA IPG Overlay is an important factor for sharp protein spots in high resolution 2D gel electrophoresis. For easy application of the oil a separate dropping bottle is included.

Cat.No. | Size
---|---
43397.01 | 1 L

**SERVA HPE™ IPG Strip Buffer**

HS 38220000

Storage temperature +2 °C to +8 °C

1 ml 40 % (w/v) SERVALYT mixture (pH 3-10) for IPG strip rehydration and sample preparation for 2D electrophoresis.

SERVA IPG strip buffer works for all IPG strips pH gradients. Due to the low molecular weights of the SERVALYT buffer molecules there is no background staining in the 2D gels.

Cat.No. | Size
---|---
43368.01 | 1 ml

**SERVA HPE™ Lightning Red**

(Fluorescence labelling)

SERVA HPE™ Lightning Red is a fluorescent dye for rapid labelling of proteins prior to 2D PAGE, making any staining and washing steps after electrophoresis unnecessary. In addition the dye is fully compatible with mass spectrometry and other downstream methods like Western Blotting.

The labelling procedure is simple and quick:

Typically use 80 pmol SERVA HPE™ Lightning Red for labelling of 1 µg protein. Incubate at 0 °C for 15 min. The labelled protein solution is directly applied to an IPG strip via cup- or rehydration loading.

After the 2D run, detection of labelled proteins is performed by fluorescent imager (camera or scanner) at an excitation wavelength of about 530 nm and emission filter of 610 nm with a narrow band width of 30 nm.

SERVA HPE™ Lightning Red is compatible with all additives typically used for sample solubilization and protein extraction, including carrier ampholytes and reductants.

Alkalescent conditions are sufficient, it is not required to titrate the pH to a defined value.

- Direct detection
- No staining and washing steps after the run
- Very high sensitivity, < 100 pg protein / spot
- Wide dynamic and linear range of > 10^5
- No over-staining effects
- Fully MS and Western Blotting compatible

The kit contains 250 µg SERVA HPE™ Lightning Red dye and 25 µl DMF.

Cat.No. | Size
---|---
43400.01 | 1 kit

**SERVA HPE™ Silver Staining Kit**

Silver staining kit for highly sensitive silver staining of 2D gels. Kit contains reagents to stain 4 large 2D HPE® gels. Reagents are MS compatible for downstream mass spectrometry analysis.

Cat.No. | Size
---|---
43395.01 | 1 kit
**SERVA ICPL™ Quadruplex Kit**

**WARNING**
H302-H315-H319-H334-H335-H351 \( \uparrow \) HS 38220000
Storage temperature -15 °C to -25 °C

The powerful ICPL™ technology for comparative quantitative analysis of four independent proteome samples can be performed by stable protein labelling side by side.

The kit contains 12C-, 2D-, 13C and 13C2D- Nic-reagent, stop solution 1 + 2, reduction solution, alkylation reagent, lysis buffer and standard protein mix A, B, C and X. The kit contains reagents for 4 x 6 reactions. A detailed instruction manual is included.

ICPL = trademark of TopLab GmbH, Martinsried, Germany

**References:**

**Cat.No.** | **Size**
---|---
39231.01 | 1 kit

**SERVA ICPL™ Quadruplex Plus Kit**

**WARNING**
H302-H315-H319-H334-H335-H351 \( \uparrow \) HS 38220000
Storage temperature -15 °C to -25 °C

Applying the ICPL™ quadruplex method the simultaneous quantitative analysis of four independent proteome samples can be performed by stable protein labelling side by side.

Included are MS approved endoproteinases Trypsin NB and Glu-C for achieving the highest sequence coverage. All four labels can be freely combined with each other. By omitting one label you can as well compare only two or three samples. The enclosed ICPL™ Standard PLUS allows calibration of the analysis system.


ICPL = trademark of TopLab GmbH, Martinsried, Germany

**References:**

**Cat.No.** | **Size**
---|---
42144.01 | 25 ml
42144.02 | 100 ml

**SERVA ICPL™ Triplex Kit**

**WARNING**
H302-H315-H319-H335-H351-H373 \( \uparrow \) HS 38220000
Storage temperature -15 °C to -25 °C

The powerful ICPL™ technology for comparative quantitative analysis of three independent proteome samples can be performed by stable protein labelling side by side.

The kit contains 12C-, 13C-Nic-reagent, stop solution 1 + 2, reduction solution, alkylation reagent, lysis buffer and standard protein mix A + B + C. The kit contains reagents for 2 x 6 reactions. A detailed instruction manual is included.

ICPL = trademark of TopLab GmbH, Martinsried, Germany

**References:**

**Cat.No.** | **Size**
---|---
39230.01 | 1 kit

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**SERVA ICPL™**

**SERVA ICPL™**

**SERVA ICPL™**

**SERVA ICPL™**

**SERVA ICPL™**

**SERVA ICPL™**

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**SERVA IDA Metal-Free HD Agarose Resin**

(IDA-Agarose Resins)

HS 38220000

High density iminodiacetic acid (IDA) crosslinked agarose resin for low pressure affinity chromatography. The high amount of activation for metal attachment allows for higher binding capacity. It is supplied without any metal and can be charged with the selected divalent cation. Suitable for batch or column purifications.

Binding/loading capacity: 20 - 40 \( \mu \)mol Me\(^{2+}\)/ml gel.

**Cat.No.** | **Size**
---|---
42140.01 | 25 ml
42140.02 | 100 ml

**SERVA IMAC HD Test Kit**

HS 38220000

The choice, which metal chelate resin is the most suitable, depends on whether binding capacity or selectivity is more important and whether the protein is easy or difficult to separate. The kit contains four different high density chelate resins for finding the best option for high binding capacity.

Contains:
2 ml SERVA IDA Metal-Free HD Agarose Resin, 2 ml SERVA Ni-IDA HD Agarose Resin, 2 ml SERVA Zn-IDA HD Agarose Resin, 2 ml SERVA Co-IDA HD Agarose Resin

**Cat.No.** | **Size**
---|---
42160.01 | 1 kit
### SERVA IMAC LD Test Kit

**HS 38220000**

The choice, which metal chelate resin is the most suitable, depends on whether binding capacity or selectivity is more important and whether the protein is easy or difficult to separate. The kit contains four different low density chelate resins for finding the best option for high selectivity.

**Contains:**
- 2 ml SERVA IDA Metal-Free LD Agarose Resin
- 2 ml SERVA Ni-IDA LD Agarose Resin
- 2 ml SERVA Zn-IDA LD Agarose Resin
- 2 ml SERVA Cu-IDA LD Agarose Resin

**Cat.No.** | **Size**
---|---
42162.01 | 1 kit

### SERVA IMAC LD Test Kit plus Columns

**HS 38220000**

The choice, which metal chelate resin is the most suitable, depends on whether binding capacity or selectivity is more important and whether the protein is easy or difficult to separate. The kit contains four different low density chelate resins for finding the best option for high selectivity. For easy purification by centrifugation the kit contains 40 empty mini spin columns.

**Contains:**
- 2 ml SERVA IDA Metal-Free LD Agarose Resin
- 2 ml SERVA Ni-IDA LD Agarose Resin
- 2 ml SERVA Zn-IDA LD Agarose Resin
- 2 ml SERVA Cu-IDA LD Agarose Resin
- 40 mini spin columns

**Cat.No.** | **Size**
---|---
42163.01 | 1 kit

### SERVA IMAC Ni-IDA Test Kit

**HS 38220000**

Nickel chelate resins recognize two exposed histidine tags with good specificity and very high affinity. Therefore a nickel charged matrix is recommended for most standard purifications. The kit contains 2 ml each of high density and low density Ni-IDA agarose resin. SERVA Ni-IDA HD Agarose Resin has a higher amount of available nickel chelate groups and shows therefore a higher binding capacity but lower selectivity compared to SERVA Ni-IDA LD Agarose Resin. Due to the lower amount of available nickel chelate groups the Ni-IDA LD Agarose Resin has a higher binding specificity.

**Cat.No.** | **Size**
---|---
42164.01 | 1 kit

### SERVA IMAC Ni-IDA Test Kit plus columns

**HS 38220000**

Nickel chelate resins recognize two exposed histidine tags with good specificity and very high affinity. Therefore a nickel charged matrix is recommended for most standard purifications. The kit contains 2 ml each of high density and low density Ni-IDA agarose resin. SERVA Ni-IDA HD Agarose Resin has a higher amount of available nickel chelate groups and shows therefore a higher binding capacity but lower selectivity compared to SERVA Ni-IDA LD Agarose Resin. Due to the lower amount of available nickel chelate groups the Ni-IDA LD Agarose Resin has a higher binding specificity. For easy purification by centrifugation the kit contains 20 empty mini columns.

**Cat.No.** | **Size**
---|---
42165.01 | 1 kit

### SERVA IMAC Ni- and Co-IDA Test Kit

**HS 38220000**

With nickel and cobalt chelate resins the majority of histidine-tagged proteins can be purified with a good yield and purity. Nickel chelate resins recognize two exposed histidine tags with good specificity and very high affinity. Therefore a nickel charged matrix is recommended for most standard purifications. Cobalt chelates recognize two exposed vicinal histidine tags with excellent specificity, but lower affinity as nickel or zinc chelates. The Co-IDA agarose resin is therefore the optimal choice, if highly pure proteins are needed or difficult to separate proteins have to be purified.

The kit contains 2 ml each of SERVA Ni-IDA HD Agarose Resin, SERVA Ni-IDA LD Agarose Resin and SERVA Co-IDA HD Agarose Resin. SERVA Ni-IDA HD Agarose Resin has a higher amount of available nickel chelate groups and shows therefore a higher binding capacity but lower selectivity compared to Ni-IDA LD Agarose Resin. The lower affinity of the Co-IDA agarose resin compared to the Ni-IDA agarose matrix is compensated by the higher amount of available cobalt chelate groups.

**Cat.No.** | **Size**
---|---
42166.01 | 1 kit

### SERVA IMAC Ni- and Co-IDA Test Kit plus columns

**HS 38220000**

With nickel and cobalt chelate resins the majority of histidine-tagged proteins can be purified with a good yield and purity. Nickel chelate resins recognize two exposed histidine tags with good specificity and very high affinity. Therefore a nickel charged matrix is recommended for most standard purifications. Cobalt chelates recognize two exposed vicinal histidine tags with excellent specificity, but lower affinity as nickel or zinc chelates. The Co-IDA agarose resin is therefore the optimal choice, if highly pure proteins are needed or difficult to separate proteins have to be purified.

The kit contains 2 ml each of SERVA Ni-IDA HD Agarose Resin, SERVA Ni-IDA LD Agarose Resin and SERVA Co-IDA HD Agarose Resin. SERVA Ni-IDA HD Agarose Resin has a higher amount of available nickel chelate groups and shows therefore a higher binding capacity but lower selectivity compared to Ni-IDA LD Agarose Resin. The lower affinity of the Co-IDA agarose resin compared to the Ni-IDA agarose matrix is compensated by the higher amount of available cobalt chelate groups.

**Cat.No.** | **Size**
---|---
42167.01 | 1 kit

### SERVA IMAC HD Test Kit plus columns

**HS 38220000**

The choice, which metal chelate resin is the most suitable, depends on whether binding capacity or selectivity is more important and whether the protein is easy or difficult to separate. The kit contains four different high density chelate resins for finding the best option for high binding capacity. For easy purification by centrifugation the kit contains 40 empty mini columns.

**Contains:**
- 2 ml SERVA IDA Metal-Free HD Agarose Resin
- 2 ml SERVA Ni-IDA HD Agarose Resin
- 2 ml SERVA Zn-IDA HD Agarose Resin
- 2 ml SERVA Cu-IDA HD Agarose Resin
- 40 mini columns

**Cat.No.** | **Size**
---|---
42168.01 | 1 kit

### SERVA IPG BlueStrip 3-10 / 7 cm

**IPG Strips**

**HS 38220000**

Storage temperature -15 °C to -25 °C **

SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX® for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.

Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

**Cat.No.** | **Size**
---|---
43001.01 | 12 strips
SERVA IPG BlueStrip 3-10 / 11 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX® to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX® for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.

Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

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<tr>
<td>43031.01</td>
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</table>

SERVA IPG BlueStrip 3-10 / 17 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX® to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX® for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.

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<td>43041.01</td>
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</table>

SERVA IPG BlueStrip 3-10 / 18 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX® to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX® for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.

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<td>43011.01</td>
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SERVA IPG BlueStrip 3-10 / 24 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX® to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX® for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.

Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

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<td>43021.01</td>
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SERVA IPG BlueStrip 3-10 NL / 7 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX® to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX® for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.

Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

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<th>Cat.No.</th>
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<td>43002.01</td>
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</table>

SERVA IPG BlueStrip 3-10 NL / 11 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX® to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX® for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.

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SERVA IPG BlueStrip 3-10 NL / 17 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX® to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX® for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.

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SERVA IPG BlueStrip 3-10 NL / 18 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX® to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX® for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.

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SERVA IPG BlueStrip 3-10 NL / 24 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX® to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX® for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.

Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

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<td>43022.01</td>
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<td></td>
</tr>
</tbody>
</table>
SERVA IPG BlueStrip 3-6 / 7 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP. Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No. | Size
--- | ---
43005.01 | 12 strips

SERVA IPG BlueStrip 3-6 / 11 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP. Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No. | Size
--- | ---
43055.01 | 12 strips

SERVA IPG BlueStrip 3-6 / 17 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP. Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No. | Size
--- | ---
43045.01 | 12 strips

SERVA IPG BlueStrip 3-6 / 18 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP. Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No. | Size
--- | ---
43075.01 | 12 strips

SERVA IPG BlueStrip 3.5-4.5 / 24 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP. Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No. | Size
--- | ---
43027.01 | 12 strips

SERVA IPG BlueStrip 4-7 / 7 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP. Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No. | Size
--- | ---
43033.01 | 12 strips

SERVA IPG BlueStrip 4-7 / 11 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP. Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No. | Size
--- | ---
43003.01 | 12 strips

SERVA IPG BlueStrip 4-7 / 17 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP. Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No. | Size
--- | ---
43033.01 | 12 strips

SERVA IPG BlueStrip 4-7 / 18 cm
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA IPG BlueStrips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP. Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No. | Size
--- | ---
43043.01 | 12 strips
### SERVA BlueStrip 4-7 / 24 cm

- **Cat.No.:** 43023.01
- **Size:** 12 strips

### SERVA BlueStrip 5-8 / 7 cm

- **Cat.No.:** 43000.01
- **Size:** 12 strips

### SERVA BlueStrip 5-8 / 11 cm

- **Cat.No.:** 43036.01
- **Size:** 12 strips

### SERVA BlueStrip 5-8 / 17 cm

- **Cat.No.:** 43026.01
- **Size:** 12 strips

### SERVA BlueStrip 5-8 / 24 cm

- **Cat.No.:** 43016.01
- **Size:** 12 strips

### SERVA BlueStrip 5-8 / 24 cm (continued)

- **Cat.No.:** 43016.01
- **Size:** 12 strips

### SERVA BlueStrip 5-8 / 24 cm (continued)

- **Cat.No.:** 43026.01
- **Size:** 12 strips

### SERVA BlueStrip 5-8 / 24 cm (continued)

- **Cat.No.:** 43026.01
- **Size:** 12 strips

### SERVA BlueStrip 6-10 / 7 cm

- **Cat.No.:** 43004.01
- **Size:** 12 strips

### SERVA BlueStrip 6-10 / 11 cm

- **Cat.No.:** 43034.01
- **Size:** 12 strips

### SERVA BlueStrip 6-10 / 17 cm

- **Cat.No.:** 43044.01
- **Size:** 12 strips

### SERVA BlueStrip 6-10 / 24 cm

- **Cat.No.:** 43024.01
- **Size:** 12 strips
SERVA Lightning Sci2 lyophilized
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA Lightning Sci2 is a Cyanine2 NHS ester for minimal labelling and maximum detection of proteins prior to protein detection in 2D Fluorescence Difference Gel Electrophoresis (DIGE). Minimal labelling with SERVA Lightning Sci2 allows for the precise comparison of protein expression in two or three samples. The dyes are charge- and size-matched enabling high efficient detection and high resolution of minor proteins on 2D gel electrophoresis. SERVA Lightning Sci2 is compatible with all imagers suitable for detection of Cy2®. Gels labelled with SERVA Lightning Sci2 are ready for subsequent mass spectrometry analysis. Each vial contains specified amount of NHS ester with a tolerance variation of 10 %.

Special properties:
- Fluorescence colour: Green
- Excitation maximum: 490 nm
- Emission maximum: 510 nm

Spectral properties:
- Fluorescence colour: Green
- Excitation maximum: 490 nm
- Emission maximum: 510 nm

Cy2® = trademark of GE Healthcare Company

<table>
<thead>
<tr>
<th>Cat.No.</th>
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</thead>
<tbody>
<tr>
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<td>10 NMOL</td>
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<tr>
<td>43404.03</td>
<td>25 NMOL</td>
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</table>

SERVA Lightning Sci3 lyophilized
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA Lightning Sci3 is a Cyanine3 NHS ester for minimal labelling and maximum detection of proteins prior to protein detection in 2D Fluorescence Difference Gel Electrophoresis (DIGE). Minimal labelling with SERVA Lightning Sci3, Sci2 and Sci5 allows for the precise comparison of protein expression in two or three samples. The dyes are charge- and size-matched enabling high efficient detection and high resolution of minor proteins on 2D gel electrophoresis. SERVA Lightning Sci3 is compatible with all imagers suitable for detection of Cy3®. Gels labelled with SERVA Lightning Sci3 are ready for subsequent mass spectrometry analysis. Each vial contains specified amount of NHS ester with a tolerance variation of 10 %.

Spectral properties:
- Fluorescence colour: Yellow
- Excitation maximum: 555 nm
- Emission maximum: 570 nm

Cy3® = trademark of GE Healthcare Company

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>43405.03</td>
<td>25 NMOL</td>
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</table>

SERVA Lightning Sci5 lyophilized
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA Lightning Sci5 is a Cyanine5 NHS ester for minimal labelling and maximum detection of proteins prior to protein detection in 2D Fluorescence Difference Gel Electrophoresis (DIGE). Minimal labelling with SERVA Lightning Sci5, Sci3 and Sci6 allows for the precise comparison of protein expression in two or three samples. The dyes are charge- and size-matched enabling high efficient detection and high resolution of minor proteins on 2D gel electrophoresis. SERVA Lightning Sci5 is compatible with all imagers suitable for detection of Cy5®. Gels labelled with SERVA Lightning Sci5 are ready for subsequent mass spectrometry analysis. Each vial contains specified amount of NHS ester with a tolerance variation of 10 %.

Spectral properties:
- Fluorescence colour: Red
- Excitation maximum: 645 nm
- Emission maximum: 660 nm

Cy5® = trademark of GE Healthcare Company

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
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<td>10 NMOL</td>
</tr>
<tr>
<td>43406.03</td>
<td>25 NMOL</td>
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SERVA Lightning SciDye Set
HS 38220000
Storage temperature -15 °C to -25 °C
SERVA Lightning SciDyes are designed for minimal labelling and maximum detection of proteins prior to protein detection in 2D Fluorescence Difference Gel Electrophoresis (DIGE). Minimal labelling with SERVA Lightning SciDyes is compatible with all imagers suitable for detection of Cy2®, Cy3® and Cy5®. Gels labelled with SERVA Lightning SciDyes are ready for subsequent mass spectrometry analysis.

SERVA Lightning SciDye Set consists of one vial each of SERVA Lightning Sci2 (cat. no. 43404) SERVA Lightning Sci3 (cat. no. 43405) and SERVA Lightning Sci5 (cat. no. 43406). Each vial contains specified amount of NHS ester with a tolerance variation of 10 %.

Cy2®, Cy3® and Cy5® = trademarks of GE Healthcare Company

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
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<td>43407.02</td>
<td>10 NMOL</td>
</tr>
<tr>
<td>43407.03</td>
<td>25 NMOL</td>
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</tbody>
</table>

SERVA Mag Rack
HS 90279050
Rack for 12 tubes from 0.5 up to 2.0 ml.
To separate magnetic beads from liquid simply raise the plate equipped with 12 single magnets, the position of the plate will be secured by one extra magnet at each site. The magnetic particles will be attached to one site of the tube, allowing the researcher to pipette out the solution very easily, leaving the magnetic particles in the tube.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR-12</td>
<td>1 piece</td>
</tr>
</tbody>
</table>
SERVA Musketeer

The SERVA Musketeer is an advanced gel documentation system with user-friendly features, easy operation and quick response. This imaging system consists of a scientific CCD camera, motor driven lens, and white backlight board. The chemiluminescence treatment such as ECL can easily be observed and captured by the SERVA Musketeer, and the fluorescence stains such as SERVA Lightning Red, SERVA Lightning Sci3, Cy3, SYPRO Ruby, Alexa 546, Alexa 647, etc. are excited by RGB.

Followed the all in one design concept of a single workstation, the SERVA Musketeer works independently and does not require a separate computer to operate the system. A built-in touch screen LCD panel of the SERVA Musketeer can directly handle the entire imaging procedure without any difficulty. Moreover, the smart user-friendly interface and vivid icons on the SERVA Musketeer allows for capturing the gel images quickly and easily. With SERVA Musketeer, you will experience a hassle free process of collecting the gel imaging data in your laboratory.

SERVA Musketeer is equipped with red, green, and blue LED transilluminator and epi lights and the appropriate filters. Thus, wide range of fluorescence applications may be processed through light source excitations:

- Blue light applications: SERVA Lightning Red (1D, 2D), SERVA Purple, SERVA Lightning Sci2, Cy2, SERVA Fluo-R, SERVA DNA Stain Clear G, SYBR stains, SYPRO Ruby, FITC, ethidium bromide, etc.
- Red light applications: SERVA Lightning Sci5, Cy5, AlexaG 647, AlexaG 660, allophycocyanin, TO-PRO-G-3, etc.

A UV and white light transilluminator as well as epi R/G/B/ and epi white light are installed.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSK-01</td>
<td>1 piece</td>
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</tbody>
</table>

SERVA Native Marker, Liquid Mix for BN/CN

HS 38220000

Storage temperature: -15 °C to -25 °C

Molecular Weight Marker for Blue and Clear Native PAGE. Ready-to-use. Contains native proteins ranging from 720 kDa to 21 kDa.

| Ferritin horse | M. 450 000/720 000 |
| Urease jack bean | M. 272 000/545 000 |
| Lactate dehydrogenase porcine | M. 146 000 |
| Albumin bovine | M. 67 000 |
| Albumin egg | M. 45 000 |
| Trypsin inhibitor soybean | M. 21 000 |

SERVA Ni-IDA HD Agarose Resin

HS 38220000

High density nickel-iminodiacetic acid (IDA) crosslinked agarose resin for low pressure affinity chromatography. The high amount of available nickel chelate groups allows for high binding capacity. Nickel chelates recognize two exposed histidine tags with high specificity and very high affinity. Therefore a nickel charged matrix is recommended for most standard purifications. Suitable for batch or column purifications. Binding/loading capacity: 20 - 40 μmol Me2+/ml gel.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>42141.01</td>
<td>25 ml</td>
</tr>
<tr>
<td>42141.02</td>
<td>100 ml</td>
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</tbody>
</table>

SERVA Ni-IDA HD Mini Column

HS 38220000

Pre-packed, ready-to-use gravity flow columns filled with 1 ml Ni-IDA HD agarose resin. The high amount of available nickel chelate groups allows for high binding capacity. Nickel chelates recognize two exposed histidine tags with high specificity and very high affinity. Therefore a nickel charged matrix is recommended for most standard purifications.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>42148.01</td>
<td>8 x 1 ml</td>
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</tbody>
</table>

SERVA Ni-IDA HD Midi Column

HS 38220000

Pre-packed, ready-to-use gravity flow columns filled with 5 ml Ni-IDA HD agarose resin. The high amount of available nickel chelate groups allows for high binding capacity. Nickel chelates recognize two exposed histidine tags with high specificity and very high affinity. Therefore a nickel charged matrix is recommended for most standard purifications.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>42149.01</td>
<td>5 x 5 ml</td>
</tr>
</tbody>
</table>
### SERVA Ni-IDA LD Agarose Resin

**HS 38220000**

Low density nickel-iminodiacetic acid (IDA) crosslinked agarose resin. The lower amount of available nickel chelate groups allows for higher selectivity/specificity in the binding of the tagged-protein. Nickel chelates recognize two exposed histidine tags with high specificity and very high affinity. Therefore a nickel charged matrix is recommended for most standard purifications. Suitable for batch or column purifications. Binding/loading capacity: 5 - 20 μmol Me²⁺/ml gel.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>42145.01</td>
<td>25 ml</td>
</tr>
<tr>
<td>42145.02</td>
<td>100 ml</td>
</tr>
</tbody>
</table>

### SERVA Ni-NTA Agarose Resin (NTA-Agarose Resins)

**HS 38220000**

Storage temperature +2 °C to +8 °C

High capacity nickel-nitrilotriacetic acid (NTA) crosslinked agarose resin for low pressure affinity chromatography. The four metal-binding sites on the chelate enable high-protein binding and minimal metal leaching. Ideal for purification under denaturing conditions. Handling is easy and identical to standard protocols of other manufacturers, therefore there is no need to change established protocols. Suitable for batch and column purification. Binding capacity: > 75 mg His-tagged protein/ml gel.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>42139.01</td>
<td>25 ml</td>
</tr>
<tr>
<td>42139.02</td>
<td>100 ml</td>
</tr>
</tbody>
</table>

### SERVA Ni-NTA Magnetic Beads

**HS 38220000**

Storage temperature +2 °C to +8 °C

High capacity nickel-nitrilotriacetic acid (NTA) crosslinked agarose beads (5%) for rapid and easy small scale purification of His-tagged proteins under native or denaturing conditions. Binding capacity: > 75 mg His-tagged protein/ml gel.

<table>
<thead>
<tr>
<th>Cat.No.</th>
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<tbody>
<tr>
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<tr>
<td>42179.02</td>
<td>10 ml</td>
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### SERVA 2D PAGE Detergent Sampler

**HS 38220000**

Protein extraction is a crucial step of proteomic analysis. The optimal solubilization of proteins is an essential condition for receiving the best resolution in 2D gel electrophoresis. The SERVA 2D PAGE Sampler contains six innovative zwitterionic detergents for optimizing protein solubilization. Zwitterionic detergents offer solubilization properties of membrane proteins superior to other detergent types and do not interfere with subsequent MS analysis. The variety of detergents allows optimizing of the extraction formulas, which vary with cell type and protein of interest.

Each detergent is supplied as 1 g pack size:
- CHAPS (cat. no. 17038)
- SB 12 (cat. no. 20761)
- SB 3-10 (cat. no. 20756)
- ASB-14 (cat. no. 20757)
- ASB-16 (cat. no. 20758)
- ASB-C7BzO (cat. 20759)

<table>
<thead>
<tr>
<th>Cat.No.</th>
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<tbody>
<tr>
<td>20784.01</td>
<td>1 kit</td>
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</table>

### SERVA Pink Color Protein Standard II

**HS 38220000**

Storage temperature -15 °C to -25 °C

SERVA Pink Color Protein Standard II is a mixture of 11 pre-stained proteins of a molecular weight range from 10.5 to 175 kDa (separation on a SDS Tris-glycine gel). Proteins are covalently coupled with a pink chromophore and contain for easy identification three blue bands at approximate 10 kDa, 40 kDa and 90 kDa (separation on a SDS Tris-Glycine gel).

It is provided in a ready-to-use formula and no heating, further dilution or adding of reducing reagents is necessary before use. SERVA Pink Color Protein Standard II is designed for monitoring protein separation during SDS PAGE, verification of Western Blotting transfer efficiency and for approximate sizing of proteins. The marker is stable for up to two weeks at 25 °C and for up to 3 months at 4 °C. Recommended loading volume for a mini gel is 5 μl/lane.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>39259.01</td>
<td>500 μl</td>
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</table>

### SERVA Unstained SDS PAGE Protein Marker 6.5 - 200 kDa, Liquid Mix

(Molecular Weight Markers for Proteins) **HS 38220000**

Storage temperature -15 °C to -25 °C

Ready-to-use. Standard proteins ranging from 6.5 kDa to 200 kDa. After gently warming the protein standard solution to room temperature, apply 5 μl per lane when staining with SERVA Blue G, SERVA Blue R or Coomassie®. For silver staining, e.g. using SERVA's Silver Staining Kit (cat.no. 35076), dilute 1:5 in 1x Laemmli Buffer and apply 5 μl. Protein content is approx. 0.15 - 0.3 mg/ml, the proteins are in Laemmli Buffer (50 mM TrisHCl, 10 mM DTT, 2 % SDS, 0.1 % bromophenol blue).

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tr>
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<th>Protein</th>
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</thead>
<tbody>
<tr>
<td>Myosin</td>
<td>M₆ 200 000</td>
</tr>
<tr>
<td>β-Galactosidase</td>
<td>M₆ 116 000</td>
</tr>
<tr>
<td>Albumin bovine (BSA)</td>
<td>M₆ 67 000</td>
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<tr>
<td>Ovalbumin</td>
<td>M₆ 45 000</td>
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<tr>
<td>Carbonic anhydrase</td>
<td>M₆ 29 000</td>
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<tr>
<td>Trypsin inhibitor (soybean)</td>
<td>M₆ 21 000</td>
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<tr>
<td>Lysozyme</td>
<td>M₆ 14 300</td>
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<tr>
<td>Aprotinin</td>
<td>M₆ 6 500</td>
</tr>
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</table>

Coomassie = registered trademark of ICI Ltd.
SERVA Prestained SDS PAGE Protein Marker
6.5 - 200 kDa, Liquid Mix

- Compatibel with all common gel electrophoresis buffer systems and mass spectrometry
- Wide dynamic and linear range
- Very high sensitivity, very low background
- Broad protein concentration range
- Simple and fast pre-labelling of proteins for SDS PAGE and Western Blotting

Depending on the used protocol sufficient for 250 - 1250 lanes - no matter what size of gel (mini, wide or large format) you use. Depending on the used protocol sufficient for 250 - 1250 lanes - no matter what size of gel (mini, wide or large format) you use.

SERVA PRIME Lightning Red

Storage temperature +2 °C to +8 °C

Cat.No. Size
39216.01 2 x 250 ml

SERVA ProteinStain Fluo-Y solution, 100x
(Photomultiplier staining)

Storage temperature +2 °C to +8 °C

Cat.No. Size
43402.01 1 kL

SERVA ProteinStain Fluo-4 powder
473/488 nm. Excitation with laser light of wave length 532 nm is as well possible, but less sensitive.

C6H5N2O4S6•Na4Ru  M 1664.5
WGK 2L  HS 28439090

SERVA ProteinStain Fluo-R is a highly sensitive fluorescent dye for detection of proteins in e. g. SDS PAGE, native PAGE or 2D gels. The dye does not interfere with immunodetection. Therefore you can stain your gel with SERVA ProteinStain Fluo-R and then proceed with Western Blotting receiving a copy of your gel on the membrane.

The dye can as well be used for pre-staining, just use it in the loading buffer instead of bromophenol blue or other dyes.

It is as sensitive as silver staining, but has superior staining properties, which makes it the first choice for proteomic research. The dye has a good linearity, high contrast and is compatible with MS/MS analysis. The staining can be as well combined with silver staining and DIGE.

The dye is best excited with blue light of wave length 473/488 nm. Excitation with laser light of wave length 532 nm is as well possible, but less sensitive.

SERVA ProteinStain Fluo-R

Storage temperature +2 °C to +8 °C

Concentrate of SERVA ProteinStain Fluo-R (cat. no. 35090). Dilute 1:1000 to receive a 1 μM staining solution.

SERVA ProteinStain Fluo-R is a highly sensitive fluorescent dye for detection of proteins in e. g. SDS PAGE, native PAGE or 2D gels. The dye does not interfere with immunodetection. Therefore you can stain your gel with SERVA ProteinStain Fluo-R and then proceed with Western Blotting receiving a copy of your gel on the membrane.

The dye can as well be used for pre-staining, just use it in the loading buffer instead of bromophenol blue or other dyes.

It is as sensitive as silver staining, but has superior staining properties, which makes it the first choice for proteomic research. The dye has a good linearity, high contrast and is compatible with MS/MS analysis. The staining can be as well combined with silver staining and DIGE.

The dye is best excited with blue light of wave length 473/488 nm. Excitation with laser light of wave length 532 nm is as well possible, but less sensitive.

SERVA ProteinStain Fluo-R

Storage temperature +2 °C to +8 °C

Concentrate of SERVA ProteinStain Fluo-R (cat. no. 35090). Dilute 1:1000 to receive a 1 μM staining solution.

SERVA ProteinStain Fluo-R is a highly sensitive fluorescent dye for detection of proteins in e. g. SDS PAGE, native PAGE or 2D gels. The dye does not interfere with immunodetection. Therefore you can stain your gel with SERVA ProteinStain Fluo-R and then proceed with Western Blotting receiving a copy of your gel on the membrane.

The dye can as well be used for pre-staining, just use it in the loading buffer instead of bromophenol blue or other dyes.

It is as sensitive as silver staining, but has superior staining properties, which makes it the first choice for proteomic research. The dye has a good linearity, high contrast and is compatible with MS/MS analysis. The staining can be as well combined with silver staining and DIGE.

The dye is best excited with blue light of wave length 473/488 nm. Excitation with laser light of wave length 532 nm is as well possible, but less sensitive.

SERVA ProteinStain Fluo-R

Storage temperature +2 °C to +8 °C

Concentrate of SERVA ProteinStain Fluo-R (cat. no. 35090). Dilute 1:1000 to receive a 1 μM staining solution.

SERVA ProteinStain Fluo-R is a highly sensitive fluorescent dye for detection of proteins in e. g. SDS PAGE, native PAGE or 2D gels. The dye does not interfere with immunodetection. Therefore you can stain your gel with SERVA ProteinStain Fluo-R and then proceed with Western Blotting receiving a copy of your gel on the membrane.

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The dye is best excited with blue light of wave length 473/488 nm. Excitation with laser light of wave length 532 nm is as well possible, but less sensitive.
**SERVA Proteome Markers**

HS 38220000  
Storage temperature -15 °C to -25 °C  
5 vials of marker proteins, lyophilized, approx. 5 -10 applications per vial for 2D electrophoresis.

pl ->

Kindly provided by the organization of the „10. Arbeitstagung Mikromethoden in der Proteomchemie“ in 2003, Martinsried, Germany

**Glucose oxidase (Aspergillus niger)**  
M₉ 77 000  
**Albumin (bovine)**  
M₉ 67 000  
**Catalase**  
M₉ 58 000  
**Lipase (from bacteria)**  
M₉ 32 000 (subunits)  
**β-Lactoglobulin (bovine)**  
M₉ 18 400  
**Myoglobin (horse)**  
M₉ 17 800  
**Cytochrome C (horse)**

Mr 77 000  
Mr 67 000  
Mr 58 000  
Mr 33 000  
Mr 32 000 (subunits)  
Mr 18 400  
Mr 17 800  
Mr 11 700

**SERVA Purple Protein Quantification Assay**

HS 38220000  
Storage temperature -15 °C to -25 °C  
The assay bases on the eco-friendly fluorescent dye SERVA Purple. The dye reversibly binds to lysine, arginine, and histidine residues in proteins and peptides to yield an intensely red-fluorescent product (lₐ 518 nm, lₑ 610 nm). The assay exhibits very low protein binding variation, leading to more accurate protein concentration values.

- Fast and simple - no heating and reduction steps, completed in 1 h  
- Accurate staining of glyco-, phospho-, hydrophobic proteins and peptides  
- Single tube and 96- or 384-well-format for high-throughput  
- Detection limit of 100 ng/ml for peptides and 40 ng/ml for proteins  
- Linear quantification over 4 orders of magnitude  
- Compatible with downstream applications like 1D- and 2D-PAGE, MS, DIGE-labeling, HPLC

**SERVA Recombinant SDS PAGE Protein Marker**

**10 - 150 kDa, Liquid Mix**

HS 38220000  
Storage temperature -15 °C to -25 °C  
Ready-to-use. Recombinant proteins ranging from 10 kDa to 150 kDa.

After gently warming the protein standard solution to room temperature, apply 5 µl per lane when staining with SERVA Blue G, SERVA Blue R or Coomassie®. For silver staining, e.g. using SERVA’s Silver Staining Kit (cat.no. 35076), dilute 1:5 in 1x Laemmli Buffer and apply 5 µl. The proteins are represented in quantities to guarantee an equal distribution in band intensity, the protein content is approx. 0.1 - 0.2 mg/ml. The proteins are stored in 50 mM TrisHCl, 10 mM DTT, 2 % SDS, 0.1 % bromophenol blue, pH 6.8.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
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</table>

**SERVA Recombinant SDS PAGE Protein Marker**

**10 - 150 kDa PLUS, Liquid Mix**

HS 38220000  
Storage temperature -15 °C to -25 °C  
Ready-to-use. Recombinant proteins ranging from 10 kDa to 150 kDa including one prestained band at approx. 30 kDa.

After gently warming the protein standard solution to room temperature, apply 5 µl per lane when staining with SERVA Blue G, SERVA Blue R or Coomassie®. For silver staining, e.g. using SERVA’s Silver Staining Kit (cat.no. 35076), dilute 1:5 in 1x Laemmli Buffer and apply 5 µl. The proteins are represented in quantities to guarantee an equal distribution in band intensity, the protein content is approx. 0.1 - 0.2 mg/ml. The proteins are stored in 50 mM TrisHCl, 10 mM DTT, 2 % SDS, 0.1 % bromophenol blue, pH 6.8.

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</table>

DANGER  
H225-H302-H312-H319-H332  
IATA 3 II UN1648  
WGK 2L  
HS 38220000  
Storage temperature -15 °C to -25 °C  
The fluorescent dye Deep Purple (marketed by GE) and LavaPurple (marketed by Gelcompany and SERVA) has been used by many laboratories for staining proteins in gels and on blotting membranes. The dye is based on a small naturally occurring fluorescent compound “Epicocconone” that reversibly binds to lysine, arginine, and histidine residues in proteins and peptides to yield an intensely red-fluorescent product. SERVA Purple is a further development of this compound “Epicocconone”. It has improved properties due to a novel production and purification technology by unchanged cost-effectiveness compared to other fluorescence dyes or even silver staining.

- Environmentally friendly, easy to use  
- Sensitivity to as low as 50 pg/band  
- Linear quantification over 4 orders of magnitude  
- Compatible with MS, DIGE-labeling  
- After imaging gel can be further processed by Western Blotting

**SERVA Recombinant SDS PAGE Protein Marker**

**10 - 150 kDa, Liquid Mix**

HS 38220000  
Storage temperature -15 °C to -25 °C  
Ready-to-use. Recombinant proteins ranging from 10 kDa to 150 kDa.

After gently warming the protein standard solution to room temperature, apply 5 µl per lane when staining with SERVA Blue G, SERVA Blue R or Coomassie®. For silver staining, e.g. using SERVA’s Silver Staining Kit (cat.no. 35076), dilute 1:5 in 1x Laemmli Buffer and apply 5 µl. The proteins are represented in quantities to guarantee an equal distribution in band intensity, the protein content is approx. 0.1 - 0.2 mg/ml. The proteins are stored in 50 mM TrisHCl, 10 mM DTT, 2 % SDS, 0.1 % bromophenol blue, pH 6.8.

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<td>4 x 25 ml</td>
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**SERVA Recombinant SDS PAGE Protein Marker**

**10 - 150 kDa PLUS, Liquid Mix**

HS 38220000  
Storage temperature -15 °C to -25 °C  
Ready-to-use. Recombinant proteins ranging from 10 kDa to 150 kDa including one prestained band at approx. 30 kDa.

After gently warming the protein standard solution to room temperature, apply 5 µl per lane when staining with SERVA Blue G, SERVA Blue R or Coomassie®. For silver staining, e.g. using SERVA’s Silver Staining Kit (cat.no. 35076), dilute 1:5 in 1x Laemmli Buffer and apply 5 µl. The proteins are represented in quantities to guarantee an equal distribution in band intensity, the protein content is approx. 0.1 - 0.2 mg/ml. The proteins are stored in 50 mM TrisHCl, 10 mM DTT, 2 % SDS, 0.1 % bromophenol blue, pH 6.8.

<table>
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<td>43386.01</td>
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</tr>
<tr>
<td>43386.02</td>
<td>4 x 25 ml</td>
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</table>
#### SERVA Silver Staining Kit Native PAGE for 25 gels

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<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>35077.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

Silver staining kit for easy and rapid staining of proteins after native PAGE, e.g. of IEF gels:
- Contains everything needed for fixation and staining
- Fast staining procedure (45 - 60 min.)
- Very low background
- High sensitivity
- With detailed staining manual
- For 25 applications

#### SERVA Silver Staining Kit SDS PAGE for 25 gels

<table>
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<tbody>
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Silver staining kit for easy and rapid staining of proteins after SDS PAGE:
- Contains everything needed for fixation and staining
- Fast staining procedure (45 - 60 min.)
- Very low background
- High sensitivity
- With detailed staining manual
- For 25 applications

#### SERVA Streptavidin Agarose Resin

HS 38220000
Storage temperature +2 °C to +8 °C

High specific activity streptavidin immobilized on 6 % highly crosslinked agarose for easy isolation of biotinylated biomolecules and cell sorting. The superior coupling chemistry used to prepare this resin leads to a higher binding capacity with lower non-specific binding and less leaching. Handling is easy and identical to standard protocols of other manufacturers, therefore there is no need to change established protocols. Suitable for batch and column purification.

Binding capacity: > 120 nmol biotin/ml gel

#### SERVA TBE Clear G Agarose Tablets

HS 38220000

SERVA TBE Clear G Agarose Tablets are fast-solving tablets which not only contain TBE buffer but as well the non-carcinogenic, sensitive fluorescence dye DNA Stain Clear G. Just add water, solve the agarose and your agarose gel is ready!

#### SERVA Triple Color Protein Standard II

Storage temperature -15 °C to -25 °C

SERVA Triple Color Protein Standard II is a mixture of 10 pre-stained proteins of a molecular weight range from 11 to 180 kDa (separation on a SDS Tris-glycine gel). Proteins are covalently coupled with a blue chromophore except for one green band at 25 kDa and one red band at 75 kDa (separation on a SDS Tris-glycine gel).

It is provided in a ready-to-use formula and no heating, further dilution or adding of reducing reagents is necessary before use. SERVA Triple Color Protein Standard II is designed for monitoring protein separation during SDS PAGE, verification of Western Blotting transfer efficiency and for approximate sizing of proteins. The marker is stable for up to two weeks at 25 °C and for up to 3 months at 4 °C. Recommended loading volume for a mini gel is 3 – 5 µl/lane.

#### SERVA Triple Color Protein Standard III

Storage temperature -15 °C to -25 °C

SERVA Triple Color Protein Standard III is a mixture of 13 pre-stained proteins of a molecular weight range from 5 to 245 kDa (separation on a SDS Tris-glycine gel). Proteins are covalently coupled with a blue chromophore except for one green band at 25 kDa and one red band at 75 kDa (separation on a SDS Tris-Glycine gel).

It is provided in a ready-to-use formula and no heating, further dilution or adding of reducing reagents is necessary before use. SERVA Triple Color Protein Standard III is designed for monitoring protein separation during SDS PAGE, verification of Western Blotting transfer efficiency and for approximate sizing of proteins. The marker is stable for up to two weeks at 25 °C and for up to 3 months at 4 °C. Recommended loading volume for a mini gel is 3 – 5 µl/lane.

#### SERVA Tris-Glycine Native Electrophoresis Buffer (10x)

HS 38220000
Running buffer for native PAGE. Supplied as 10 x concentrate. Contains 250 mM Tris, 1.92 M glycine.

#### SERVA Tris-Glycine Native Sample Buffer (2x)

HS 38220000
Storage temperature +2 °C to +8 °C

Sample buffer for native PAGE. Supplied as 2 x concentrate. Contains 126 mM Tris/HCl (pH 6.8), 20 % glycerol and 0.02 % bromophenol blue.
**SERVA Tris-Glycine/LDS Sample Buffer (4x)**

- **Cat.No.** 42552.01 10 ml

  Storage temperature +2 °C to +8 °C

  Modified sample buffer for SDS PAGE. Delivered as 4x concentrate. Lithium dodecyl sulfate (LDS) replaces the commonly used sodium dodecyl sulfate (SDS) in the triethanolamine buffered sample buffer. LDS prevents degradation of proteins during sample preparation and heating and stabilizes the pH of the sample during gel run. It does not crystallize at lower temperatures due to significantly better solubility than SDS. Hence, protein stability as well as band resolution is significantly enhanced by cooled gel runs. For reducing the concentrations the sample buffer may be supplemented with 10 mM DTT or 5 % β-mercaptoethanol (end concentration 1x sample buffer).

  Contains:
  - Triethanolamine buffered, 40 % glycerol, 4 % Ficoll® 400, 4 % LDS, 0.025 % phenol red and 0.025 % bromophenol.

**SERVA Tris-Glycine/SDS Electrophoresis Buffer (10x)**

- **Cat.No.** 42551.01 20 ml

  Storage temperature +2 °C to +8 °C

  The buffer contains 126 mM Tris/HCl (pH 6.8), 20 % glycerol, 4 % SDS and 0.025 % bromophenol.

  **SERVA Unstained Protein Standard II**

  - **Cat.No.** 39248.01 500 µl

  **SERVA Unstained Protein Standard III**

  - **Cat.No.** 39249.01 500 µl

  **SERVA Unstained Protein Standard IV**

  - **Cat.No.** 39250.01 500 µl

**SERVA UV-Table CI**

- **Cat.No.** UV-CI 1 piece

  UV table with wavelength of 254 nm and filter size of 22 x 28 cm. Suitable for digital image analysis. Stainless steel filter frame and robust steel housing. Homogeneous UV light for uniform illumination of samples and high UV intensity due to the use of reflectors made of refined aluminium.
SERV PRODUCTS A - Z

SERVA UV-Table C II 312 nm, 22 x 28 cm, w. Lid for DIAS-II

UV table with wavelength of 312 nm and filter size of 22 x 28 cm. Suitable for digital image analysis, preparation of nucleic acids and other daily routine work. Stainless steel filter frame and robust steel housing. Homogeneous UV light for uniform illumination of samples and high UV intensity due to the use of reflectors made of refined aluminium. Applicable as a white or blue light table in combination with the UV/WL or UV/BL converter screen (cat. nos. UV-WLC, UV-BLC). The removable adjustable UV protection shield is adapted to the special needs when used in combination with the SERVA Digital Imaging and Analysis System III (DIAS-III).

SERVA Violet 17 (Acid Violet 17; COOMASSIE® Violet R-150)

HS 90278017

White light table with filter size of 22 x 28 cm. Suitable for digital image analysis and other daily routine work. Stainless steel filter frame and robust steel housing. Homogeneous UV light for uniform illumination of samples and high UV intensity due to the use of reflectors made of refined aluminium. The lid serves as removable adjustable UV protection shield. Applicable as a white or blue light table in combination with the UV/WL or UV/BL converter screen (cat. nos. UV-WLC, UV-BLC).

SERVA UV-Table CIIIL

HS 90278017

UV table with wavelength of 312 nm and filter size of 22 x 28 cm. Suitable for digital image analysis, preparation of nucleic acids and other daily routine work. Stainless steel filter frame and robust steel housing. Homogeneous UV light for uniform illumination of samples and high UV intensity due to the use of reflectors made of refined aluminium. The lid serves as removable adjustable UV protection shield. Applicable as a white or blue light table in combination with the UV/WL or UV/BL converter screen (cat. nos. UV-WLC, UV-BLC).

SERVA Violet 17 Staining Kit

The SERVA Violet 17 Staining Kit is suited to stain all vertical and horizontal gels after isoelectric focusing (IEF). The kit is convenient, safe and easy to use and contains everything needed for fixation, staining and destaining.

SERVA WL-Table 22 x 28 cm

White light table with filter size of 22 x 28 cm. Suitable for digital image analysis and other daily routine work. Stainless steel filter frame and robust steel housing.

SERVA Zn-IDA HD Agarose Resin

High density zinc-iminodiacetic acid (IDA) crosslinked agarose resin for low pressure affinity chromatography. The high amount of available zinc chelate groups allows for high binding capacity. Zinc chelates recognize two exposed histidine tags in vicinal position with higher specificity, but lower affinity than nickel chelates. Therefore a zinc charged matrix is recommended for purification of proteins more difficult to separate. Zn-IDA agarose resin is optimal for purification of zinc finger proteins, either via the His-tag or via direct interaction of the zinc binding motive with the IDA ligand. Suitable for batch or column purifications.

VisiBlot Standard I

VisiBlot Standard I is a mixture of 10 recombinant proteins of a molecular weight range from 25 kDa to 150 kDa. Protein bands of 25 kDa, 45 kDa and 85 kDa are prestained allowing monitoring of protein separation during SDS PAGE. The remaining five proteins contain several IgG binding sites. Hence marker proteins bind to primary or secondary antibodies used in Western Blotting facilitating easy marker visualization on the transfer membrane. Because the proteins have no chromophore attached, the marker enables accurate molecular weight estimation. Recommended loading volume for a mini gel is 5 µl/lane.

Zn-IDA HD Agarose Resin

HS 38220000

For binding/loading capacity: 20 - 40 mg of protein per column or batch. Suitable for purification of zinc finger proteins, either via the His-tag or via direct interaction of the zinc binding motive with the IDA ligand. Suitable for batch or column purifications.

SERVA Zn-IDA HD Agarose Resin

High density zinc-iminodiacetic acid (IDA) crosslinked agarose resin for low pressure affinity chromatography. The high amount of available zinc chelate groups allows for high binding capacity. Zinc chelates recognize two exposed histidine tags in vicinal position with higher specificity, but lower affinity than nickel chelates. Therefore a zinc charged matrix is recommended for purification of proteins more difficult to separate. Zn-IDA agarose resin is optimal for purification of zinc finger proteins, either via the His-tag or via direct interaction of the zinc binding motive with the IDA ligand. Suitable for batch or column purifications.

Recommended loading volume for a mini gel is 5 µl/lane.

VisiBlot Standard I

Recommended loading volume for a mini gel is 5 µl/lane.

Zn-IDA HD Agarose Resin

Recommended loading volume for a mini gel is 5 µl/lane.

Storage temperature -15 °C to -25 °C

Recommended loading volume for a mini gel is 5 µl/lane.

Zn-IDA HD Agarose Resin

Recommended loading volume for a mini gel is 5 µl/lane.

www.serva.de
### SERVAcrom Protein Standard III

**HS 38220000**

Storage temperature: -15 °C to -25 °C

SERVAcrom Protein Standard III is a mixture of 10 recombinant purified and prestained polypeptides. The molecular weights are well-adjusted ranging from 7 to 240 kDa:

- 240 kDa
- 140 kDa
- 100 kDa
- 70 kDa
- 50 kDa
- 35 kDa
- 25 kDa
- 20 kDa
- 15 kDa
- 7 kDa

It is provided preblended in a ready-to-use formula and no reconstitution or further dilution is necessary before use. For SERVAcrom Protein Standard III, 6 different dyes offer a good contrast so the prestained proteins are visible during electrophoresis or electrophoretic transfer from the gel to membrane.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>43265.01</td>
<td>500 µl</td>
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### SERVAscanner Protein Standard III

**HS 38220000**

Storage temperature: -15 °C to -25 °C

SERVAscanner Protein Standard III is a mixture of 6 recombinant purified and prestained polypeptides. The molecular weights are well-adjusted ranging from 7 to 150 kDa:

- 150 kDa
- 100 kDa
- 70 kDa
- 50 kDa
- 30 kDa
- 20 kDa
- 15 kDa
- 7 kDa

It is provided preblended in a ready-to-use formula and no reconstitution or further dilution is necessary before use. For SERVAscanner Protein Standard III, 6 different dyes offer a good contrast so the prestained proteins are visible during electrophoresis or electrophoretic transfer from the gel to membrane.

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<tr>
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<td>500 µl</td>
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### SERVAGel™ TG PRIME™ 8 % precast gel, 10 sample wells

**HS 38220000**

Storage temperature: +2 °C to +8 °C

Obtained from proprietary development, the precast gel SERVAGel™ TG PRIME™ 8 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 40 up to 250 kDa.

<table>
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<td>10 gels</td>
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### SERVAGel™ TG PRIME™ 10 % precast gel, 10 sample wells

**HS 38220000**

Storage temperature: +2 °C to +8 °C

Obtained from proprietary development, the precast gel SERVAGel™ TG PRIME™ 10 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 40 up to 250 kDa.

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### SERVAGel™ TG PRIME™ 12 % precast gel, 10 sample wells

**HS 38220000**

Storage temperature: +2 °C to +8 °C

Obtained from proprietary development, the precast gel SERVAGel™ TG PRIME™ 12 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 20 up to 150 kDa.

<table>
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<tbody>
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### SERVAGel™ TG PRIME™ 8 % precast gel, 12 sample wells

**HS 38220000**

Storage temperature: +2 °C to +8 °C

Obtained from proprietary development, the precast gel SERVAGel™ TG PRIME™ 8 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 40 up to 250 kDa.

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<td>43260.01</td>
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### SERVAGel™ TG PRIME™ 10 % precast gel, 12 sample wells

**HS 38220000**

Storage temperature: +2 °C to +8 °C

Obtained from proprietary development, the precast gel SERVAGel™ TG PRIME™ 10 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 40 up to 250 kDa.

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<td>43263.01</td>
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### SERVAGel™ TG PRIME™ 12 % precast gel, 12 sample wells

**HS 38220000**

Storage temperature: +2 °C to +8 °C

Obtained from proprietary development, the precast gel SERVAGel™ TG PRIME™ 12 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 20 up to 150 kDa.

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<tr>
<td>43267.01</td>
<td>10 gels</td>
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### SERVColor TMB Blot Solution

**HS 38220000**

Storage temperature: +2 °C to +8 °C

Ready-to-use, non-toxic, highly sensitive substrate solution for detection of horseradish peroxidase (HRP) in membrane assays. Forms dark blue precipitates at the sites of HRP activity on membranes.

- Rapid precipitate formation due to high activity
- High contrast due to very low background
- Long term stability at room temperature
- No significant fading after reaction stop

<table>
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### SERVColor BCP/NBT Blot Solution

**HS 38220000**

Storage temperature: +2 °C to +8 °C

Ready-to-use, non-toxic, highly sensitive substrate solution for detection of alkaline phosphatase (AP) in membrane assays. Forms dark purple precipitates at the sites of AP activity on membranes.

- Rapid precipitate formation due to high activity
- High contrast due to very low background
- No significant fading after reaction stop

<table>
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<tr>
<th>Cat.No.</th>
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<tr>
<td>39255.01</td>
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</tbody>
</table>

### SERVA Zn-IDA LD Agarose Resin

**HS 38220000**

Low density zinc-iminodiacetic acid (IDA) crosslinked agarose resin for low pressure affinity chromatography. The lower amount of available zinc chelate groups allows for higher selectivity specificity in the binding of the tagged-protein. Zinc chelates recognize two exposed histidine tags in vicinal position with higher specificity, but lower affinity as nickel chelates. Therefore a zinc charged matrix is recommended for purification of proteins more difficult to separate. Zn-IDA agarose resin is optimal for purification of zinc finger proteins, either via the His-tag or via direct interaction of the zinc binding motive with the IDA ligand. Suitable for batch or column purifications.

Blinding/loading capacity: 5 - 20 µmol Me²⁺/ml gel

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>43284.01</td>
<td>2 gels</td>
</tr>
<tr>
<td>43284.03</td>
<td>10 gels</td>
</tr>
</tbody>
</table>
SERVA GeT PiME  12 % precast gel, 12 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *
Obtained from proprietary development, the precast gel SERVA GeT PiME  12 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 20 up to 150 kDa.

Cat.No. | Size
--- | ---
43266.03 | 2 gels
43266.01 | 10 gels

SERVA GeT PiME  12 % precast gel, 15 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *
Obtained from proprietary development, the precast gel SERVA GeT PiME  12 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 20 up to 150 kDa.

Cat.No. | Size
--- | ---
43266.03 | 2 gels
43266.01 | 10 gels

SERVA GeT PiME  14 % precast gel, 2D well
HS 38220000
Storage temperature +2 °C to +8 °C *
Obtained from proprietary development, the precast gel SERVA GeT PiME  14 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 10 up to 100 kDa.

Cat.No. | Size
--- | ---
43268.03 | 2 gels
43268.01 | 10 gels

SERVA GeT PiME  14 % precast gel, 10 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *
Obtained from proprietary development, the precast gel SERVA GeT PiME  14 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 10 up to 100 kDa.

Cat.No. | Size
--- | ---
43270.03 | 2 gels
43270.01 | 10 gels

SERVA GeT PiME  14 % precast gel, 12 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *
Obtained from proprietary development, the precast gel SERVA GeT PiME  14 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 10 up to 100 kDa.

Cat.No. | Size
--- | ---
43269.03 | 2 gels
43269.01 | 10 gels

SERVA GeT PiME  14 % precast gel, 15 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *
Obtained from proprietary development, the precast gel SERVA GeT PiME  14 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 10 up to 100 kDa.

Cat.No. | Size
--- | ---
43287.03 | 2 gels
43287.01 | 10 gels

SERVA GeT PiME  14 % precast gel, 2D well
HS 38220000
Storage temperature +2 °C to +8 °C *
Obtained from proprietary development, the precast gel SERVA GeT PiME  14 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system. The 2D gel has one very planar slot for optimum transfer of proteins in the second dimension. For the first dimension IPG strips of 7 cm length can be used. The separation distance is 7 cm.

Cat.No. | Size
--- | ---
43271.03 | 2 gels
43271.01 | 10 gels

SERVA GeT PiME  4 - 12 % precast gel, 10 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *
Obtained from proprietary development, SERVA GeT PiME  4 - 12 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 30 up to 300 kDa.

Cat.No. | Size
--- | ---
43273.03 | 2 gels
43273.01 | 10 gels

SERVA GeT PiME  4 - 12 % precast gel, 12 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *
Obtained from proprietary development, SERVA GeT PiME  4 - 12 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 30 up to 300 kDa.

Cat.No. | Size
--- | ---
43274.03 | 2 gels
43274.01 | 10 gels

SERVA GeT PiME  4 - 12 % precast gel, 15 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *
Obtained from proprietary development, SERVA GeT PiME  4 - 12 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 30 up to 300 kDa.

Cat.No. | Size
--- | ---
43275.03 | 2 gels
43275.01 | 10 gels

SERVA GeT PiME  4 - 20 % precast gel, 10 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *
Obtained from proprietary development, SERVA GeT PiME  4 - 20 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 6 up to 200 kDa.

Cat.No. | Size
--- | ---
43276.03 | 2 gels
43276.01 | 10 gels

SERVA GeT PiME  4 - 20 % precast gel, 12 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *
Obtained from proprietary development, SERVA GeT PiME  4 - 20 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 6 up to 200 kDa.

Cat.No. | Size
--- | ---
43277.03 | 2 gels
43277.01 | 10 gels

www.serva.de
be operated under native and denaturing conditions. The separation range is from 6 up to 200 kDa.

<table>
<thead>
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<th>Cat.No.</th>
<th>Size</th>
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<tr>
<td>43289.03</td>
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<tr>
<td>43289.01</td>
<td>10 gels</td>
</tr>
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</table>

**SERVaGel® TG PRiME® 8 - 16 % precast gel, 10 sample wells**

HS 38220000
Storage temperature +2 °C to +8 °C

Obtained from proprietary development, SERVaGel® TG PRiME® 8 - 16 % features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 20 up to 250 kDa.

<table>
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<td>43290.01</td>
<td>10 gels</td>
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</table>

**SERVaGel® Neutral HSE precast gel, 10 sample wells**

HS 38220000
Storage temperature +2 °C to +8 °C

The precast gel SERVaGel® Neutral HSE is a specially for High Speed Electrophoresis developed version of the SERVaGel® Neutral pH 7.4 Gradient (cat. no. 43223). With the standard SDS-Tris-Glycine buffer system (Laemmli) it can be operated at 400 V, which reduces the electrophoresis time to 20 min.

The separation range is from 6.5 up to 200 kDa.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
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<td>2 gels</td>
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<td>43246.01</td>
<td>10 gels</td>
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</table>

**SERVaGel® Neutral HSE precast gel, 12 sample wells**

HS 38220000
Storage temperature +2 °C to +8 °C

The precast gel SERVaGel® Neutral HSE is a specially for High Speed Electrophoresis developed version of the SERVaGel® Neutral pH 7.4 Gradient (cat. no. 43221). With the standard SDS-Tris-Glycine buffer system (Laemmli) it can be operated at 400 V, which reduces the electrophoresis time to 20 min.

The separation range is from 6.5 up to 200 kDa.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<td>43245.01</td>
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**SERVaGel® Neutral HSE precast gel, 15 sample wells**

HS 38220000
Storage temperature +2 °C to +8 °C

The precast gel SERVaGel® Neutral HSE is a specially for High Speed Electrophoresis developed version of the SERVaGel® Neutral pH 7.4 Gradient (cat. no. 43223). With the standard SDS-Tris-Glycine buffer system (Laemmli) it can be operated at 400 V, which reduces the electrophoresis time to 20 min.

The separation range is from 6.5 up to 200 kDa.

<table>
<thead>
<tr>
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<td>43249.01</td>
<td>10 gels</td>
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</tbody>
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**SERVaGel® Neutral HSE, 2D precast gel, 2D well**

HS 38220000
Storage temperature +2 °C to +8 °C

The precast gel SERVaGel® Neutral HSE, 2D well is a specially for High Speed Electrophoresis developed version of the SERVaGel® Neutral pH 7.4 Gradient. With the standard SDS-Tris-Glycine buffer system (Laemmli) two 2D gels can be operated at 300 V, which reduces the electrophoresis time to 40 min.

For the first dimension IPG strips of 7 cm length can be used. The separation distance is 7 cm.

<table>
<thead>
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<td>10 gels</td>
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</table>

**SERVaGel® Neutral HSE Starter Kit 12 sample wells**

HS 38220000
Storage temperature +2 °C to +8 °C

Contains 4 SERVaGel® Neutral HSE precast gels with 12 sample wells (cat. no. 43245), 400 ml 10x Laemmli Running Buffer (cat. no. 42556), 1 ml 2x Tris/Glycine-SDS Sample Buffer (cat. no. 42527), DTT (cat. no. 20710), 310 mg to be dissolved in 1 ml H₂O) and 50 μl SERVA Unstained SDS PAGE Protein Marker (cat. no. 39215).

<table>
<thead>
<tr>
<th>Cat.No.</th>
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<td>1 kit</td>
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</tbody>
</table>

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SERPRODUCTS A - Z

www.serva.de
SERVA® Neutral pH 7.4 precast gel, 10 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *

The precast gel SERVA® Neutral pH 7.4 can be operated with various buffer systems such as Tris-Glycine, MOPS-Tris, Tris-Tricine. The separation range is from 6.5 up to 200 kDa. Obtained from proprietary development, the SERVA® Neutral pH 7.4 features extended shelf life due to its neutral buffer system.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>43222.03</td>
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<tr>
<td>43222.01</td>
<td>10 gels</td>
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</table>

SERVA® Neutral pH 7.4 Gradient precast gel, 15 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *

The precast gel SERVA® Neutral pH 7.4 Gradient has all advantages of the SERVA® Neutral pH 7.4 (cat. no. 43222) but shows even better resolution performance for proteins of low molecular weight (from 5 kDa up to approx. 100 kDa), separation range is from 5 kDa up to 200 kDa. To improve resolution and sharpness of protein bands gels should be run using SERVA Tris-Tricine/SDS Running Buffer (cat. no. 42552), samples should be dissolved in Tris-Tricine/SDS Sample Buffer (cat. no. 42551).

<table>
<thead>
<tr>
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<td>43223.01</td>
<td>10 gels</td>
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</tbody>
</table>

SERVA® Neutral pH 7.4 Gradient precast gel, 10 sample wells
HS 38220000
Storage temperature +2 °C to +8 °C *

The precast gel SERVA® Neutral pH 7.4 Gradient has all advantages of the SERVA® Neutral pH 7.4 (cat. no. 43222) but shows even better resolution performance for proteins of low molecular weight (from 5 kDa up to approx. 100 kDa), separation range is from 5 kDa up to 200 kDa. To improve resolution and sharpness of protein bands gels should be run using SERVA Tris-Tricine/SDS Running Buffer (cat. no. 42552), samples should be dissolved in Tris-Tricine/SDS Sample Buffer (cat. no. 42551).

<table>
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<td>43252.01</td>
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</tbody>
</table>

www.serva.de
SERVAgel® N 4-16, Vertical Native Gel 4 - 16 %
precast gel, 15 sample wells
HS 38200000
Storage temperature +2 °C to +8 °C *

The precast gel SERVAgel® N 4 - 16 can be operated with the Blue and Clear Native buffer systems. Also included in the SERVAgel® N Native Starter Kit (cat. no. 43204) containing buffers and reagents for Blue and Clear Native gel electrophoresis.

SERVAgel® N Native Starter Kit
HS 38200000
Storage temperature +2 °C to +8 °C *

Contains:
2 precast gels SERVAgel® N 3 - 12, Vertical Native Gels 3 - 12 %
2 precast gels SERVAgel® N 4 - 16, Vertical Native Gels 4 - 16 %
250 ml 10x Native Anode Buffer for BN/CN (cat. no. 42535)
250 ml 10x Native Cathode Buffer for BN/CN (cat. no. 42538)
50 µl SERVA Native Marker Liquid Mix for BN/CN (cat. no. 43204)
2 ml Sample Buffer for Blue Native (2x) (cat. no. 42533)
2 ml Sample Buffer for Clear Native (2x) (cat. no. 42534)
5 ml SERVA Blue G Solution for BN, 1 % (cat. no. 42538)

IEF 3 - 10 is suitable for isoelectric focusing (IEF) in a pH range of 3 to 8.5 (Standard IEF) and 5.5 to 11 (non-equilibrium pH gradient electrophoresis, NEPHGE). For NEPHGE you change cathode and anode buffer as well as polarity of the electrophoresis chamber. In contrast to standard IEF, samples are loaded anodic, which enables an optimal separation of basic to very basic proteins.

IEF 4 - 7 is suitable for operation under native or denaturing conditions. The concentration of the acrylamide matrix is 5 % T, 3 % C, SERVALYT™ content is approx. 3 %.

IEF 4 - 7 can be operated under native or denaturing conditions. The concentration of the acrylamide matrix is 5 % T, 3 % C, SERVALYT™ content is approx. 3 %.

SERVAgel® IEF 4 - 7 precast gel, 12 sample wells
HS 38200000
Storage temperature +2 °C to +8 °C *

Contains:
4 SERVAgel® IEF precast gels of your choice (cat. no. 43240 or 43242)
SERVA IEF Anode Buffer (1x, powder for 2.5 L buffer, cat. no. 42539)
SERVA IEF Cathode Buffer 3-10 (10x, powder for 100 ml buffer, cat. no. 42539)
IEF Sample Buffer (2x 1 ml, cat. no. 42537)
SERVA Violet 17 (0.5 g, cat. no. 35072)
SERVA IEF Marker 3-10, Liquid Mix (30 µl, cat. no. 39212)

SERVAgel® IEF Running Buffer Kit
HS 38200000
Storage temperature +2 °C to +8 °C *

Running Buffer Kit for SERVAgel® IEF 3-10.
Contains:
SERVA IEF Anode Buffer (1x, powder for 5 L buffer)
SERVA IEF Cathode Buffer 3-10 (10x, powder for 200 ml buffer)
**SERVALight Polaris CL HRP WB Substrate Kit**

*HS 38220000*

Storage temperature +2 °C to +8 °C

Highly sensitive enhanced chemiluminescence kit for the detection of immobilized proteins (Western Blot) or immobilized nucleic acids (Southern and Northern Blot) labelled directly with Horseradish Peroxidase (HRP) or indirectly with HRP-labelled antibodies/streptavidin.

The substrate is readily prepared by mixing component A (luminol/enhancer solution) with component B (stabilized peroxide solution) in a one-to-one ratio.

- High sensitivity, low picogram limit of detection
- Long light emission for 12 hours
- Secondary antibody dilution 1:25.000 – 1:150.000
- Primary antibody dilution 1:100 -1:5000
- Detection can be done by film or CCD imaging equipment

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
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<td>200 ml</td>
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</table>

**SERVALight Helios CL HRP WB Substrate Kit**

*HS 38220000*

Storage temperature +2 °C to +8 °C

Extremely sensitive enhanced chemiluminescence kit for the detection of immobilized proteins (Western Blot) or immobilized nucleic acids (Southern and Northern Blot) labelled directly with Horseradish Peroxidase (HRP) or indirectly with HRP-labelled antibodies/streptavidin.

The substrate is readily prepared by mixing component A (luminol/enhancer solution) with component B (stabilized peroxide solution) in a one-to-one ratio.

- Extreme sensitivity, low femtogram limit of detection
- Long light emission for 8 hours
- Primary antibody dilution 1:50.000 – 1:500.000
- Secondary antibody dilution 1:100.000
- Detection can be done preferably by CCD imaging equipment or film

<table>
<thead>
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<th>Size</th>
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<td>500 ml</td>
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**SERVALight Eos Ultra CL HRP WB Substrate Kit**

*HS 38220000*

Storage temperature +2 °C to +8 °C

The substrate is readily prepared by mixing component A (luminol/enhancer solution) with component B (stabilized peroxide solution) in a one-to-one ratio.

- Very high sensitivity, mid femtogram limit of detection
- Very long and steady light emission for 12 hours
- Secondary antibody dilution 1:25.000 – 1:150.000
- Primary antibody dilution 1:100 -1:5000
- Detection can be done by film or CCD imaging equipment

<table>
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<th>Size</th>
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<td>42589.03</td>
<td>200 ml</td>
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</table>

**SERVALight Vega CL HRP WB Substrate Kit**

*HS 38220000*

Storage temperature +2 °C to +8 °C

Highly sensitive enhanced chemiluminescence kit for the detection of immobilized proteins (Western Blot) or immobilized nucleic acids (Southern and Northern Blot) labelled directly with Horseradish Peroxidase (HRP) or indirectly with HRP-labelled antibodies/streptavidin.

The substrate is readily prepared by mixing component A (luminol/enhancer solution) with component B (stabilized peroxide solution) in a one-to-one ratio.

- High sensitivity, mid picogram limit of detection
- Directly compatible with protocols of standard ECL WB substrates of other vendors
- Low background, high signal/noise ratio
- Working solution is stable for minimum 5 days – reproducible results, less waste
- Primary antibody dilution 1:100 -1:5000
- Secondary antibody dilution 1:1000 – 1:15.000
- Detection can be done by film or CCD imaging equipment

<table>
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<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>42587.01</td>
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**SERVALYT** 2-4

(Carrier Ampholytes; Ampholytes)

*HS 38220000*

Storage temperature +2 °C to +8 °C

SERVALYT Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

<table>
<thead>
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**SERVALYT** 2-9 Seed-Mix

*HS 38220000*

Storage temperature +2 °C to +8 °C

SERVALYT Carrier Ampholytes (40 % w/v in water). Special quality for seed analysis by IEF.

SERVALYT is a trademark of SERVA.

<table>
<thead>
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<td>100 ml</td>
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</table>
SERVALYT** 2-11
HS 38220000
Storage temperature +2 °C to +8 °C
SERVALYT** Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.
SERVALYT is a trademark of SERVA.

Cat.No. Size
42900.01 10 ml
42900.02 25 ml

SERVALYT** 3-4
HS 38220000
Storage temperature +2 °C to +8 °C
SERVALYT** Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.
SERVALYT is a trademark of SERVA.

Cat.No. Size
42922.01 10 ml
42922.02 25 ml

SERVALYT** 3-5
HS 38220000
Storage temperature +2 °C to +8 °C
SERVALYT** Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.
SERVALYT is a trademark of SERVA.

Cat.No. Size
42903.04 2 ml
42903.01 10 ml
42903.02 25 ml

SERVALYT** 3-6
HS 38220000
Storage temperature +2 °C to +8 °C
SERVALYT** Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.
SERVALYT is a trademark of SERVA.

Cat.No. Size
42944.04 2 ml
42944.01 10 ml
42944.02 25 ml

SERVALYT** 3-7
HS 38220000
Storage temperature +2 °C to +8 °C
SERVALYT** Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.
SERVALYT is a trademark of SERVA.

Cat.No. Size
42945.01 10 ml
42945.02 25 ml

SERVALYT** 3-10
HS 38220000
Storage temperature +2 °C to +8 °C
SERVALYT** Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.
SERVALYT is a trademark of SERVA.

Cat.No. Size
42940.04 2 ml
42940.01 10 ml
42940.02 25 ml

SERVALYT** 3-10 Iso-Dalt, for 2D Electrophoresis
HS 38220000
Storage temperature +2 °C to +8 °C
Iso-Dalt quality; special 2D grade to be used in 2D electrophoresis.
SERVALYT is a trademark of SERVA.

Cat.No. Size
42951.04 2 ml
42951.01 10 ml
42951.02 25 ml

SERVALYT** 4-5
HS 38220000
Storage temperature +2 °C to +8 °C
SERVALYT** Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.
SERVALYT is a trademark of SERVA.

Cat.No. Size
42923.01 10 ml
42923.02 25 ml

SERVALYT** 4-6
HS 38220000
Storage temperature +2 °C to +8 °C
SERVALYT** Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.
SERVALYT is a trademark of SERVA.

Cat.No. Size
42904.04 2 ml
42904.01 10 ml
42904.02 25 ml

SERVALYT** 4-7
HS 38220000
Storage temperature +2 °C to +8 °C
SERVALYT** Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.
SERVALYT is a trademark of SERVA.

Cat.No. Size
42948.04 2 ml
42948.01 10 ml
42948.02 25 ml

SERVALYT** 4.2-4.9
HS 38220000
Storage temperature +2 °C to +8 °C
SERVALYT** Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.
SERVALYT is a trademark of SERVA.

Cat.No. Size
42926.01 10 ml
42926.02 25 ml

SERVALYT** 4-9 T
HS 38220000
Storage temperature +2 °C to +8 °C
Technical grade quality for preparative work. Formation of solid particle (quart. ammonium salts) can be found over time of storage at low temperature. This will not affect the separation as precipitate will dissolve upon dilution (working solution) or warming up to room temperature.
SERVALYT is a trademark of SERVA.

Cat.No. Size
42910.01 10 ml
42910.02 25 ml
42910.03 100 ml
**SERVALYT**

**5-6**  
 HS 38220000  
 Storage temperature +2 °C to +8 °C  
 SERVALYT™ Carrier Ampholytes (40 % w/v in water), Standard quality (analytical grade) for general use in IEF.  
 SERVALYT is a trademark of SERVA

<table>
<thead>
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**5-7**  
 HS 38220000  
 Storage temperature +2 °C to +8 °C  
 SERVALYT™ Carrier Ampholytes (40 % w/v in water), Standard quality (analytical grade) for general use in IEF.  
 SERVALYT is a trademark of SERVA

<table>
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**5-8**  
 HS 38220000  
 Storage temperature +2 °C to +8 °C  
 SERVALYT™ Carrier Ampholytes (40 % w/v in water), Standard quality (analytical grade) for general use in IEF.  
 SERVALYT is a trademark of SERVA

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**5-9**  
 HS 38220000  
 Storage temperature +2 °C to +8 °C  
 SERVALYT™ Carrier Ampholytes (40 % w/v in water), Standard quality (analytical grade) for general use in IEF.  
 SERVALYT is a trademark of SERVA

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**6-7**  
 HS 38220000  
 Storage temperature +2 °C to +8 °C  
 SERVALYT™ Carrier Ampholytes (40 % w/v in water), Standard quality (analytical grade) for general use in IEF.  
 SERVALYT is a trademark of SERVA

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**6-8**  
 HS 38220000  
 Storage temperature +2 °C to +8 °C  
 SERVALYT™ Carrier Ampholytes (40 % w/v in water), Standard quality (analytical grade) for general use in IEF.  
 SERVALYT is a trademark of SERVA

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**6-9**  
 HS 38220000  
 Storage temperature +2 °C to +8 °C  
 SERVALYT™ Carrier Ampholytes (40 % w/v in water), Standard quality (analytical grade) for general use in IEF.  
 SERVALYT is a trademark of SERVA

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**7-9**  
 HS 38220000  
 Storage temperature +2 °C to +8 °C  
 SERVALYT™ Carrier Ampholytes (40 % w/v in water), Standard quality (analytical grade) for general use in IEF.  
 SERVALYT is a trademark of SERVA

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**8-10**  
 HS 38220000  
 Storage temperature +2 °C to +8 °C  
 SERVALYT™ Carrier Ampholytes (40 % w/v in water), Standard quality (analytical grade) for general use in IEF.  
 SERVALYT is a trademark of SERVA

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**9-10**  
 HS 38220000  
 Storage temperature +2 °C to +8 °C  
 SERVALYT™ Carrier Ampholytes (40 % w/v in water), Standard quality (analytical grade) for general use in IEF.  
 SERVALYT is a trademark of SERVA

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**PRECOTES**

**Wide Range pH 3-10**  
 (Precast Gels for IEF; PRECOTES”)  
 DANGER  
 H340-H350  
 HS 38220000  
 Storage temperature +2 °C to +8 °C  
 PAG Layer 150 μm; size 125 x 125 mm.  
 Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX® for covers) prevents the surface from drying out and damages.  
 SERVALYT PRECOTES is a trademark of SERVA

<table>
<thead>
<tr>
<th>Cat.No.</th>
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SERVALYT PRECOTES™ Wide Range pH 3-10

**DANGER**

H340-H350 | HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 150 µm; size 245 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA

<table>
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SERVALYT PRECOTES™ Wide Range pH 3-10

**DANGER**

H340-H350 | HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 300 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA

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SERVALYT PRECOTES™ Wide Range pH 3-10

**DANGER**

H340-H350 | HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 300 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA

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SERVALYT PRECOTES™ Range pH 3-6

**DANGER**

H340-H350 | HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 150 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA

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SERVALYT PRECOTES™ Range pH 4-6

**DANGER**

H340-H350-H361F | HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 300 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA

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SERVALYT PRECOTES™ Range pH 6-9

**DANGER**

H340-H350-H361F | HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 150 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA

<table>
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<th>Cat.No.</th>
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SERVALYT™ PRECOTES™ Range pH 6-9

DANGER
H340-H350 • HS 38220000
Storage temperature +2 °C to +8 °C
PAG Layer 300 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e.g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.
SERVALYT PRECOTES is a trademark of SERVA.

---

SERVALYT™ PRECOTES™ CSF Kit

DANGER
H340-H350 • HS 38220000
Storage temperature +2 °C to +8 °C
For cerebrospinal fluid (CSF) analysis by isoelectric focusing. The kit contains:
• 5 SERVALYT™ PRECOTES™ CSF gels 245 x 125 mm, 300 µm
• Anode and cathode buffer solutions
• Applicator strips and electrode wicks
• Optimized protocol for silver staining
SERVALYT PRECOTES is a trademark of SERVA.

---

SERVALYT™ PreNets™ pH 3-10

(PreNets™)
HS 38220000
Storage temperature +2 °C to +8 °C
PAG layer 300 µm, size: 125 x 125 mm. SERVALYT™ PreNets™ for subsequent blotting. They are precast gels, used in the same manner as the related SERVALYT™ PRECOTES™ except that the gel, supported by a NeFicx™ polyester fabric, is permeable for electrotransfer. The gel layer is not covalently bound to the backing and is lifted off easily.
SERVALYT PreNets is a trademark of SERVA.

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SERVALYT™ PreNets™ pH 4-6

HS 38220000
Storage temperature +2 °C to +8 °C
PAG layer 300 µm, size: 125 x 125 mm. SERVALYT™ PreNets™ for subsequent blotting. They are precast gels, used in the same manner as the related SERVALYT™ PRECOTES™ except that the gel, supported by a NeFicx™ polyester fabric, is permeable for electrotransfer. The gel layer is not covalently bound to the backing and is lifted off easily.
SERVALYT PreNets is a trademark of SERVA.

---

SERVAPOR® Closure, 50 mm

HS 39173200
Made from polyamide. Specifically designed for leak-free soaking of dialysis membranes. Do not float, autoclavable.

---

SERVAPOR® Closure, 110 mm

HS 39173200
Made from polyamide. Specifically designed for leak-free soaking of dialysis membranes. Do not float, autoclavable.

---

SERVAPOR® 3 dialysis tubing, MWCO 3500

RC, diameter 16 mm
HS 39173200
Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. For protection packed in a carton with the membrane attached to the side. Delivered with a pair free of charge dialysis membrane closures and manual.

Nominal dry flat width 25 mm
Nominal dry diameter 16 mm
Approx. filling volume 2.0 ml/cm
Nominal dry wall thickness 20 µm

---

SERVAPOR® 3 dialysis tubing, MWCO 3500

RC, diameter 28 mm
HS 39173200
Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. For protection packed in a carton with the membrane attached to the side. Delivered with a pair free of charge dialysis membrane closures and manual.

Nominal dry flat width 44 mm
Nominal dry diameter 28 mm
Approx. filling volume 6.2 ml/cm
Nominal dry wall thickness 20 µm

---

SERVAPOR® 3 dialysis tubing, MWCO 3500

RC, diameter 35 mm
HS 39173200
Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. For protection packed in a carton with the membrane attached to the side. Delivered with a pair free of charge dialysis membrane closures and manual.

Nominal dry flat width 55 mm
Nominal dry diameter 35 mm
Approx. filling volume 9.6 ml/cm
Nominal dry wall thickness 25 µm

---

SERVALYT® CSF Kit

For cerebrospinal fluid (CSF) analysis by isoelectric focusing.

The kit contains:
• 5 SERVALYT® CSF gels 245 x 125 mm, 300 µm
• Anode and cathode buffer solutions
• Applicator strips and electrode wicks
• Optimized protocol for silver staining
SERVALYT CSF Kit is a trademark of SERVA.

---

SERVALYT PRECOTES is a trademark of SERVA.

---

SERVALYT® PAG layer 300 µm, size: 125 x 125 mm.
For subsequent blotting. They are precast gels, used in the same manner as the related SERVALYT™ PRECOTES™ except that the gel, supported by a NeFicx™ polyester fabric, is permeable for electrotransfer. The gel layer is not covalently bound to the backing and is lifted off easily.
SERVALYT PreNets is a trademark of SERVA.

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www.serva.de

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danger
SERVAPOR® 6 dialysis tubing, MWCO 6000 - 8000
RC, diameter 16 mm
HS 39173200
Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. For protection packed in a carton with the membrane attached to the side. Delivered with a pair free of charge dialysis membrane closures and manual.
Nominal dry flat width 25 mm
Nominal dry diameter 16 mm
Approx. filling volume 2.0 ml/cm
Nominal dry wall thickness 20 μm

Cat.No. Size
44561.01 15 m
44561.02 30 m

SERVAPOR® 6 dialysis tubing, MWCO 6000 - 8000
RC, diameter 22 mm
HS 39173200
Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. For protection packed in a carton with the membrane attached to the side. Delivered with a pair free of charge dialysis membrane closures and manual.
Nominal dry flat width 34 mm
Nominal dry diameter 22 mm
Approx. filling volume 3.8 ml/cm
Nominal dry wall thickness 23 μm

Cat.No. Size
44562.01 15 m
44562.02 30 m

SERVAPOR® 6 dialysis tubing, MWCO 6000 - 8000
RC, diameter 28 mm
HS 39173200
Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. For protection packed in a carton with the membrane attached to the side. Delivered with a pair free of charge dialysis membrane closures and manual.
Nominal dry flat width 44 mm
Nominal dry diameter 28 mm
Approx. filling volume 6.2 ml/cm
Nominal dry wall thickness 20 μm

Cat.No. Size
44563.01 15 m
44563.02 30 m

SERVAPOR® 6 dialysis tubing, MWCO 6000 - 8000
RC, diameter 35 mm
HS 39173200
Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. For protection packed in a carton with the membrane attached to the side. Delivered with a pair free of charge dialysis membrane closures and manual.
Nominal dry flat width 55 mm
Nominal dry diameter 35 mm
Approx. filling volume 9.6 ml/cm
Nominal dry wall thickness 25 μm

Cat.No. Size
44564.01 15 m
44564.02 30 m

SERVAPOR® dialysis tubing, MWCO 12 000 - 14 000
RC, diameter 16 mm
HS 39173200
Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.
Pore diameter approx. 25 Å
Nominal dry flat width 25 mm
Nominal dry diameter 16 mm
Approx. filling volume 2.0 ml/cm
Nominal dry wall thickness 20 μm

Cat.No. Size
44143.01 5 m
44143.02 25 m

SERVAPOR® dialysis tubing, MWCO 12 000 - 14 000
RC, diameter 21 mm
HS 39173200
Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.
Pore diameter approx. 25 Å
Nominal dry flat width 34 mm
Nominal dry diameter 21 mm
Approx. filling volume 3.4 ml/cm
Nominal dry wall thickness 25 μm

Cat.No. Size
44144.01 5 m
44144.02 25 m

SERVAPOR® dialysis tubing, MWCO 12 000 - 14 000
RC, diameter 29 mm
HS 39173200
Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.
Pore diameter approx. 25 Å
Nominal dry flat width 45 mm
Nominal dry diameter 29 mm
Approx. filling volume 6.5 ml/cm
Nominal dry wall thickness 20 μm

Cat.No. Size
44146.01 5 m
44146.04 25 m
### SERVAPOR® dialysis tubing, MWCO 12 000 - 14 000

RC, diameter 50 mm

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<td>44148.02</td>
<td>25 m</td>
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HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

- Pore diameter: approx. 25 Å
- Nominal dry flat width: 80 mm
- Nominal dry diameter: 50 mm
- Approx. filling volume: 18.5 ml/cm
- Nominal dry wall thickness: 40 μm

Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.

Storage temperature: +2 °C to +8 °C

IATA 3 III UN1170

HS 39173200

GGVSE/ADR 3 III UN1170

SERVAPOR® HMF dialysis tubing, MWCO 1000

RC, diameter 16 mm

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<td>10 vials</td>
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</table>

GGVSE/ADR 3 III UN1170

IATA 3 III UN1170

HS 39173200

Storage temperature: +2 °C to +8 °C

Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in pieces of 50 cm length packed in individual vials.

- Nominal dry flat width: 25 mm
- Nominal dry diameter: 16 mm
- Approx. filling volume: 2.0 ml/cm
- Nominal dry wall thickness: 20 μm

SERVAPOR® HMF dialysis tubing, MWCO 2000

RC, diameter 16 mm

<table>
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<tr>
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<th>Size</th>
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GGVSE/ADR 3 III UN1170

IATA 3 III UN1170

HS 39173200

Storage temperature: +2 °C to +8 °C

Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in pieces of 50 cm length packed in individual vials.

- Nominal dry flat width: 25 mm
- Nominal dry diameter: 28 mm
- Approx. filling volume: 2.0 ml/cm
- Nominal dry wall thickness: 20 μm

SERVAPOR® HMF dialysis tubing, MWCO 3500

RC, diameter 16 mm

<table>
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<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>44601.01</td>
<td>5 m</td>
</tr>
</tbody>
</table>

GGVSE/ADR 3 III UN1170

IATA 3 III UN1170

HS 39173200

Storage temperature: +2 °C to +8 °C

Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in 5 m rolls.

- Nominal dry flat width: 25 mm
- Nominal dry diameter: 16 mm
- Approx. filling volume: 2.0 ml/cm
- Nominal dry wall thickness: 20 μm

SERVAPOR® HMF dialysis tubing, MWCO 5000

RC, diameter 16 mm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44580.01</td>
<td>5 vials</td>
</tr>
<tr>
<td>44580.02</td>
<td>10 vials</td>
</tr>
</tbody>
</table>

GGVSE/ADR 3 III UN1170

IATA 3 III UN1170

HS 39173200

Storage temperature: +2 °C to +8 °C

Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in pieces of 50 cm length packed in individual vials.

- Nominal dry flat width: 25 mm
- Nominal dry diameter: 28 mm
- Approx. filling volume: 2.0 ml/cm
- Nominal dry wall thickness: 20 μm

SERVAPOR® HMF dialysis tubing, MWCO 3500

RC, diameter 22 mm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44581.01</td>
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</tr>
<tr>
<td>44581.02</td>
<td>10 vials</td>
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</tbody>
</table>

GGVSE/ADR 3 III UN1170

IATA 3 III UN1170

HS 39173200

Storage temperature: +2 °C to +8 °C

Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in pieces of 50 cm length packed in individual vials.

- Nominal dry flat width: 34 mm
- Nominal dry diameter: 22 mm
- Approx. filling volume: 3.8 ml/cm
- Nominal dry wall thickness: 23 μm

SERVAPOR® HMF dialysis tubing, MWCO 5000

RC, diameter 28 mm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44582.01</td>
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<tr>
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</tbody>
</table>

GGVSE/ADR 3 III UN1170

IATA 3 III UN1170

HS 39173200

Storage temperature: +2 °C to +8 °C

Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in pieces of 50 cm length packed in individual vials.

- Nominal dry flat width: 44 mm
- Nominal dry diameter: 28 mm
- Approx. filling volume: 6.2 ml/cm
- Nominal dry wall thickness: 20 μm

SERVAPOR® dialysis tubing, MWCO 1000

RC, diameter 28 mm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
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</table>

GGVSE/ADR 3 III UN1170

IATA 3 III UN1170

HS 39173200

Storage temperature: +2 °C to +8 °C

Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in pieces of 50 cm length packed in individual vials.

- Nominal dry flat width: 44 mm
- Nominal dry diameter: 28 mm
- Approx. filling volume: 6.2 ml/cm
- Nominal dry wall thickness: 20 μm

SERVAPOR® dialysis tubing, MWCO 1000

RC, diameter 22 mm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
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</table>

GGVSE/ADR 3 III UN1170

IATA 3 III UN1170

HS 39173200

Storage temperature: +2 °C to +8 °C

Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in pieces of 50 cm length packed in individual vials.

- Nominal dry flat width: 44 mm
- Nominal dry diameter: 28 mm
- Approx. filling volume: 6.2 ml/cm
- Nominal dry wall thickness: 20 μm

SERVAPOR® dialysis tubing, MWCO 1000

RC, diameter 28 mm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
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</tbody>
</table>

GGVSE/ADR 3 III UN1170

IATA 3 III UN1170

HS 39173200

Storage temperature: +2 °C to +8 °C

Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in pieces of 50 cm length packed in individual vials.

- Nominal dry flat width: 44 mm
- Nominal dry diameter: 28 mm
- Approx. filling volume: 6.2 ml/cm
- Nominal dry wall thickness: 20 μm

SERVAPOR® dialysis tubing, MWCO 1000

RC, diameter 50 mm

<table>
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<tr>
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</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

GGVSE/ADR 3 III UN1170

IATA 3 III UN1170

HS 39173200

Storage temperature: +2 °C to +8 °C

Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in pieces of 50 cm length packed in individual vials.

- Nominal dry flat width: 44 mm
- Nominal dry diameter: 28 mm
- Approx. filling volume: 6.2 ml/cm
- Nominal dry wall thickness: 20 μm

SERVAPOR® dialysis tubing, MWCO 1000
SERVAPOR® HMF dialysis tubing, MWCO 8000
RC, diameter 16 mm
GGVSE/ADR 3 III UN1170 I IATA 3 III UN1170 HS 39173200
Storage temperature +2 °C to +8 °C
Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
Supplied in 5 m rolls.
Nominal dry flat width: 25 mm
Nominal dry diameter: 16 mm
Approx. filling volume: 2.0 ml/cm
Nominal dry wall thickness: 20 μm

SERVAPOR® HMF dialysis tubing, MWCO 8000
RC, diameter 28 mm
GGVSE/ADR 3 III UN1170 I IATA 3 III UN1170 HS 39173200
Storage temperature +2 °C to +8 °C
Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
Supplied in 5 m rolls.
Nominal dry flat width: 34 mm
Nominal dry diameter: 22 mm
Approx. filling volume: 3.8 ml/cm
Nominal dry wall thickness: 23 μm

SERVAPOR® HMF dialysis tubing, MWCO 8000
RC, diameter 35 mm
GGVSE/ADR 3 III UN1170 I IATA 3 III UN1170 HS 39173200
Storage temperature +2 °C to +8 °C
Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
Supplied in 5 m rolls.
Nominal dry flat width: 55 mm
Nominal dry diameter: 35 mm
Approx. filling volume: 9.6 ml/cm
Nominal dry wall thickness: 25 μm

SERVAPOR® HMF dialysis tubing, MWCO 10 000
RC, diameter 16 mm
GGVSE/ADR 3 III UN1170 I IATA 3 III UN1170 HS 39173200
Storage temperature +2 °C to +8 °C
Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
Supplied in 5 m rolls.
Nominal dry flat width: 25 mm
Nominal dry diameter: 16 mm
Approx. filling volume: 2.0 ml/cm
Nominal dry wall thickness: 20 μm

SERVAPOR® HMF dialysis tubing, MWCO 10 000
RC, diameter 22 mm
GGVSE/ADR 3 III UN1170 I IATA 3 III UN1170 HS 39173200
Storage temperature +2 °C to +8 °C
Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
Supplied in 5 m rolls.
Nominal dry flat width: 34 mm
Nominal dry diameter: 22 mm
Approx. filling volume: 3.8 ml/cm
Nominal dry wall thickness: 23 μm

SERVAPOR® HMF dialysis tubing, MWCO 10 000
RC, diameter 28 mm
GGVSE/ADR 3 III UN1170 I IATA 3 III UN1170 HS 39173200
Storage temperature +2 °C to +8 °C
Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
Supplied in 5 m rolls.
Nominal dry flat width: 44 mm
Nominal dry diameter: 28 mm
Approx. filling volume: 6.2 ml/cm
Nominal dry wall thickness: 51 μm

SERVAPOR® HMF dialysis tubing, MWCO 10 000
RC, diameter 6 mm
GGVSE/ADR 3 III UN1170 I IATA 3 III UN1170 HS 39173200
Storage temperature +2 °C to +8 °C
Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
Supplied in 5 m rolls.
Nominal dry flat width: 10 mm
Nominal dry diameter: 6 mm
Approx. filling volume: 0.3 ml/cm
Nominal dry wall thickness: 20 μm

SERVAPOR® HMF dialysis tubing, MWCO 10 000
RC, diameter 6 mm
GGVSE/ADR 3 III UN1170 I IATA 3 III UN1170 HS 39173200
Storage temperature +2 °C to +8 °C
Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
Supplied in 5 m rolls.
Nominal dry flat width: 10 mm
Nominal dry diameter: 6 mm
Approx. filling volume: 0.3 ml/cm
Nominal dry wall thickness: 20 μm
### SERVAPOR® HMF dialysis tubing, MWCO 10 000
- **RC, diameter 28 mm**
- **GGVSE/ADR 3 III UN1170 + IATA 3 III UN1170 + HS 39173200**
- **Storage temperature** +2 °C to +8 °C
- Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
- Supplied in 5 m rolls.
- **Nominal dry flat width** 44 mm
- **Nominal dry diameter** 28 mm
- **Approx. filling volume** 6.2 ml/cm
- **Nominal dry wall thickness** 20 µm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
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<td>5 m</td>
</tr>
<tr>
<td>44588.02</td>
<td>10 vials</td>
</tr>
</tbody>
</table>

### SERVAPOR® HMF dialysis tubing, MWCO 15 000
- **RC, diameter 6 mm**
- **GGVSE/ADR 3 III UN1170 + IATA 3 III UN1170 + HS 39173200**
- **Storage temperature** +2 °C to +8 °C
- Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
- Supplied in pieces of 50 cm length packed in individual vials.
- **Nominal dry flat width** 10 mm
- **Nominal dry diameter** 6 mm
- **Approx. filling volume** 0.3 ml/cm
- **Nominal dry wall thickness** 51 µm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44589.01</td>
<td>5 vials</td>
</tr>
<tr>
<td>44589.02</td>
<td>10 vials</td>
</tr>
</tbody>
</table>

### SERVAPOR® HMF dialysis tubing, MWCO 15 000
- **RC, diameter 16 mm**
- **GGVSE/ADR 3 III UN1170 + IATA 3 III UN1170 + HS 39173200**
- **Storage temperature** +2 °C to +8 °C
- Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
- Supplied in pieces of 50 cm length packed in individual vials.
- **Nominal dry flat width** 25 mm
- **Nominal dry diameter** 16 mm
- **Approx. filling volume** 2.0 ml/cm
- **Nominal dry wall thickness** 20 µm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44590.01</td>
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</tr>
<tr>
<td>44590.02</td>
<td>10 vials</td>
</tr>
</tbody>
</table>

### SERVAPOR® HMF dialysis tubing, MWCO 15 000
- **RC, diameter 28 mm**
- **GGVSE/ADR 3 III UN1170 + IATA 3 III UN1170 + HS 39173200**
- **Storage temperature** +2 °C to +8 °C
- Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
- Supplied in 5 m rolls.
- **Nominal dry flat width** 34 mm
- **Nominal dry diameter** 22 mm
- **Approx. filling volume** 3.8 ml/cm
- **Nominal dry wall thickness** 23 µm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
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<td>5 vials</td>
</tr>
<tr>
<td>44595.02</td>
<td>10 vials</td>
</tr>
</tbody>
</table>

### SERVAPOR® HMF dialysis tubing, MWCO 15 000
- **RC, diameter 16 mm**
- **GGVSE/ADR 3 III UN1170 + IATA 3 III UN1170 + HS 39173200**
- **Storage temperature** +2 °C to +8 °C
- Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
- Supplied in pieces of 50 cm length packed in individual vials.
- **Nominal dry flat width** 44 mm
- **Nominal dry diameter** 28 mm
- **Approx. filling volume** 6.2 ml/cm
- **Nominal dry wall thickness** 20 µm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
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<td>44596.01</td>
<td>5 m</td>
</tr>
</tbody>
</table>

### SERVAPOR® HMF dialysis tubing, MWCO 15 000
- **RC, diameter 28 mm**
- **GGVSE/ADR 3 III UN1170 + IATA 3 III UN1170 + HS 39173200**
- **Storage temperature** +2 °C to +8 °C
- Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary.
- Supplied in 5 m rolls.
- **Nominal dry flat width** 22 mm
- **Nominal dry diameter** 6 mm
- **Approx. filling volume** 0.3 ml/cm
- **Nominal dry wall thickness** 51 µm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>44597.01</td>
<td>5 vials</td>
</tr>
<tr>
<td>44597.02</td>
<td>10 vials</td>
</tr>
</tbody>
</table>
## SERVAPOR® HMF dialysis tubing, MWCO 25 000
**RC, diameter 16 mm**

- **GGVSE/ADR 3 III UN1170** / **IATA 3 III UN1170** / **HS 39173200**
- Storage temperature: +2 °C to +8 °C
- Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in pieces of 50 cm length packed in individual vials.

<table>
<thead>
<tr>
<th>Nominal dry flat width</th>
<th>25 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal dry diameter</td>
<td>16 mm</td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>2.0 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>20 μm</td>
</tr>
</tbody>
</table>

### Specifications
- **Cat.No.**
  - 44598.01
  - 44598.02
- **Size**
  - 5 vials
  - 10 vials

---

## SERVAPOR® HMF dialysis tubing, MWCO 25 000
**RC, diameter 22 mm**

- **GGVSE/ADR 3 III UN1170** / **IATA 3 III UN1170** / **HS 39173200**
- Storage temperature: +2 °C to +8 °C
- Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in pieces of 50 cm length packed in individual vials.

<table>
<thead>
<tr>
<th>Nominal dry flat width</th>
<th>34 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal dry diameter</td>
<td>22 mm</td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>3.8 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>23 μm</td>
</tr>
</tbody>
</table>

### Specifications
- **Cat.No.**
  - 44599.01
  - 44599.02
- **Size**
  - 5 vials
  - 10 vials

---

## SERVAPOR® HMF dialysis tubing, MWCO 25 000
**RC, diameter 28 mm**

- **GGVSE/ADR 3 III UN1170** / **IATA 3 III UN1170** / **HS 39173200**
- Storage temperature: +2 °C to +8 °C
- Heavy metal free. Pre-wetted, no soaking for removal of glycerol necessary. Supplied in pieces of 50 cm length packed in individual vials.

<table>
<thead>
<tr>
<th>Nominal dry flat width</th>
<th>44 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal dry diameter</td>
<td>28 mm</td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>6.2 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>20 μm</td>
</tr>
</tbody>
</table>

### Specifications
- **Cat.No.**
  - 44600.01
  - 44600.02
- **Size**
  - 5 vials
  - 10 vials

---

## Silicone anti-foam emulsion, 30 % USP
(30 % Simethicone)

- **HS 39100000**
- Dow Corning® 30 % polydimethylsiloxane in water; contains traces of emulsifiers derived from plant.

### Specifications
- **Cat.No.**
  - 35119.01
  - 35119.02
- **Size**
  - 100 ml
  - 500 ml

---

## Silicone DC 200 fluid; 10 cst pract.

- **WGK 1L / HS 39100000**
- Dimethyl siloxane polymer (methyl silicones).
- In terms of SI-units: 1 cst = 10⁻⁶ m²/s¹
- Density (25 °C) 0.934 - 0.940

### Specifications
- **Cat.No.**
  - 35132.01
- **Size**
  - 500 g

---

## Silicone DC 200 fluid; 20 cst pract.

- **WGK 1L / HS 39100000**
- Dimethyl siloxane polymer (methyl silicones).
- In terms of SI-units: 1 cst = 10⁻⁶ m²/s¹
- Density (25 °C) 0.946 - 0.952

### Specifications
- **Cat.No.**
  - 35133.01
- **Size**
  - 500 g

---

## Silicone DC 200 fluid; 50 cst pract.

- **WGK 1L / HS 39100000**
- Dimethyl siloxane polymer (methyl silicones).
- In terms of SI-units: 1 cst = 10⁻⁶ m²/s¹
- Density (25 °C) 0.957 - 0.963

### Specifications
- **Cat.No.**
  - 35134.01
- **Size**
  - 500 g

---

## Silicone DC 200 fluid; 100 cst pract.

- **WGK 1L / HS 39100000**
- Dimethyl siloxane polymer (methyl silicones).
- In terms of SI-units: 1 cst = 10⁻⁶ m²/s¹
- Density (25 °C) 0.962 - 0.968

### Specifications
- **Cat.No.**
  - 35135.01
- **Size**
  - 500 g

---

## Silicone DC 200 fluid; 350 cst pract.

- **WGK 1L / HS 39100000**
- Dimethyl siloxane polymer (methyl silicones).
- In terms of SI-units: 1 cst = 10⁻⁶ m²/s¹
- Density (25 °C) 0.966 - 0.972

### Specifications
- **Cat.No.**
  - 35136.01
- **Size**
  - 500 g

---

## Silicone DC 550 fluid; 115 cst pract.

- **CAS [83148-52-7]**
- **WGK 1L / HS 39100000**
- Dimethyl siloxane polymer (methyl silicones).
- In terms of SI-units: 1 cst = 10⁻⁶ m²/s¹
- (25 % Methyl-75 % phenylsilicone). Excellent thermostability; lubricant; for instrument sterilization.
- Density (25 °C) 1.06 - 1.07

### Specifications
- **Cat.No.**
  - 35145.01
- **Size**
  - 500 g
Silicone DC 710 fluid; 500 cst
pract.

M, 2600  CAS [83148-58-3]
WGK 1L  HS 39100000
(Phenylmethyltrimethoxysilane)
In terms of SI-units: 1 cst = 10^-6 m²s⁻¹
(50% Methyl-50% phenylsilicone). For GC, tmax. 225 °. Extremely stable
at high temperatures. Density (25 °C) 1.10 - 1.11

**Cat.No.**  **Size**
35149.04  1 kg

Silicone solution SERVA for siliconizing glass and metal
in isopropanol

DANGER
H225-H319-H336  GGVSE/ADR 3 II UN1219  IATA 3 II UN1219  WGK 1  HS 39100000

Suitable for siliconizing UV quartz cuvettes.

**References:**

**Cat.No.**  **Size**
35149.01  100 ml
35149.03  250 ml
35149.02  1 L

Silver nitrate  analytical grade
AgNO₃  M, 169.89  CAS [7761-88-8]

DANGER
H272-H314-H400-H410  MAK/TRK 0,01E  EG-
Index 047-001-00-2  GGVSE/ADR 5.1 II UN1493  IATA 5.1 II UN1493  WGK 3L  HS 28342980


**Cat.No.**  **Size**
35130.01  25 g
35130.02  100 g

Single Quant Assay Kit

DANGER
H225-H314  HS 38220000

Storage temperature +2 °C to +8 °C

Single tube format assay kit for protein quantification. The assay bases
on the precipitation of proteins as insoluble dye complexes with acidic,
ethanolic amido black 10B solution (1.2). After precipitation the protein-dye
complexes are spun down. The pellet is washed and resolubilized. The
thereby released dye amount is measured at 624 nm.

- Precise, reproducible, reliable assay data
- Completed in only 45 min.
- No interference with detergents or reducing agents
- Detection range starts as low as 2 μg protein.

**References:**

**Cat.No.**  **Size**
39226.01  200 tests
39226.02  600 tests

Skim Milk Powder for blotting

CAS [88514-61-4]
HS 04021011

Skim milk powder is used as a blocking reagent in immunological assays like
Western Blotting or ELISA. It is as well suitable for blocking of nitrocellulose
filters in cDNA cloning.

It is not suitable for biotin/streptavidin detection systems, because milk
contains protein.

**References:**
Laboratory Press, Cold Spring Harbor, New York

**Cat.No.**  **Size**
42590.01  500 g
42590.02  1 kg
42590.03  5 kg

Sodium-1-naphthyl hydrogen phosphate

see 30130 1-Naphthyl phosphate-Na₃-salt, page 87

Sodium-L-(+)-ascorbate

see 14033 L-Ascorbic acid-Na-salt, page 15

Sodium-β-glycerophosphate

see 23330 2-Glycerolphosphate-Na₂-salt, page 61

Sodium acetate molecular biology grade

(Acetic acid-Na-salt)
C₂H₃O₂·Na  M, 82.0  CAS [127-09-3]
EINECS 204-823-8  WGK 1  HS 29152900
DNgase/RNase not detected. pKa 25 = 4.76.

**Assay (titr.)**
min. 98.5 %

**Heavy metals (Pb)**
max. 10 ppm

**Cat.No.**  **Size**
39571.01  500 g

Sodium acetate analytical grade

(Acetic acid-Na-salt)
C₂H₃O₂·Na  M, 82.0  CAS [127-09-3]
EINECS 204-823-8  WGK 1  HS 29152900
pKa 25 = 4.76.

**Assay (titr.)**
min. 98.5 %

**Heavy metals (Pb)**
max. 10 ppm

**Cat.No.**  **Size**
21249.02  500 g
21249.03  2.5 kg

Sodium acetate buffer pH 5.2, solution 3M
molecular biology grade

(Acetic acid-Na-salt)
C₂H₃O₂·Na  M, 82.0  CAS [127-09-3]
HS 38220000
DNgase/RNase not detected.

**Composition:**
C₂H₃O₂·Na (cat. no. 39571) 246.0 g/l

**Cat.No.**  **Size**
39572.01  250 ml

Skim Milk Powder for blotting

CAS [88514-61-4]
HS 04021011

Skim milk powder is used as a blocking reagent in immunological assays like
Western Blotting or ELISA. It is as well suitable for blocking of nitrocellulose
filters in cDNA cloning.

It is not suitable for biotin/streptavidin detection systems, because milk
contains protein.

**References:**
Laboratory Press, Cold Spring Harbor, New York

**Cat.No.**  **Size**
42590.01  500 g
42590.02  1 kg
42590.03  5 kg

Sodium-1-naphthyl hydrogen phosphate

see 30130 1-Naphthyl phosphate-Na₃-salt, page 87

Sodium-L-(+)-ascorbate

see 14033 L-Ascorbic acid-Na-salt, page 15

Sodium-β-glycerophosphate

see 23330 2-Glycerolphosphate-Na₂-salt, page 61

Sodium acetate molecular biology grade

(Acetic acid-Na-salt)
C₂H₃O₂·Na  M, 82.0  CAS [127-09-3]
EINECS 204-823-8  WGK 1  HS 29152900
DNgase/RNase not detected. pKa 25 = 4.76.

**Assay (titr.)**
min. 98.5 %

**Heavy metals (Pb)**
max. 10 ppm

**Cat.No.**  **Size**
39571.01  500 g

Sodium acetate analytical grade

(Acetic acid-Na-salt)
C₂H₃O₂·Na  M, 82.0  CAS [127-09-3]
EINECS 204-823-8  WGK 1  HS 29152900
pKa 25 = 4.76.

**Assay (titr.)**
min. 98.5 %

**Heavy metals (Pb)**
max. 10 ppm

**Cat.No.**  **Size**
21249.02  500 g
21249.03  2.5 kg

Sodium acetate buffer pH 5.2, solution 3M
molecular biology grade

(Acetic acid-Na-salt)
C₂H₃O₂·Na  M, 82.0  CAS [127-09-3]
HS 38220000
DNgase/RNase not detected.

**Composition:**
C₂H₃O₂·Na (cat. no. 39571) 246.0 g/l

**Cat.No.**  **Size**
39572.01  250 ml
**Sodium azide** research grade
Na$_3$N, M 65.01 \* CAS [26628-22-8]

DANGER
H330-H410 \* MAK/TRK 0.2 mg/m$^3$ \* EG-Index 011-004-00-7 \* GGVS/ADR 6.1 II UN1687 \* IATA 6.1 II UN1687 \* EINECS 247-852-1 \* WKG 2L \* HS 28500060

Assay (titr.) min. 99.0 %

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>30175.01</td>
<td>100 g</td>
</tr>
<tr>
<td>30175.03</td>
<td>250 g</td>
</tr>
<tr>
<td>30175.02</td>
<td>1 kg</td>
</tr>
</tbody>
</table>

**Sodium bicarbonate** research grade, Ph. Eur., USP
(NaHCO$_3$)

Tested for use in tissue culture, Buffering substance.
Assay (titr.) pH 5 % in water 7.9 - 8.4
Heavy metals (Pb) max. 5 ppm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>30175.01</td>
<td>1 kg</td>
</tr>
<tr>
<td>30175.03</td>
<td>5 kg</td>
</tr>
</tbody>
</table>

**Sodium carbonate** analytical grade, Ph. Eur.
Na$_2$CO$_3$, M 106.0 \* CAS [497-19-8]

WARNING
H319 \* EG-Index 011-005-00-2 \* EINECS 207-838-8 \* WGK 1L \* HS 28362000

Assay (titr.) 99.5 - 100.5 %
Heavy metals (Pb) max. 50 ppm

<table>
<thead>
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<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1 kg</td>
</tr>
<tr>
<td>30175.03</td>
<td>5 kg</td>
</tr>
</tbody>
</table>

**Sodium chloride 5 M, solution** molecular biology grade
NaCl, M 58.44 \* CAS [7647-14-5]

Assay (titr.) pH 1 % in water 9.0 - 9.6
Heavy metals (Pb) max. 10 ppm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>30178.01</td>
<td>1 L</td>
</tr>
</tbody>
</table>

**Sodium chloride** crys. analytical grade
NaCl, M 58.44 \* CAS [7647-14-5]

Assay (titr.) pH 5 % solution 9.0 - 9.2
Heavy metals (Pb) max. 10 ppm
Nitrogen (N) max. 10 ppm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>30183.01</td>
<td>1 kg</td>
</tr>
<tr>
<td>30183.02</td>
<td>5 kg</td>
</tr>
</tbody>
</table>

**Sodium chloride** molecular biology grade
NaCl, M 58.44 \* CAS [7647-14-5]

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>39781.01</td>
<td>250 g</td>
</tr>
<tr>
<td>39781.02</td>
<td>1 kg</td>
</tr>
</tbody>
</table>

**Sodium deoxycholate**
see 18330 Deoxycholic acid-Na-salt, page 40

**Sodium dihydrogen phosphate·2H$_2$O** research grade, Ph. Eur., USP
(Sodium phosphate monobasic (prim. sodium phosphate))
NaH$_2$PO$_4$·2H$_2$O, M 156.01 \* CAS [13472-33-0]

Assay (titr.) pH 5 % solution 9.0 - 9.6

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>30186.01</td>
<td>1 kg</td>
</tr>
</tbody>
</table>

**Sodium dodecyl sulfate**
see 20765 Dodecylsulfate-Na-salt in Pellets, page 46

**Sodium dodecyl sulfate**
see 20760 Dodecylsulfate-Na-salt, page 45

**Sodium hydrogen carbonate**
see 30180 Sodium bicarbonate, page 154

**Di-Sodium hydrogen phosphate·2H$_2$O**
research grade, Ph. Eur., USP
CAS [10028-24-7]

Assay (dried basis) pH 1 % in water 9.0 - 9.6
Heavy metals (Pb) max. 10 ppm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>30201.01</td>
<td>500 g</td>
</tr>
<tr>
<td>30201.02</td>
<td>1 kg</td>
</tr>
<tr>
<td>30201.03</td>
<td>5 kg</td>
</tr>
</tbody>
</table>

**di-Sodium hydrogen phosphate·2H$_2$O** analytical grade
(Sodium phosphate dibasic (sec. sodium phosphate))
Na$_2$HPO$_4$·2H$_2$O, M 177.99 \* CAS [10028-24-7]

Assay (titr.) min. 99.5 %
ph 5 % solution 9.0 - 9.2
Heavy metals (Pb) max. 10 ppm
Nitrogen (N) max. 10 ppm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>30200.01</td>
<td>500 g</td>
</tr>
<tr>
<td>30200.03</td>
<td>1 kg</td>
</tr>
<tr>
<td>30200.04</td>
<td>5 kg</td>
</tr>
</tbody>
</table>
**di-Sodium hydrogen phosphate·2H₂O**

**molecular biology grade**

(Sodium phosphate dibasic (sec. sodium phosphate))

Na₂HPO₄·2H₂O  •  Mₜ 177.99  •  CAS [10028-24-7]

HS 28352200

- **DNase/RNase** not detected. Buffering substance.
- **Assay**
  - pH 5 % solution
  - Heavy metals (Pb)
  - min. 99.5 %
  - 9.0 - 9.2
  - max. 0.001 %

---

**Cat.No.** | **Size**
--- | ---
39783.02 | 1 kg

---

**Sodium laurylsulfate**

see 20765 Dodecylsulfate·Na-salt in Pellets, page 46

**Sodium laurylsulfate**

see 20760 Dodecylsulfate·Na-salt, page 45

**Sodium pyruvate**

see 15220 Pyruvic acid·Na-salt, page 110

**Sodium taurocholate**

see 35779 Taurocholic acid·Na-salt, page 75

**α-Sophorose**

(2-O-β-D-Glucopyranosyl-α-D-glucose)

C₁₂H₂₂O₁₁·H₂O  •  Mₜ 360.3  •  CAS [20429-79-2]

WGK 1  •  HS 29400000

- **Assay (HPLC)**
  - min. 98.0 %

---

**Cat.No.** | **Size**
--- | ---
35208.01 | 50 mg

---

**D-Sorbitol**

research grade, Ph. Eur.

(D-Glucitol)

C₆H₁₄O₆  •  Mₜ 182.2  •  CAS [50-70-4]

HS 29054999

- For bacteriology and pharmacology. Tested for use in tissue culture.
  - Assay (HPLC)
    - 97.0 - 102.0 %
  - MP  •  98 - 102 °C
  - Lead
    - max. 0.5 ppm

---

**Cat.No.** | **Size**
--- | ---
35208.01 | 50 mg

---

**Sortex-Kit 10 %**

HS 38220000

- Storage temperature -15 °C to -25 °C
- Cereal-cultivar-differentiation electrophoresis kit for horizontal gel electrophoresis.
- Contains 4 film-backed, rehydratable 10 % T precast polyacrylamide gels (size 250 x 125 x 0.43 mm, 52 slots for 6 μl) and a for cereal-cultivar-differentiation optimized buffer kit. For the run on horizontal flatbed systems like HPE” BlueTower, HPE” BlueHorizon and Multiphor II”.

---

**Cat.No.** | **Size**
--- | ---
43358.01 | 1 kit

---

**Spacer Set 0.75 mm for BlueVertical™ PRiME™**

HS 39269097

**Cat.No.** | **Size**
--- | ---
43358.01 | 1 kit

---

**Spacer Strips**

HS 39269097

Silicone, size 265 x 7 x 0.5 mm, for forming the mould in capillary casting techniques.

---

**Spectinomycin·2HCl pentahydrate**

(Actinospectacin; M 141)

C₁₄H₂₄N₂O₇·2HCl·5H₂O  •  Mₜ 495.4  •  CAS [22189-32-8]

**WARNING**

H315-H319-H335  •  EINECS 244-554-3  •  HS 29419000

- **Storage temperature** +2 °C to +8 °C
- **Cell culture tested.**
- Water-soluble aminoglycoside antibiotic from Streptomyces sp. (1,2).
- Inhibitor of protein synthesis (3). Differs from other aminoglycoside derivatives in that it is bacteriostatic instead of bactericidal.
- **Stock solution:** 10 mg/ml in distilled water, sterile filtered.

- **References:**

---

**Cat.No.** | **Size**
--- | ---
35284.01 | 5 g

---

**Spectra/Por® 1 dialysis tubing, MWCO 6000 - 8000**

RC, diameter 6.4 mm

HS 39173200

- Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.
  - Nominal dry flat width 10 mm
  - Nominal dry diameter 6.4 mm
  - Approx. filling volume 0.32 ml/cm
  - Nominal dry wall thickness 30 - 50 μm

---

**Cat.No.** | **Size**
--- | ---
44170.01 | 15 m

---

**Spectra/Por® 1 dialysis tubing, MWCO 6000 - 8000**

RC, diameter 14.6 mm

HS 39173200

- Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.
  - Nominal dry flat width 23 mm
  - Nominal dry diameter 14.6 mm
  - Approx. filling volume 1.7 ml/cm
  - Nominal dry wall thickness 30 - 50 μm

---

**Cat.No.** | **Size**
--- | ---
44171.01 | 30 m
Spectra/Por® 1 dialysis tubing, MWCO 6000 - 8000
RC, diameter 20.4 mm
HS 39173200
Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.
Nominal dry flat width 32 mm
Nominal dry diameter 20.4 mm
Approx. filling volume 3.3 ml/cm
Nominal dry wall thickness 30 – 50 µm

Note:
The trial size of 5 m includes additionally one standard Spectra/Por® closures, one weighted Spectra/Por® closures and 5 opening picks.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44172.02</td>
<td>5 m</td>
</tr>
<tr>
<td>44172.01</td>
<td>30 m</td>
</tr>
</tbody>
</table>

Spectra/Por® 1 dialysis tubing, MWCO 6000 - 8000
RC, diameter 25.5 mm
HS 39173200
Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.
Nominal dry flat width 40 mm
Nominal dry diameter 25.5 mm
Approx. filling volume 5.1 ml/cm
Nominal dry wall thickness 30 – 50 µm

Note:
The trial size of 5 m includes additionally one standard Spectra/Por® closures, one weighted Spectra/Por® closures and 5 opening picks.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44173.01</td>
<td>30 m</td>
</tr>
</tbody>
</table>

Spectra/Por® 1 dialysis tubing, MWCO 6000 - 8000
RC, diameter 32 mm
HS 39173200
Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.
Nominal dry flat width 50 mm
Nominal dry diameter 32 mm
Approx. filling volume 7.9 ml/cm
Nominal dry wall thickness 30 – 50 µm

Note:
The trial size of 5 m includes additionally one standard Spectra/Por® closures, one weighted Spectra/Por® closures and 5 opening picks.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44174.02</td>
<td>5 m</td>
</tr>
<tr>
<td>44174.01</td>
<td>30 m</td>
</tr>
</tbody>
</table>

Spectra/Por® 1 dialysis tubing, MWCO 6000 - 8000
RC, diameter 64 mm
HS 39173200
Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.
Nominal dry flat width 100 mm
Nominal dry diameter Approx. 64 mm
filling volume 32 ml/cm
Nominal dry wall thickness 70 µm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44175.01</td>
<td>15 m</td>
</tr>
</tbody>
</table>

Spectra/Por® 1 dialysis tubing, MWCO 6000 - 8000
RC, diameter 76 mm
HS 39173200
Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.
Nominal dry flat width 120 mm
Nominal dry diameter 76 mm
Approx. filling volume 46 ml/cm
Nominal dry wall thickness 70 µm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44176.01</td>
<td>15 m</td>
</tr>
</tbody>
</table>

Spectra/Por® 3 dialysis tubing, MWCO 3500
RC, diameter 11.5 mm
HS 39173200
Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.
Nominal dry flat width 18 mm
Nominal dry diameter 11.5 mm
Approx. filling volume 1.1 ml/cm
Nominal dry wall thickness 25 - 30 µm

Note:
The trial size of 5 m includes additionally one standard Spectra/Por® closures, one weighted Spectra/Por® closures and 5 opening picks.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44182.01</td>
<td>10 m</td>
</tr>
</tbody>
</table>
### Spectra/Por® 6 dialysis tubing, MWCO 1000

<table>
<thead>
<tr>
<th>RC</th>
<th>Diameter 24 mm</th>
<th>HS 39173200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal dry flat width</td>
<td>38 mm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry diameter</td>
<td>24 mm</td>
<td></td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>4.6 ml/cm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 - 65 μm</td>
<td></td>
</tr>
<tr>
<td>Cat.No.</td>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>44193.01</td>
<td>10 m</td>
<td></td>
</tr>
</tbody>
</table>

---

### Spectra/Por® 6 dialysis tubing, MWCO 1000

<table>
<thead>
<tr>
<th>RC</th>
<th>Diameter 34 mm</th>
<th>HS 39173200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal dry flat width</td>
<td>45 mm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry diameter</td>
<td>29 mm</td>
<td></td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>6.4 ml/cm</td>
<td></td>
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<tr>
<td>Nominal dry wall thickness</td>
<td>60 - 65 μm</td>
<td></td>
</tr>
<tr>
<td>Cat.No.</td>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>44194.01</td>
<td>10 m</td>
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</tr>
</tbody>
</table>

---

### Spectra/Por® 6 dialysis tubing, MWCO 2000

<table>
<thead>
<tr>
<th>RC</th>
<th>Diameter 24 mm</th>
<th>HS 39173200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal dry flat width</td>
<td>18 mm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry diameter</td>
<td>11.5 mm</td>
<td></td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>1.1 ml/cm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 - 65 μm</td>
<td></td>
</tr>
<tr>
<td>Cat.No.</td>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>44196.01</td>
<td>10 m</td>
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</tbody>
</table>

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### Spectra/Por® 6 dialysis tubing, MWCO 2000

<table>
<thead>
<tr>
<th>RC</th>
<th>Diameter 34 mm</th>
<th>HS 39173200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
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</tr>
<tr>
<td>Nominal dry flat width</td>
<td>54 mm</td>
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<tr>
<td>Nominal dry diameter</td>
<td>34 mm</td>
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<tr>
<td>Approx. filling volume</td>
<td>9.3 ml/cm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 - 65 μm</td>
<td></td>
</tr>
<tr>
<td>Cat.No.</td>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>44200.01</td>
<td>10 m</td>
<td></td>
</tr>
</tbody>
</table>

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### Spectra/Por® 6 dialysis tubing, MWCO 8000

<table>
<thead>
<tr>
<th>RC</th>
<th>Diameter 24 mm</th>
<th>HS 39173200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal dry flat width</td>
<td>8 mm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry diameter</td>
<td>5.1 mm</td>
<td></td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>0.20 ml/cm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 - 65 μm</td>
<td></td>
</tr>
<tr>
<td>Cat.No.</td>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>44202.01</td>
<td>10 m</td>
<td></td>
</tr>
</tbody>
</table>

---

### Spectra/Por® 6 dialysis tubing, MWCO 8000

<table>
<thead>
<tr>
<th>RC</th>
<th>Diameter 7.5 mm</th>
<th>HS 39173200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal dry flat width</td>
<td>12 mm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry diameter</td>
<td>7.5 mm</td>
<td></td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>0.45 ml/cm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 - 65 μm</td>
<td></td>
</tr>
<tr>
<td>Cat.No.</td>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>44203.01</td>
<td>10 m</td>
<td></td>
</tr>
</tbody>
</table>

---

### Spectra/Por® 6 dialysis tubing, MWCO 3500

<table>
<thead>
<tr>
<th>RC</th>
<th>Diameter 11.5 mm</th>
<th>HS 39173200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal dry flat width</td>
<td>18 mm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry diameter</td>
<td>11.5 mm</td>
<td></td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>1.1 ml/cm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 - 65 μm</td>
<td></td>
</tr>
<tr>
<td>Cat.No.</td>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>44199.01</td>
<td>10 m</td>
<td></td>
</tr>
</tbody>
</table>

---

### Spectra/Por® 6 dialysis tubing, MWCO 3500

<table>
<thead>
<tr>
<th>RC</th>
<th>Diameter 24 mm</th>
<th>HS 39173200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
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</tr>
<tr>
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<tr>
<td>Nominal dry diameter</td>
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<td>Approx. filling volume</td>
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<tr>
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</tr>
<tr>
<td>Cat.No.</td>
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<td></td>
</tr>
<tr>
<td>44198.01</td>
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### Spectra/Por® 6 dialysis tubing, MWCO 3500

<table>
<thead>
<tr>
<th>RC</th>
<th>Diameter 29 mm</th>
<th>HS 39173200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
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</tr>
<tr>
<td>Nominal dry flat width</td>
<td>45 mm</td>
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<tr>
<td>Nominal dry diameter</td>
<td>29 mm</td>
<td></td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>6.4 ml/cm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 - 65 μm</td>
<td></td>
</tr>
<tr>
<td>Cat.No.</td>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>44201.01</td>
<td>10 m</td>
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</tbody>
</table>

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### Spectra/Por® 6 dialysis tubing, MWCO 3500

<table>
<thead>
<tr>
<th>RC</th>
<th>Diameter 29 mm</th>
<th>HS 39173200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal dry flat width</td>
<td>45 mm</td>
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</tr>
<tr>
<td>Nominal dry diameter</td>
<td>29 mm</td>
<td></td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>6.4 ml/cm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 - 65 μm</td>
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<tr>
<td>Cat.No.</td>
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### Spectra/Por® 6 dialysis tubing, MWCO 3500

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<tr>
<th>RC</th>
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<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
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</tr>
<tr>
<td>Nominal dry flat width</td>
<td>54 mm</td>
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<tr>
<td>Nominal dry diameter</td>
<td>34 mm</td>
<td></td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>9.3 ml/cm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 - 65 μm</td>
<td></td>
</tr>
<tr>
<td>Cat.No.</td>
<td>Size</td>
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</tr>
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### Spectra/Por® 6 dialysis tubing, MWCO 3500

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<th>HS 39173200</th>
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</thead>
<tbody>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
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</tr>
<tr>
<td>Nominal dry flat width</td>
<td>54 mm</td>
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</tr>
<tr>
<td>Nominal dry diameter</td>
<td>34 mm</td>
<td></td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>9.3 ml/cm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 - 65 μm</td>
<td></td>
</tr>
<tr>
<td>Cat.No.</td>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>44201.01</td>
<td>10 m</td>
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</tr>
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### Spectra/Por® 6 dialysis tubing, MWCO 3500

<table>
<thead>
<tr>
<th>RC</th>
<th>Diameter 34 mm</th>
<th>HS 39173200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal dry flat width</td>
<td>54 mm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry diameter</td>
<td>34 mm</td>
<td></td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>9.3 ml/cm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 - 65 μm</td>
<td></td>
</tr>
<tr>
<td>Cat.No.</td>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>44201.01</td>
<td>10 m</td>
<td></td>
</tr>
<tr>
<td>Spectra/Por® 6 dialysis tubing, MWCO 8000</td>
<td>Spectra/Por® 6 dialysis tubing, MWCO 10 000</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>RC, diameter 11.5 mm</strong></td>
<td><strong>RC, diameter 5.1 mm</strong></td>
<td></td>
</tr>
<tr>
<td>HS 39173200</td>
<td>HS 39173200</td>
<td></td>
</tr>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td></td>
</tr>
<tr>
<td>Nominal dry flat width 18 mm</td>
<td>Nominal dry flat width 8 mm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry diameter 11.5 mm</td>
<td>Nominal dry diameter 5.1 mm</td>
<td></td>
</tr>
<tr>
<td>Approx. filling volume 1.1 ml/cm</td>
<td>Approx. filling volume 0.20 ml/cm</td>
<td></td>
</tr>
<tr>
<td>Nominal dry wall thickness 60 – 65 µm</td>
<td>Nominal dry wall thickness 60 – 65 µm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44204.01</td>
<td>10 m</td>
</tr>
<tr>
<td>44209.01</td>
<td>10 m</td>
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</table>

<table>
<thead>
<tr>
<th>Spectra/Por® 6 dialysis tubing, MWCO 8000</th>
<th>Spectra/Por® 6 dialysis tubing, MWCO 10 000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RC, diameter 15 mm</strong></td>
<td><strong>RC, diameter 7.5 mm</strong></td>
</tr>
<tr>
<td>HS 39173200</td>
<td>HS 39173200</td>
</tr>
<tr>
<td>Pre-wetted (containing 0.1 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
</tr>
<tr>
<td>Nominal dry flat width 24 mm</td>
<td>Nominal dry flat width 12 mm</td>
</tr>
<tr>
<td>Nominal dry diameter 15 mm</td>
<td>Nominal dry diameter 7.5 mm</td>
</tr>
<tr>
<td>Approx. filling volume 1.8 ml/cm</td>
<td>Approx. filling volume 0.45 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness 60 – 65 µm</td>
<td>Nominal dry wall thickness 60 – 65 µm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>44205.01</td>
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</tr>
<tr>
<td>44210.01</td>
<td>10 m</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Spectra/Por® 6 dialysis tubing, MWCO 8000</th>
<th>Spectra/Por® 6 dialysis tubing, MWCO 10 000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RC, diameter 20.4 mm</strong></td>
<td><strong>RC, diameter 11.5 mm</strong></td>
</tr>
<tr>
<td>HS 39173200</td>
<td>HS 39173200</td>
</tr>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
</tr>
<tr>
<td>Nominal dry flat width 32 mm</td>
<td>Nominal dry flat width 18 mm</td>
</tr>
<tr>
<td>Nominal dry diameter 20.4 mm</td>
<td>Nominal dry diameter 11.5 mm</td>
</tr>
<tr>
<td>Approx. filling volume 3.3 ml/cm</td>
<td>Approx. filling volume 1.1 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness 60 – 65 µm</td>
<td>Nominal dry wall thickness 60 – 65 µm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44206.01</td>
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</tr>
<tr>
<td>44211.01</td>
<td>10 m</td>
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</table>

<table>
<thead>
<tr>
<th>Spectra/Por® 6 dialysis tubing, MWCO 8000</th>
<th>Spectra/Por® 6 dialysis tubing, MWCO 10 000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RC, diameter 25.5 mm</strong></td>
<td><strong>RC, diameter 15 mm</strong></td>
</tr>
<tr>
<td>HS 39173200</td>
<td>HS 39173200</td>
</tr>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
</tr>
<tr>
<td>Nominal dry flat width 40 mm</td>
<td>Nominal dry flat width 24 mm</td>
</tr>
<tr>
<td>Nominal dry diameter 25.5 mm</td>
<td>Nominal dry diameter 15 mm</td>
</tr>
<tr>
<td>Approx. filling volume 5.1 ml/cm</td>
<td>Approx. filling volume 1.8 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness 60 – 65 µm</td>
<td>Nominal dry wall thickness 60 – 65 µm</td>
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</tbody>
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<th>Size</th>
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<tr>
<td>44212.01</td>
<td>10 m</td>
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<table>
<thead>
<tr>
<th>Spectra/Por® 6 dialysis tubing, MWCO 8000</th>
<th>Spectra/Por® 6 dialysis tubing, MWCO 10 000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RC, diameter 32 mm</strong></td>
<td><strong>RC, diameter 20.4 mm</strong></td>
</tr>
<tr>
<td>HS 39173200</td>
<td>HS 39173200</td>
</tr>
<tr>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
<td>Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.</td>
</tr>
<tr>
<td>Nominal dry flat width 50 mm</td>
<td>Nominal dry flat width 32 mm</td>
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<tr>
<td>Nominal dry diameter 32 mm</td>
<td>Nominal dry diameter 20.4 mm</td>
</tr>
<tr>
<td>Approx. filling volume 7.9 ml/cm</td>
<td>Approx. filling volume 3.3 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness 60 – 65 µm</td>
<td>Nominal dry wall thickness 60 – 65 µm</td>
</tr>
</tbody>
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<table>
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<tr>
<td>44213.01</td>
<td>10 m</td>
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</table>
### Spectra/Por® 6 dialysis tubing, MWCO 10 000

**RC, diameter 29 mm**

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

<table>
<thead>
<tr>
<th>Nominal dry flat width</th>
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<tr>
<td>Nominal dry diameter</td>
<td>29 mm</td>
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<tr>
<td>Approx. filling volume</td>
<td>6.4 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 – 65 μm</td>
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<table>
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</thead>
<tbody>
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</tbody>
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## Table for Spectra/Por® 6 dialysis tubing, MWCO 10 000

### Spectra/Por® 6 dialysis tubing, MWCO 15 000

**RC, diameter 5.1 mm**

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

<table>
<thead>
<tr>
<th>Nominal dry flat width</th>
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<tbody>
<tr>
<td>Nominal dry diameter</td>
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<tr>
<td>Approx. filling volume</td>
<td>0.20 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 – 65 μm</td>
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</tbody>
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<table>
<thead>
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<th>Size</th>
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</thead>
<tbody>
<tr>
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### Spectra/Por® 6 dialysis tubing, MWCO 15 000

**RC, diameter 7.5 mm**

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

<table>
<thead>
<tr>
<th>Nominal dry flat width</th>
<th>12 mm</th>
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</thead>
<tbody>
<tr>
<td>Nominal dry diameter</td>
<td>7.5 mm</td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>0.45 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 – 65 μm</td>
</tr>
</tbody>
</table>

<table>
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</thead>
<tbody>
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### Spectra/Por® 6 dialysis tubing, MWCO 15 000

**RC, diameter 11.5 mm**

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

<table>
<thead>
<tr>
<th>Nominal dry flat width</th>
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<tbody>
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<td>Nominal dry diameter</td>
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<tr>
<td>Approx. filling volume</td>
<td>1.1 ml/cm</td>
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<tr>
<td>Nominal dry wall thickness</td>
<td>60 – 65 μm</td>
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</table>

<table>
<thead>
<tr>
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<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
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### Spectra/Por® 6 dialysis tubing, MWCO 15 000

**RC, diameter 15 mm**

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

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<tr>
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<tbody>
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<td>Nominal dry diameter</td>
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<tr>
<td>Approx. filling volume</td>
<td>1.8 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 – 65 μm</td>
</tr>
</tbody>
</table>

<table>
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<th>Size</th>
</tr>
</thead>
<tbody>
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<td>10 m</td>
</tr>
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</table>

### Spectra/Por® 6 dialysis tubing, MWCO 15 000

**RC, diameter 20.4 mm**

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

<table>
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<tr>
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<tbody>
<tr>
<td>Nominal dry diameter</td>
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<tr>
<td>Approx. filling volume</td>
<td>3.3 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 – 65 μm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
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<td>10 m</td>
</tr>
</tbody>
</table>

### Spectra/Por® 6 dialysis tubing, MWCO 15 000

**RC, diameter 29 mm**

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

<table>
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<tr>
<th>Nominal dry flat width</th>
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<tbody>
<tr>
<td>Nominal dry diameter</td>
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<tr>
<td>Approx. filling volume</td>
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</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 – 65 μm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44220.01</td>
<td>10 m</td>
</tr>
</tbody>
</table>

### Spectra/Por® 6 dialysis tubing, MWCO 15 000

**RC, diameter 5.1 mm**

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

<table>
<thead>
<tr>
<th>Nominal dry flat width</th>
<th>8 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal dry diameter</td>
<td>5.1 mm</td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>0.20 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 – 65 μm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44221.01</td>
<td>10 m</td>
</tr>
</tbody>
</table>

### Spectra/Por® 6 dialysis tubing, MWCO 15 000

**RC, diameter 7.5 mm**

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

<table>
<thead>
<tr>
<th>Nominal dry flat width</th>
<th>12 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal dry diameter</td>
<td>7.5 mm</td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>0.45 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 – 65 μm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>44222.01</td>
<td>10 m</td>
</tr>
</tbody>
</table>

### Spectra/Por® 6 dialysis tubing, MWCO 15 000

**RC, diameter 11.5 mm**

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

<table>
<thead>
<tr>
<th>Nominal dry flat width</th>
<th>18 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal dry diameter</td>
<td>11.5 mm</td>
</tr>
<tr>
<td>Approx. filling volume</td>
<td>1.1 ml/cm</td>
</tr>
<tr>
<td>Nominal dry wall thickness</td>
<td>60 – 65 μm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat.No.</th>
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</thead>
<tbody>
<tr>
<td>44223.01</td>
<td>10 m</td>
</tr>
<tr>
<td>Product Name</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Spectra/Por® 6 dialysis tubing, MWCO 25 000     | Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities. | Nominal dry flat width: 24 mm  
Nominal dry diameter: 15 mm  
Approx. filling volume: 1.8 ml/cm  
Nominal dry wall thickness: 60 – 65 μm | 44224.01 | 10 m    |
| Spectra/Por® 6 dialysis tubing, MWCO 25 000     | Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities. | Nominal dry flat width: 28 mm  
Nominal dry diameter: 16 mm  
Approx. filling volume: 2.5 ml/cm  
Nominal dry wall thickness: 60 – 65 μm | 44225.01 | 10 m    |
| Spectra/Por® 6 dialysis tubing, MWCO 25 000     | Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities. | Nominal dry flat width: 34 mm  
Nominal dry diameter: 22 mm  
Approx. filling volume: 3.7 ml/cm  
Nominal dry wall thickness: 60 – 65 μm | 44226.01 | 10 m    |
| Spectra/Por® 6 dialysis tubing, MWCO 50 000     | Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities. | Nominal dry flat width: 10 mm  
Nominal dry diameter: 6.4 mm  
Approx. filling volume: 0.32 ml/cm  
Nominal dry wall thickness: 60 – 65 μm | 44227.01 | 10 m    |
| Spectra/Por® 6 dialysis tubing, MWCO 50 000     | Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities. | Nominal dry flat width: 12 mm  
Nominal dry diameter: 7.5 mm  
Approx. filling volume: 0.45 ml/cm  
Nominal dry wall thickness: 60 – 65 μm | 44228.01 | 10 m    |
| Spectra/Por® 6 dialysis tubing, MWCO 50 000     | Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities. | Nominal dry flat width: 28 mm  
Nominal dry diameter: 18 mm  
Approx. filling volume: 2.5 ml/cm  
Nominal dry wall thickness: 60 – 65 μm | 44229.01 | 10 m    |
| Spectra/Por® 6 dialysis tubing, MWCO 50 000     | Pre-wetted (containing 0.05 % sodium azide), Ready-to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities. | Nominal dry flat width: 34 mm  
Nominal dry diameter: 22 mm  
Approx. filling volume: 3.7 ml/cm  
Nominal dry wall thickness: 60 – 65 μm | 44230.01 | 10 m    |
| Spermidine·3HCl research grade                   | (N-(3-Aminopropyl)-1,4-diaminobutane·3HCl)                                   | C7H19N3·3HCl                        | 35285.02 | 5 g     |
| Spurr Embedding Medium                           | see 21041 Embedding Medium ERL-4221D, page 48                                 |                                   |         |         |
| 20x SSC Buffer molecular biology grade           | Dnase/Rnase not detected. 20 x concentrated aqueous solution. Commonly used buffer in transfer, blocking and hybridization in both Northern and Southern Blotting | Composition: NaCl (cat. no. 39781) 175.32 g/L (3 M)  
Na3-citrate x 2 H2O (cat. no. 38642) 88.23 g/L (0.3 M) | 42555.01  | 1 L     |
| Stabilizing Clamps, for HPE™-BH                  | HPE-SC 2 pieces                                                             |                                   | HPE-SC  | 2 pieces |
| Stabilizing Feet, for HPE™-BH                    | HPE-SF 2 pieces                                                             |                                   | HPE-SF  | 2 pieces |
### Starter Kit: 2 Mini A and 2 Mini G Plugs

**HS 38220000**

The Mini Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunoassays, immuno-histochemical and immuno-fluorescence studies, Western Blotting and immuno-precipitation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

**Contents:**
- Quantity: 2 x 0.23 Protein A Mini spin columns + 2 x 0.23 Protein G Mini spin columns
- Max. sample volume per load: 0.65 ml, fixed angle rotor
- Collection tube: 2.2 ml microcentrifuge tubes
- Min. number of purifications: 12 purifications (3 uses per column)
- Typical capacity/preparation: 1 mg human IgG

**References:**

### Staurosporine research grade

C$_9$H$_{11}$N$_5$O$_4$ • M, 466.5 • CAS [62996-74-1]

**DANGER**

H301-H331

Storage temperature -15 °C to -25 °C

**Potent inhibitor of phospholipid/Ca$^{2+}$ dependent and cyclic nucleotide dependent protein kinases (1, 2, 3).**

**Typical capacity/preparation:** 1 mg human IgG

**Min. number of purifications:** 12 purifications (3 uses per column)

**Max. sample volume per load:** 0.65 ml, fixed angle rotor

**Collection tube:** 2.2 ml microcentrifuge tubes

**References:**

### Steel Tray Multi 6 for up to 6 large gels, with 6 grids

**HS 38207200**

The MultiStainer is a stainless steel vessel with lid designed to stain up to six gels. The staining solution is stirred using a magnetic stir bar underneath the grid to ensure efficient mixing. The gels are positioned on stainless steel grids well separated from each other for simultaneously staining. Suitable for both cold and hot Coomassie staining and for both backed and unbacked (slab) gels up to 20 cm x 26 cm in size.

**Coomassie = registered trademark of ICI Ltd.**

**References:**
1. Frankel-Conrat, H. & Singer, B. (1962) Biochemistry, 1, 125-8 (p. 127)

### Steel Tray + Grid + Lid

**HS 90272000**

Tray for cold and hot staining, 150 mm x 300 mm x 60 mm for all 125 mm x 260 mm gels.

**Cat.No.** | **Size**
---|---
35385.02  | 500 µg

### Steel Tray Large + Grid + Lid

**HS 90272000**

For cold and hot staining, 220 mm x 280 mm x 60 mm for all large and DALT gels.

**Cat.No.** | **Size**
---|---
HPE-A19  | 1 piece

### Steel Tray Multi 6 for up to 6 large gels, with 6 grids

**HS 90272000**

The MultiStainer is a stainless steel vessel with lid designed to stain up to six gels. The staining solution is stirred using a magnetic stir bar underneath the grid to ensure efficient mixing. The gels are positioned on stainless steel grids well separated from each other for simultaneously staining. Suitable for both cold and hot Coomassie staining and for both backed and unbacked (slab) gels up to 20 cm x 26 cm in size.

**Coomassie = registered trademark of ICI Ltd.**

**References:**
1. Frankel-Conrat, H. & Singer, B. (1962) Biochemistry, 1, 125-8 (p. 127)

### Stem bromelain

see 15250 Bromelain from pineapple stem ca. 0.5 DMC-U/mg, page 23

### Streptavidin lyophil. salt-free

M, ca. 60000 • CAS [9013-20-1]

Storage temperature -15 °C to -25 °C

**Avidin from Streptomyces avidinii, isolated from fermentation filtrates by ion exchange chromatography.**

**Unit definition:** one unit of streptavidin will bind 1 µg of biotin.

**Free binding sites (per tetramer)** min. 3

**Isoelectric point:** 6.5 - 7.5

**Cat.No.** | **Size**
---|---
35490.01  | 1 mg
35490.02  | 5 mg
35490.03  | 10 mg

### Streptomyces griseus neutral proteinase

see 33635 Pronase E from Streptomyces griseus min. 6.0 DMC-U/mg, page 100

### Streptomyces griseus neutral proteinase

**HS 35040090**

Storage temperature -15 °C to -25 °C

**Potent inhibitor of phospholipid/Ca$^{2+}$ dependent and cyclic nucleotide dependent protein kinases (1, 2, 3).**

**Typical capacity/preparation:** 1 mg human IgG

**Min. number of purifications:** 12 purifications (3 uses per column)

**Max. sample volume per load:** 0.65 ml, fixed angle rotor

**Collection tube:** 2.2 ml microcentrifuge tubes

**References:**

### Succinic acid·Na$_2$-salt research grade

(Bernsteinsäure-Na-salz; Sodium succinate)

**Cat.No.** | **Size**
---|---
35500.01  | 10 g
35500.02  | 100 g

### Sucrose analytical grade

(Saccharose; Cane sugar)

**Cat.No.** | **Size**
---|---
35579.01  | 25 kg
35579.02  | 500 g
35579.03  | 100 g
35579.04  | 2 kg
35579.05  | 5 kg
35579.06  | 10 kg
35579.07  | 25 kg
35579.08  | 50 kg

### Suralase research grade

**EUN 29400090**

**storage temperature -15 °C to -25 °C**

**Typical capacity/preparation:** 1 mg human IgG

**Min. number of purifications:** 12 purifications (3 uses per column)

**Max. sample volume per load:** 0.65 ml, fixed angle rotor

**Collection tube:** 2.2 ml microcentrifuge tubes

**References:**

### Streptomyces griseus sulfate research grade, Ph. Eur.

C$_9$H$_{11}$N$_5$O$_4$ • 1/2 H$_2$SO$_4$ • M, 728.7 • CAS [3810-74-0]

**WARNING**

WGK 2 • HS 29412080

**Min. 720 U/mg, Aminoglycoside antibiotic from Streptomyces griseus. Blocks the initiation complex and causes misreading on ribosomes in protein synthesis. Inhibits function only of the 30S subunit.**

**References:**
**Sucrose** research grade
(Baccharose; Cane sugar)
C₆H₁₂O₆ • 2H₂O, M 342.3 • CAS [57-50-1]
EINECS 200-334-9 • HS 29400000
For gradient centrifugation, bacteriology and electrophoresis.
Assay (HPLC) min. 98.0 %
A 1 cm/50 % in water
260 nm max. 0.3
280 nm max. 0.25
Heavy metals (Pb) max. 1 ppm

**Sulfobetaine SB 12**
see 20761 N-Dodecyl-N,N-dimethylammonio-3-propane sulfonate, page 45

**Sulfobetaine SB 3-10** research grade
(Caprylyl sulfobetaine; N-Decyl-N,N-dimethyl-3-ammonio-1-propane-sulfonate; 3-(Decyldimethylammonio)propanesulfonate inner salt)
HS 34021900
Zwitterionic detergent for solubilization of membrane proteins in their native state.
Micellar average weight 12 600
Aggregation number 41
CMC 25 – 40 mM (20 – 25 °C)
Assay (HPLC) min. 98.0 %

**Sulfonhodamine B Cytotoxicity Assay**
HS 38220000
The Sulfonhodamine B (SRB) Cytotoxicity Assay, developed in 1990, remains one of the most widely used methods for in vitro cytotoxicity screening. It relies on the ability of SRB to bind to protein components of cells fixed to tissue culture plates. SRB is a bright-pink aminoxanthenyl dye with two sulfonic groups that bind to basic amino acid residues under mild acidic conditions and dissociate under basic conditions. As the binding of SRB is stoichiometric, the amount of dye extracted from stained cells is directly proportional to the cell mass.
The fixed dye is solubilized and is measured photometrically at OD 540 nm with a reference filter of 550 nm. The OD values correlate with total protein content and therefore with cell number.
The assay is sensitive, simple, reproducible and more rapid with better linearity than the formazan-based assays. It has a good signal-to-noise ratio and has a stable end-point that does not require a time-sensitive measurement, as do the MTT or XTT assays.
Content: 0.4 g Sulfonhodamine dye, 2x 50 ml Fixative Reagent, 2x 50 ml 10x Dye Wash Solution, 4x 50 ml SRB Solubilization Buffer

**Super Co-NTA Agarose Resin**
HS 38220000
Super Cobalt NTA Affinity Resin designed for affinity purification of polyhistidine tagged proteins. Cobalt ions are carefully loaded onto a 7.5 % cross-linked agarose matrix (medium particle diameter 40 µm) via a NTA coupled ligand to obtain a stable affinity matrix with the highest binding capacity for histidine residues (up to 10 mg/ml determined from E. coli cleared lysate). Other metal ions such as Ni²⁺, Zn²⁺, Fe³⁺, and Al³⁺ can also be used resulting in different affinities. If required, the cobalt ions can be removed from the agarose matrix using 5 wash steps with 100 mM EDTA, and the matrix recharged with a different metal ion.

**Specifications**
Specificity: Polyhistidine tag
Matrix: 7.5 % cross linked agarose
couples ligand: Nitritolriatic acid (NTA)
Binding capacity: 30 mg/ml
Bead size: 32 – 60 µm (40 µm medium)
Flow rate: 0.25 – 1 ml/min (optimum), 6 ml/min (max)
Maximum pressure: 72 psi
Buffer compatibility: Common aqueous buffers from pH 2-14
Cleaning buffer examples: 100 % methanol, 100 % ethanol, 8 M urea, 6 M guanidinium hydrochloride, 30 % (v/v) acetonitrile
Shipping/delivery: 50 % (v/v) resin suspension in 20 % Ethanol at ambient temperature
Storage: Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8 °C (long-term)

**Super Co-NTA Agarose Resin**

**5-Sulfosalicylic acid** analytical grade
(2-Hydroxy-5-sulfobenzoic acid)
C₇H₆O₆S • 2H₂O, M 254.23 • CAS [5965-83-3]

**5-Sulfosalicylic acid** analysis grade
C₇H₆O₆S • 2H₂O, M 254.23 • CAS [5965-83-3]
DANGER
H302-H314 • GGVSE/ADR 8 III UN2585
IATA 8 III UN2585 • EINECS 202-555-6 • WGK 2
Assay min. 99.0 %
Super Co-NTA Agarose Resin

**HS 38220000**

Super Cobalt NTA Affinity Resin designed for affinity purification of polyhistidine tagged proteins. Cobalt ions are carefully loaded onto a 7.5 % cross-linked agarose matrix (medium particle diameter 40 µm) via a NTA coupled ligand to obtain a stable affinity matrix with the highest binding capacity for histidine residues (up to 70 mg/ml determined from E.coli cleared lysate). Other metal ions such as Ni²⁺, Zn²⁺, Fe³⁺, and Al³⁺ can also be used resulting in different affinities. If required, the cobalt ions can be removed from the agarose matrix using 5 wash steps with 100 mM EDTA, and the matrix recharged with a different metal ion.

**Specifications**
- **Specificity:** Polyhistidine tag
- **Matrix:** 7.5 % cross linked agarose
- **Coupled ligand:** Nitrilotriacetic acid (NTA)
- **Binding capacity:** 70 mg/ml
- **Flow rate:** 0.25 – 1 ml/min (optimum), 6 ml/min (max)
- **Maximum pressure:** 72 psi
- **Buffer compatibility:** Common aqueous buffers from pH 2 - 4
- **Cleaning buffer examples:** 100 % methanol, 100 % ethanol, 8 M urea, 6 M guanidinium hydrochloride, 30 % (v/v) acetonitrile
- **Shipping/delivery:** 50 % (v/v) resin suspension in 20 % Ethanol at ambient temperature
- **Storage:** Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8 °C (long-term)

**Super Ni-NTA Agarose Resin**

**HS 38220000**

Super Nickel NTA Affinity Resin designed for affinity purification of polyhistidine tagged proteins. Nickel ions are carefully loaded onto a 7.5 % cross-linked agarose matrix (medium particle diameter 40 µm) via a NTA-coupled ligand to obtain a stable affinity matrix with the highest binding capacity for histidine residues (up to 70 mg/ml determined from E.coli cleared lysate). Other metal ions such as Co²⁺, Zn²⁺, Fe³⁺, and Al³⁺ can also be used resulting in different affinities. If required, the nickel ions can be removed from the agarose matrix using 5 wash steps with 100 mM EDTA, and the matrix recharged with a different metal ion.

**Specifications**
- **Specificity:** Polyhistidine tag
- **Matrix:** 7.5 % cross linked agarose
- **Coupled ligand:** Nitrilotriacetic acid (NTA)
- **Binding capacity:** 70 mg/ml
- **Flow rate:** 0.25 – 2 ml/min (optimum), 6 ml/min (max)
- **Maximum pressure:** 72 psi
- **Buffer compatibility:** Common aqueous buffers from pH 2 - 14
- **Cleaning buffer examples:** 100 % methanol, 100 % ethanol, 8 M urea, 6 M guanidinium hydrochloride, 30 % (v/v) acetonitrile
- **Shipping/delivery:** 50 % (v/v) resin suspension in 20 % ethanol at ambient temperature
- **Storage:** Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8 °C (long-term)

**Synermonic® F108**

Mₐ, ca. 14000 | CAS [9003-11-6]

WGK 1 | HS 34021900

Polypropylene glycol (Mₐ, ca. 3 250): poly(ethylene glycol) ca. 1:4.

MP 55 - 60 °C. Strongly hydrophilic (HLB ca. 27). More than 10 % soluble in water.

**Synermonic = Registered trademark of ICI**
**Syneronic® F68 pract.**

M, ca. 8300 • CAS [9003-11-6]

WGK 1L • HS 34021900

Polyol detergent, block-copolymer. Pluronic® PE 6800. Poloxamer 188. Poly(propylene glycol) (M ca. 1 750) : polyethylene glycol ca. 1-4. MP ca. 55 °C.

Strongly hydrophilic detergent (HLB approx. 29). More than 10 % soluble in water, forms foams moderately. Used in cell culture to protect microorganisms, animal and plant cells against mechanical damage. Syneronic = trademark of ICI, Pluronic = trademark of BASF AG

References:

**Cholic acid-Na salt**

Purity (TLC) min. 98.0 % Cholic acid-Na salt max. 1.0 %

**Storage temperature** +2 °C to +8 °C

**HS 29181930**

**EINECS 205-653-7**

**WGK 1**

**CAS [145-42-6]**

**Synperonic® F68**

Trademark of ICI, Synperonic = trademark of ICI, Pluronic = trademark of BASF AG

**References:**

**TAE Buffer (10x)**

**molecular biology grade**

**WARNING**

H315-H319-H360DF • WGK 2 • HS 38220000

10 x concentrated aqueous solution.

TAE Buffer is used for the electrophoresis of nucleic acids. TAE has a lower buffer capacity than TBE, however linear dsDNA tends to run faster in TAE than in TBE.

Tris (cat. no. 37180) 48.46 g/L (0.4 M) EDTA-Na₂-salt (cat. no. 11280) 3.72 g/L (0.01 M) Acetic acid (cat. no. 45633) 12.01 g/L (0.2 M)

**References:**

**TBE Buffer (10x)**

**molecular biology grade**

**WARNING**

H315-H319-H360DF • WGK 1 • HS 38220000

10 x concentrated aqueous solution.

TBE Buffer is widely used for the electrophoresis of nucleic acids and has a higher buffer capacity than TAE. It can be used for DNA and RNA polymerase and agarose gel electrophoresis.

**Composition:**

Tris (cat. no. 37180) 107.78 g/L (0.89 M) EDTA-Na₂-salt (cat. no. 11280) 7.44 g/L (0.02 M) Boric acid (cat. no. 15165) 55.0 g/L (0.89 M)

**References:**

**TBS Buffer (10x)**

**sterile**

(Tris-Buffered Saline)

HS 38220000

10 x concentrated aqueous solution, sterile filtered.

TBS Buffer is widely used for the electrophoresis of nucleic acids and has a higher buffer capacity than TAE. It can be used for DNA and RNA polymerase and agarose gel electrophoresis.

**Composition:**

NaCl (cat. no. 30183) 150.00 g/L (1.5 M) KCl (cat. no. 26868) 3.00 g/L (0.03 M) EDTA-Na₂-salt (cat. no. 39760) 2.00 g/L (0.02 M) Boric acid (cat. no. 15165) 121.14 g/L (1 M) Tris (cat. no. 39760) 2.00 g/L (0.02 M) pH 8.0

**References:**

**TE Buffer (10x)**

**pH 8.0**

**molecular biology grade**

**WARNING**

H315-H319-H360DF • WGK 1 • HS 38220000

10 x concentrated aqueous solution.

TE Buffer is widely used as a buffer in protein detection systems like Western blot analysis, for immunocytological and immunohistological detection, in situ hybridization, apoptosis assays and staining of nuclei.

**Composition:**

KCl (cat. no. 26868) 150.00 g/L (1 M) Tris (cat. no. 37180) 37.22 g/L (0.1 M) pH 8.0

**References:**

**TAPS**

see 37194 N-Tris(hydroxymethyl)methyl-3-aminopropane sulfonic acid, page 170

**Taurocholic acid-Na-salt pure**

(Sodium taurocholate)

C₂₆H₄₄NO₇S·Na . aq • M, 537.7 (anhydrous) • CAS [145-42-6]

EINECS 205-653-7 • WGK 1 • HS 29181930

Storage temperature -2 °C to +8 °C

Purity (TLC) min. 98.0 % Cholic acid-Na salt max. 1.0 %
Lauber’s procedure can be supplied on request. 710 originally used by the author is no longer available. A modification of a dilution of 1:20 has pH 7.6. For determination of iron in serum (1). Teepol c

Testosterone research grade, Ph. Eur. (4-Androsten-17β-ol-3-one; 17β-Hydroxy-4-androsten-3-one)

Testosterone propionate research grade

Tetra-n-butylammonium-hydrogensulfate analytical grade

Tetracycline·HCl research grade, USP (Achromycin·HCl)

Tetramethyl-ethylendiamine for electrophoresis (TEMED; TD)

Tetramethyl-ethylendiamine

3,3',5,5'-Tetramethylbenzidine research grade (TMB)

References:

References:

www.serva.de
### Tetrazolium Blue-chloride

**research grade**

(BT; Blue tetrazolium chloride; 2,2',5,5'-Tetraphenyl-3,3'-dithiobis-4,4'-diphenyl)-2H-thiazolium chloride)

*C₆H₆N₂O₂Cl₂*  M  727.7  EINECS [1871-22-3]

EINECS 217-488-8  WGK 2L  HS 32041900

Assay (TLC) min. 97.0 %

Storage temperature +2 °C to +8 °C

WGK 1L

C₆H₆N₂O₂Cl₂  M  727.7  CAS [1871-22-3]

EINECS 217-488-8  WGK 2L  HS 32041900

Assay (titr., dried) min. 99.0 %

### Tetrazolium Red

see 37130 Triphenyltetrazolium chloride, page 168

### TEV Protease, recombinant

HS 35079090

Recombinant TEV Protease is a highly site-specific cysteine protease, which is found in the Tobacco Etch Virus. Due to its sequence specificity, the enzyme is very powerful reagent for removal of fusion tags from recombinant proteins after protein purification. The enzyme has been genetically modified to increase its activity and resistance to autolysis. It consists of the 27 kDa catalytic domain with an N-terminal polyhistidine tag. It recognizes a seven amino acid sequence of the general form Glu-X-X-

Tumor-promoting sesquiterpene lactone. Induces the release of intracellular calcium stores by inhibition of the ER/microsomal Ca²⁺ ATPase.

Specific activity: 1 U/µl supplied with 1 ml 20x TEV Reaction Buffer and 100 mM DTT.

Unit definition: 1 unit cleaves >95 % of 3 µg control substrate in one hour at 30 °C.

### THAM

see 37190 Tris(hydroxymethyl)aminomethane, page 169

### THAM

see 37181 Tris(hydroxymethyl)aminomethane, page 169

### Thapsigargin

**research grade**

*C₄H₉NO₃*  M  650.6  CAS [67526-95-8]

DANGER

H₃S₅-H₃S₃-H₃S₃-H₃S₃  M  29419000

Storage temperature -15 °C to -25 °C

Tumor-promoting sesquiterpene lactone. Induces the release of intracellular calcium stores by inhibition of the ER/microsomal Ca²⁺ ATPase.

Assay (TLC) min. 97.0 %

References:
5. Furuya, Y. et al. (1994) Cancer Res. 54, 6167-75

### Thiamine·HCl

**research grade, Ph. Eur.**

(Aneurin; Thiamin chloride-hydrochloride; Vitamin B₁, hydrochloride)

*C₆H₆N₂O₂S·HCl*  M  337.3  CAS [67-03-8]

EINECS 200-774-1  WGK 1L  HS 29224985

Assay (titr., dried) min. 99.0 - 101.0 %

Heavy metals (Pb) max. 10 ppm

### Thioridazine hydrochloride

see 37129 Thioridazine hydrochloride, page 269

### TMB

see 36382.03 100 g

### TMB

see 36382.01 1.000 U

### TMB

see 36382.02 10 g

### TMB

see 36382.03 100 g

### Thrombin from bovine plasma min. 1000 units/mg protein

**lyophil.**

(Coagulation Factor IIa)

EC 3.4.21.5  M, ca. 37 000  CAS [9002-04-4]

**WARNING**

H₃S₅-H₃S₃-H₃S₃-H₃S₃  M  35079090

Storage temperature +2 °C to +8 °C

Serine protease that activates factor XIII and converts fibrinogen to fibrin by selectively cleaving Arg-Gly bonds.

Suitable for removal of a tag, e.g. GST-tag, from a recombinant fusion protein containing an accessible thrombin recognition sequence.

Unit definition: 1 NIH unit clots a standard fibrinogen solution in 15 s at 37 °C (1).

Extraneous activities: very low fibrinolytic activity

References:

### Thrombin Ready-To-Use ELISA Substrate

WGK 1  HS 38220000

Storage temperature +2 °C to +8 °C

One bottle reagent: contains 3,3',5,5'-tetramethylbenzidine, buffer and hydrogen peroxide in a single convenient, ready-to-use solution recommended for the detection of horseradish peroxidase in ELISA assays. Develops a deep blue color that turns bright yellow when the reaction is stopped. Light sensitive. Do not freeze.
TMB Ready-To-Use Substrate for Blotting

HS 38220000
Storage temperature +2 °C to +8 °C

Single component TMB substrate for detection of horseradish peroxidase in Western, Northern, Southern and Dot Blots. The reaction product is a blue precipitate. Contains a proprietary enhancer and non-toxic stabilizer, which guarantees a highly sensitive and consistent performance of the substrate.

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>37070.01</td>
<td>100 ml</td>
</tr>
</tbody>
</table>

Tobramycin sulfate research grade, USP

(C$_{25}$H$_{37}$N$_{5}$O$_{9}$)$_2$ x 5H$_2$SO$_4$

H$_3$61d $\rightarrow$ WGK 1 $\rightarrow$ HS 29419000

Storage temperature +2 °C to +8 °C

Potency: 634 - 739 μg Tobramycin/mg substance. Amino glycoside antibiotic; similar in structure and action to gentamycin sulfate and kanamycin sulfate.

Heavy metals (Pb) max. 0.003 %

References:

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</thead>
<tbody>
<tr>
<td>36562.01</td>
<td>250 mg</td>
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</table>

α-Toluenesulfonyl fluoride

see 32395 Phenylmethylsulfonyl fluoride, page 95

Toluidine Blue O salt

(Basic Blue 17; 2-Amino-7-dimethylamino-3-methylphenothiazinium chloride)

C$_{25}$H$_{37}$N$_{5}$S x H$_2$SO$_4$

EINECS 202-146-2 $\rightarrow$ WGK 2L $\rightarrow$ HS 29349990

Methylhomologue of Azure A. For RNA staining and RNase detection in electrophoresis (1). Stain for acidic mucopolysaccharides (2) and RNA (3) and RNA (4).

Water (KF) max. 10.0 %
A 1 cm/0.001 % in water λ max. min. 0.8
λ max 0.001 % in water 622 - 638 nm

References:

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Tolylene Red

see 30305 Neutral Red, page 88

Towbin Buffer for Western Blotting 10x concentrate

HS 38220000

Supplied as 10 x concentrate (0.25 M Tris and 1.92 M glycine in aqueous solution). Working buffer: dilute 100 ml of 10x concentrate with 200 ml methanol and 700 ml distilled water.

<table>
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TPA

see 32496 Phorbol (12-myristoyl-13-acetyl), page 95

TPNH

see 30316 β-Nicotinamide adenine dinucleotide phosphate reduced -Na$^-$ salt, page 89

Transferrin human (Apo) lyophil.

(Siderophilin)
M$_r$ ca. 77 000
HS 35040090
Storage temperature -15 °C to -25 °C

Iron-poor, iron (Fe) max. 0.003 %. Donor units tested for HbsAg, Anti-HCV, Anti-HIV-1, anti-HIV-2, and Syphilis by FDA approved tests.

Protein content min. 98.0 %

References:

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<tbody>
<tr>
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Transferrin human (Holot) lyophil. pasteurized

(Siderophilin)
M$_r$ ca. 80 000 $\rightarrow$ CAS [11096-37-3]
HS 35040090
Storage temperature -15 °C to -25 °C

Iron saturated; iron (μg Fe/g protein): min. 1200.

Donor units tested for HbsAg, Anti-HCV, Anti-HIV-1, anti-HIV-2, and Syphilis by FDA approved tests.

Purity (CAE) min. 98.0 %

References:

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Trasylol®

see 13718 Aprotinin from bovine lung, page 14

D-Trehalose analytical grade

(c-D-Glucopyranosyl-α-D-glucopyranoside)
C$_{12}$H$_{22}$O$_{11}$2H$_2$O $\rightarrow$ M, 378.3 $\rightarrow$ CAS [8138-23-4]

EINECS 202-739-6 $\rightarrow$ WGK 1 $\rightarrow$ HS 29400000

Assay (HPLC) min. 99.0 %

References:

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<tbody>
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Tricine

see 12396 3-Aminobenzoic acid ethyl ester-methanesulfonate, page 11

Trichloroacetic acid analytical grade

C$_{3}$H$_{5}$ClO$_{3}$ $\rightarrow$ M, 163.4 $\rightarrow$ CAS [76-03-9]

EINECS 209-927-2 $\rightarrow$ WGK 2L $\rightarrow$ HS 29154000

Assay (titr.) min. 99.0 %

DANGER

<table>
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<tbody>
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Trichloroacetic acid, 20 % solution

DANGER

H314-H335-H336-H412

EGVSE/ADR 8 II UN1839 $\rightarrow$ IATA 8 II UN1839

EINECS 209-927-2 $\rightarrow$ WGK 2L $\rightarrow$ HS 29154000

Aqueous solution. TCA (cat. no. 36910): 200 g/L.

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Trichloromethane

see 39553 Chloroform, page 31

Trichloromethane

see 45627 Chloroform, page 31

Tricine

see 37196 Tris(hydroxymethyl)methylglycine, page 170
TriPRODUCTS A - Z

Tricine
see 37195 N-Tris(hydroxymethyl)methylglycine, page 170

Trifluoroacetic acid for LC-MS
CAS [76-05-1]

DANGER
H314-H322-H412 ¡ GGVS/ADR 8 I UN2699 ¡ IATA 8 I UN2699 ¡ WGK 2L ¡ HS 29159070
Additive for eluent phase for LC-MS.
Assay (acidimetric) min. 99.9 %
Water (KF) max. 0.05 %
Chloride max. 10 ppm
Fluoride max. 50 ppm
Sulphate max. 10 ppm

Triethanolamine reseach grade, Ph. Eur.
C₆H₁₄N₂O₂ (5-[(3,4,5-Trimethoxybenzyl)-2,4-diaminopyrimidine)

DANGER
H302-H360 ¡ EINECS 212-006-2 ¡ WGK 2 ¡ HS 29359959
Storage temperature +2 °C to +8 °C
Antibacterial substance, activity in vitro (1). Simultaneous detection with sulfamethazine by HPLC (2). Inhibitor of the bacterial enzyme dihydrofolate reductase.
Assay ( Organizations) 98.5 - 101.0 %
Heavy metals (Pb) max. 20 ppm

References:

Triethanolamine (TTC; Tetrazolium Red; 2,3,5-Triphenyl-2H-tetrazolium chloride)
C₁₄H₁₈N₄O₃ (5-(3,4,5-Trimethoxybenzyl)-2,4-diaminopyrimidine)

DANGER
H314 ¡ GGVS/ADR 8 II UN3261 ¡ IATA 8 II UN3261 ¡ WGK 1 ¡ HS 29420000
Storage temperature +2 °C to +8 °C
Water-soluble and odorless reagent for selective and fast reduction of disulfides. Does not react with other functional groups of proteins. Unreactive towards many common alkylating reagents, so reductions have been carried out simultaneously with alkylations. More stable and effective than DTT. The strength of the phosphorus-oxygen bond makes the reaction irreversible. Dilute solutions of TCEP (1 mM) react rapidly at room temperature. Suitable also in mass spectrometry applications.
Assay (TLC) min. 99.0 %

References:

Tris-(2-carboxyethyl)phosphine hydrochloride
(TCEP) C₁₀H₁₆ClO₄P ¡ M. 286.7 ¡ CAS [51805-45-9]

DANGER
H314 ¡ GGVS/ADR 8 II UN3261 ¡ IATA 8 II UN3261 ¡ WGK 1 ¡ HS 29420000
Storage temperature +2 °C to +8 °C
Water-soluble and odorless reagent for selective and fast reduction of disulfides. Does not react with other functional groups of proteins. Unreactive towards many common alkylating reagents, so reductions have been carried out simultaneously with alkylations. More stable and effective than DTT. The strength of the phosphorus-oxygen bond makes the reaction irreversible. Dilute solutions of TCEP (1 mM) react rapidly at room temperature. Suitable also in mass spectrometry applications.
Assay (TLC) min. 99.0 %

References:

Tris-Buffered Saline
see 42596 TBS Buffer (10x), page 164

Tris-Glycine/SDS Sample Buffer
see 42527 SERVA Tris-Glycine/SDS Sample Buffer (2x), page 136

Tris-Tricine/SDS Running Buffer
see 42552 SERVA Tris-Tricine/SDS Electrophoresis Buffer (10x), page 136

Tris Buffer pH 7.5, 1 M solution
molecular biology grade
WGK 2 ¡ HS 38220000
DSNase, RNase, Protease not detected. The pH value of Tris buffer is temperature and concentration dependent. For Tris buffers, pH increases about 0.03 unit per degree C decrease in temperature, and decreases 0.03 - 0.05 unit per ten-fold dilution.
Composition:
Tris (cat. no. 37180) 121.14 g/l
pH (20 °C, adjusted with HCl) 7.5 ± 0.1

Tris Buffer pH 8.0, 1 M solution
molecular biology grade
WGK 2 ¡ HS 38220000
DSNase, RNase, Protease not detected. The pH value of Tris buffer is temperature and concentration dependent. For Tris buffers, pH increases about 0.03 unit per degree C decrease in temperature, and decreases 0.03 - 0.05 unit per ten-fold dilution.
Composition:
Tris (cat. no. 37186) 121.14 g/l
pH (20 °C, adjusted with HCl) 8.0 ± 0.1

Tris Buffer pH 8.8, 1 M solution
molecular biology grade
WGK 2 ¡ HS 38220000
DSNase, RNase, Protease not detected. The pH value of Tris buffer is temperature and concentration dependent. For Tris buffers, pH increases about 0.03 unit per degree C decrease in temperature, and decreases 0.03 - 0.05 unit per ten-fold dilution.
Composition:
Tris (cat. no. 37186) 121.14 g/l
pH (20 °C, adjusted with HCl) 8.8 ± 0.1

Triyessee 37190 Tris(hydroxymethyl)aminomethane, page 169
2,4,6-Tris(dimethylaminomethyl)phenol  
(EPON accelerator DMP-30; ARALDITE® Accelerator DY 964)  
C₂₅H₃₈N₃O  M, 265.4  CAS [90-72-2]  
WARNING  
H302-H315-H319  EG-Index 603-069-00-0  
EINECS 202-019-9  WGK 1L  HS 29215990  
Accelerator for epoxy polymerization.  
Density (20 °C) 0.96 - 1.0  
Cat.No.  Size  
36975.01  100 ml  
36975.03  250 ml

Tris(hydroxymethyl)aminomethane  
Electrophoresis grade  
(Tris; THAM; Tromethamine; 2-Amino-2-(hydroxymethyl)-1,3-propanediol)  
C₄H₁₁NO₃  Mr 121.1  CAS [77-86-1]  
WARNING  
H315-H319  EINECS 201-064-4  HS 29221985  
Ultrapure quality, tested for use in electrode buffers for PAGE and in transfer buffers for Western Blots.  
Assay (titr.)  
A 1 cm 10 % in water  
235 nm  
260 nm  
280 nm  
430 nm  
Heavy metals (Pb)  
max. 0.1 ppm  
Heavy metals (As)  
max. 0.05 ppm  
Heavy metals (Mg)  
max. 0.03 ppm  
Heavy metals (Fe)  
max. 0.03 ppm  
pH (10 % in water)  
3.5 - 5.0  
Cat.No.  Size  
37180.02  500 g  
37180.03  1 kg  
37180.04  2.5 kg

Tris(hydroxymethyl)aminomethane  
Research grade, USP  
(Tris; THAM; Tromethamine; 2-Amino-2-(hydroxymethyl)-1,3-propanediol)  
C₄H₁₁NO₃  M, 121.1  CAS [77-86-1]  
WARNING  
H315-H319  EINECS 201-064-4  HS 29221985  
Suitable for preparative purposes and for chromatography.  
Assay (titr.)  
min. 99.0 %  
A 1 cm/10 % in water  
290 nm  
max. 0.2  
pH (5 % in water)  
10.0 - 11.5  
Heavy metals (Pb)  
max. 10 ppm  
Cat.No.  Size  
37180.02  250 g  
37180.03  1 kg  
37180.04  5 kg

Tris(hydroxymethyl)aminomethane·hydrochloride  
Molecular biology grade  
(Tris-hydrochloride)  
C₄H₁₁NO₃·HCl  M, 157.6  CAS [1185-53-1]  
WARNING  
H315-H319-H335  EINECS 214-684-5  WGK 1  HS 29221985  
DNase/RNase Protease not detected.  
Assay (titr.)  
min. 99.0 %  
A 1 cm/10 % in water  
230 nm  
max. 0.1  
260 nm  
max. 0.05  
280 nm  
max. 0.03  
Heavy metals (as Pb)  
max. 10 ppm  
pH 10 % in water  
3.5 - 5.0  
Cat.No.  Size  
37192.01  100 g  
37192.02  500 g  
37192.03  2.5 kg

Tris(hydroxymethyl)aminomethane·hydrochloride  
Research grade  
(Tris-hydrochloride)  
C₄H₁₁NO₃·HCl  M, 157.6  CAS [1185-53-1]  
WARNING  
H315-H319-H335  EINECS 214-684-5  WGK 1  HS 29221985  
For enzymology.  
Assay (titr.)  
min. 99.0 %  
A 1 cm/10 % in water  
230 nm  
max. 0.1  
260 nm  
max. 0.05  
280 nm  
max. 0.03  
Heavy metals (Pb)  
max. 10 ppm  
pH 10 % in water  
3.5 - 5.0  
Cat.No.  Size  
37192.01  100 g  
37192.02  500 g  
37192.03  2.5 kg
**N-Tris(hydroxymethyl)methyl-3-aminopropane sulfonic acid**
**analytical grade**

(TAPS)

C$_7$H$_{17}$NO$_6$S

M = 243.28  CAS [29915-38-6]

EINECS 249-954-1  WGK 1  HS 29221985


Assay (titr.)

A 1 cm/10 % in water

230 nm  max. 0.2

260/280 nm  max. 10 ppm

pH (10 % in water)  4.5 - 6.5

*References:*

<table>
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<tr>
<th>Cat.No.</th>
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<tbody>
<tr>
<td>37194.03</td>
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<tr>
<td>37194.04</td>
<td>250 g</td>
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</table>

**N-Tris(hydroxymethyl)methylglycine**
**analytical grade**

(Tricine)

C$_6$H$_{13}$NO$_5$

M = 179.17  CAS [5704-04-1]

EINECS 227-193-6  WGK 1  HS 29225000


Assay (titr.)

A 1 cm/0.1 M in water

260 nm  max. 0.04

280 nm  max. 0.02

pH 10 % in water  4.6 - 5.2

Heavy metals (Pb)  max. 0.04

Iron (Fe)  max. 0.02

*References:*
1. Good, N.E. et al. (1966) Biochemistry 5, 467-77

<table>
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<tr>
<td>37195.03</td>
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**TriTricine**
**electrophoresis grade**

(Tricine)

C$_6$H$_{13}$NO$_5$

M = 179.17  CAS [5704-04-1]

EINECS 227-193-6  WGK 1  HS 29221985

In the Tricine gel system developed by Schagger and von Jagow (1), Tricine replaces glycine in the running buffer. This results in higher resolution of low molecular weight proteins and of smaller peptides. Ultrapure quality, tested for use in electrode buffers for PAGE.

Assay (titr.)

A 1 cm/0.1 M in water

260 nm  max. 0.04

280 nm  max. 0.02

pH 10 % in water  4.6 - 5.2

Heavy metals (Pb)  max. 0.04

Iron (Fe)  max. 0.02

*References:*

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<td>37196.02</td>
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**Triton® X-100**

(Octylphenol-polyethylene glycol ether, n ca. 10)

CAS [9036-19-5]

DANGER

H302-H318-H412  WGK 2  HS 34021300

HLB 13.5. For the turbidimetric determination of phosphate (1). Can be used in place of Nonidet NP-40. One of the most frequently used surfactants for the isolation, purification and analysis of membrane components. Suitable for solubilization of hydrophobic proteins prior to Blue Native PAGE.

Water (KF)

A 1 cm /320 nm 1 % in water

A 1 cm /360 nm 1 % in water

max. 1.0 %

max. 0.4

max. 0.04

® Registered trademark of Union Carbide.

<table>
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**Triton® X-100 molecular biology grade**

(Octylphenol-polyethylene glycol ether, n ca. 10)

CAS [9036-19-5]

DANGER

H302-H318-H412  WGK 2  HS 34021300

DNase, RNase, Protease, Phosphatase not detected. HLB 13.5.

® Registered trademark of Union Carbide

<table>
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<tbody>
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**Triton® X-100 for scintillation techniques**

(Octylphenol-polyethylene glycol ether, n ca. 10)

CAS [9036-19-5]

DANGER

H302-H318  WGK 2  HS 34021300

HLB 13.5.

® Registered trademark of Union Carbide

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**Trometamol**

see 37181 Tris(hydroxymethyl)aminomethane, page 169

**Trometamol**

see 37180 Tris(hydroxymethyl)aminomethane, page 169

**Tromethamine**

see 37180 Tris(hydroxymethyl)aminomethane, page 169

**Tromethamine**

see 37181 Tris(hydroxymethyl)aminomethane, page 169
**Trypsin 1:250 from bovine pancreas lyophil., USP**

<table>
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<tr>
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**Trypsin from porcine pancreas ca. 60 U/mg**

2 x cryst. lyophil. salt-free

EC 3.4.21.4 | M, ca. 24 000 | CAS [9002-07-7]

<table>
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**Trypsin inhibitor from bovine lung**

see 13718 Aprotinin from bovine lung, page 14

M, ca. 22 000 | CAS [9035-81-8]

<table>
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**Trypsin inhibitor from soybean ca. 50 U/mg lyophil.**

M, ca. 22 000 | CAS [9035-81-8]

<table>
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<th>Size</th>
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**Trypsin inhibitor from soybean min. 13 000 U/mg lyophil.**

M, ca. 22 000 | CAS [9035-81-8]

<table>
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**Trypsin MS approved**

EC 3.4.21.4 | CAS [9002-07-7]

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**Trypsin Premium Grade, MS approved from porcine pancreas**

EC 3.4.21.4 | M, ca. 24 000 | CAS [9002-07-7]

<table>
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**Trypsin Sequencing Grade, modified from porcine pancreas**

EC 3.4.21.4 | M, ca. 24 000 | CAS [9002-07-7]

<table>
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<tr>
<td>37283.02</td>
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</table>
■ Trypsin Peptide (TP) Standard
EC 3.4.21.4  CAS [9002-07-7]
DANGER
H315-H319-H334-H335  EG-Index 647-010-00-7  EINECS 232-650-8  WGK 1  HS 35079090
Storage temperature -15 °C to -25 °C
The Trypsin Peptide (TP) Standard allows internal calibration for enhancing mass accuracy in MS analysis after tryptic digestion with Trypsin MS approved (cat. no. 37286). The TP standard provides tryptic activity to generate masses m/z 842 and 2211.

Cat.No. | Size
--- | ---
37285.01 | 25 µg

■ Trypsine from casein pancreatic
HS 35040090
Prepared by pancreatic digest of milk protein casein. Very rich source of amino nitrogen. Used in the production of various general media such as Tryptone Water etc. and as well in the production of sterility testing media and various diagnostic media.

Total nitrogen (TN) 12.5 – 13.5 %
Amino nitrogen (AN) 3.5 – 4.5 %
AN/TN x 100 26 – 37
pH (2 % solution) 6.5 – 7.5

Cat.No. | Size
--- | ---
48647.01 | 250 g
48647.02 | 1 kg

■ L-Tryptophan research grade, Ph. Eur.
(Trp; L-2-Amino-3-(indolylepropionic acid), C_{9}H_{11}NO_{3}  M_{r}  204.2  CAS [73-22-3]
EINECS 200-795-6  WGK 1L  HS 29224985
Assay (litr) 98.5 - 101.0 %
Heavy metals (Pb) max. 10 ppm

Cat.No. | Size
--- | ---
37422.02 | 25 g
37422.03 | 100 g
37422.04 | 500 g

■ TTC
see 37130 Triphenyltetrazolium chloride, page 168

■ Tube Adaptor

■ Tween® 20 molecular biology grade
(Polysorbate 20; Polyoxyethylene sorbitan monolaureate, n ca. 20) M_{r}  ca. 1200  CAS [9005-64-5]
EINECS 500-018-3  WGK 1L  HS 34021300
DHase/RNase not detected. HLB 16.7.
Heavy metals max. 10 ppm
Water max. 3.0 %

Cat.No. | Size
--- | ---
37976.01 | 100 ml

■ Tween® 20 pure, Ph. Eur., USP
(Polysorbate 20; Polyoxyethylene sorbitan monolaureate, n ca. 20) M_{r}  ca. 1200  CAS [9005-64-5]
EINECS 500-018-3  WGK 1L  HS 34021300
HLB 16.7. Non-ionic surfactant that effectively suppresses unspecific reactions between antibodies, antigens and other molecules (1, 2). Also used as a solubilizer in membrane chemistry (3) and for density centrifugation of viruses (4).
Free dioxane max. 10 ppm
Free ethylene oxide max. 1 ppm
Heavy metals (Ph. Eur.) max. 10 ppm
Non animal origin

Registered trademark of ICI, Ltd.

References:
2. Tovey, E.R. et al. (1989) Electrophoresis 10, 243-9

Cat.No. | Size
--- | ---
37470.01 | 500 g
37470.02 | 5 kg

■ Tween® 80 pure, Ph. Eur., USP/NF
(Polysorbate 80; Polyoxyethylene sorbitan monooleate, n ca. 20) M_{r}  ca. 1300  CAS [9005-65-6]
EINECS 500-019-9  WGK 1L  HS 34021300
HLB 15.0; tested for use in tissue culture.
Density (25 °C) 1.06 - 1.09
Ethylene oxide value max. 1 ppm
1,4-Dioxane content max. 10 ppm
Heavy metals max. 10 ppm
Non animal origin

Registered trademark of ICI, Ltd.

References:

Cat.No. | Size
--- | ---
37475.01 | 500 g
37475.02 | 5 kg

■ Tylosine-tartrate solution (100x) sterile filtered
(Anti-PPLO-agent)
HS 38220000
Assay (titr.) 49.3 - 50.7 %
Heavy metals (Ph. Eur.) max. 1 ppm
Free ethylene oxide max. 1 ppm
Free dioxane max. 1 ppm
Non animal origin

Registered trademark of ICI, Ltd.

References:

Cat.No. | Size
--- | ---
37888.01 | 25 ml

■ L-Tyrosine analytical grade, Ph. Eur.
(Tyr; L-2-Amino-3-(4-hydroxyphenyl)-propionic acid; L-3-(4-Hydroxyphenyl)-alanine) C_{9}H_{11}NO_{3}  M_{r}  181.2  CAS [60-18-4]
EINECS 200-460-4  WGK 1L  HS 29224985
Assay (litr) 99.0 - 101.0 %
Heavy metals (as Pb) max. 10 ppm

Registered trademark of ICI, Ltd.

References:
2. Tovey, E.R. et al. (1989) Electrophoresis 10, 243-9

Cat.No. | Size
--- | ---
37540.02 | 25 g
37540.03 | 100 g

www.serva.de
Uranyle acetate·2H₂O research grade
(CH₃COO)₂UO₂·2H₂O \( \text{Mr} 424.2 \) CAS [6159-44-0]

DANGER
H300-H330-H373-H411 \( \text{EG-Index} 092-002-00-3 \)
GGVSE/ADR 7 UN2910 IATA 7 UN2910 WGK 3L HS 28443019

For determination of unbound radioactive iodine in radiolabelled glycoproteins. For positive staining in electron microscopy.

Assay (Min)
- Chloride (Cl) min. 98.0 %
- Lead (Pb) max. 0.003 %
- Export restricted. Please ask for details.

References:

Urea analytical grade, Ph. Eur., USP
(Carbamide; Carbonyl diamide)
\( \text{CH}_4\text{N}_2\text{O} \) \( \text{Mr} 60.06 \) CAS [57-13-6]

EINECS 200-315-5 WGK 1L HS 29241900

Assay (from N)
- Heavy metals (Pb) 99.0 - 100.5 %
- Heavy metals (as Pb) < 10 ppm

Assay (from N) 99.0 - 100.5 %
- Heavy metals < 10 ppm

Urea electrophoresis grade
(Carbamide; Carbonyl diamide)
\( \text{CH}_4\text{N}_2\text{O} \) \( \text{Mr} 60.06 \) CAS [57-13-6]

EINECS 200-315-5 WGK 1L HS 29241900

For complete solubilization and unfolding of proteins, urea is included in the sample solution for 2D PAGE at a concentration of at least 8 M. It is also used to denature nucleic acids in sequencing gels. Application-tested quality.

Assay (from N) 99.0 - 100.5 %
- Heavy metals < 10 ppm

Urea molecular biology grade
(Carbamide; Carbonyl diamide)
\( \text{CH}_4\text{N}_2\text{O} \) \( \text{Mr} 60.06 \) CAS [57-13-6]

EINECS 200-315-5 WGK 1L HS 29241900

DNase/RNase not detected.

Assay (from N) 99.0 - 100.5 %
- A 1 cm/8 M in water 260 nm 280 nm 280 nm 100 nm 0.1 0.1
- Heavy metals (as Pb) max 0.002 %
- Iron (Fe) < 0.15 ppm

Urea from jack bean min. 220 U/mg lyophil.
(Urea amidohydrolase)
EC 3.5.1.5 \( \text{Mr} 586.2 \) CAS [9802-13-5]

DANGER
H334 EINECS 243-347-5 HS 29199000

Storage temperature -15 °C to -25 °C

Assay (HPLC)
- Heavy metals (Pb) 91.0 - 100.5 %
- Heavy metals (as Pb) < 10 ppm

Uridine-5'-triphosphate·Na₃-salt research grade
(UTP)
\( \text{C}_9\text{H}_{12}\text{N}_2\text{O}_{15}\text{P}_3\cdot\text{Na}_3\cdot2\text{H}_2\text{O} \) \( \text{Mr} 586.2 \) CAS [19817-92-6]

EINECS 243-347-5 HS 29199000

Storage temperature -15 °C to -25 °C

Assay (HPLC)
- Heavy metals (Pb) 91.0 - 100.5 %
- Heavy metals (Pb) max 10 ppm

Uridine-5'-triphosphate·Na₃-salt, page 173

UV Filter (58 mm) for DIAS-III

UV Filter (58 mm) for DIAS-III

HS 90275000

UV to Blue Light Converter Screen

Converter plate for conversion of UV light into visible light. The combination of this low-cost plate with an UV transilluminator replaces an extra white light table, e.g. for the documentation of UV-transilluminator stained DNA gels.

Outer dimensions: 33.5 cm x 27 cm.
Filter glass dimensions: 29 cm x 24.5 cm

UV to Blue Light Converter Screen
HS 90278017

Converter plate for conversion of UV light into visible light. The combination of this low-cost plate with an UV transilluminator replaces an extra white light table, e.g. for the documentation of Coomassie-stained protein gels or autoradiographs.

Outer dimensions: 33.5 cm x 27 cm.
Filter glass dimensions: 29 cm x 24.5 cm

UV to White Light Converter Screen
HS 90278017

Converter plate for conversion of UV light into visible light. The combination of this low-cost plate with an UV transilluminator replaces an extra white light table, e.g. for the documentation of Coomassie-stained protein gels or autoradiographs.

Outer dimensions: 33.5 cm x 27 cm.
Filter glass dimensions: 29 cm x 24.5 cm

For the determination of urea (1). Unit definition: 1 U catalyzes the formation of 1 µmole ammonia per minute at 25 °C, pH 8.0 from urea, determined in a coupled reaction with GLDH (2).

Activity in other units: If the unit of activity is defined in terms of 1 µmole urea decomposed per minute, this preparation would contain at least 90 units/mg.

References:
**Vancomycin HCl** Ph. Eur.

\[
\text{C}_{66}\text{H}_{75}\text{Cl}_2\text{N}_9\text{O}_{24} \cdot \text{HCl}
\]

**WARNING**

H317 \* HS 29419000

Storage temperature +2 °C to +8 °C

Mixture of glycopeptide antibiotics. Min. 1050 I.E./mg. Major component: Vancomycin B: min. 93 % (HP/LC). Bactericidal against gram positive and some gram negative bacteria (Valeiella sp.). Inhibits formation of murein during cell wall synthesis. Suitable for cell culture.

**References:**


**Versene disodium**

see 11280 Ethylenediamine tetraacetic acid-Na₂-salt, page 51

**VISKING dialysis tubing, MWCO 12 000 - 14 000**

RC, diameter 6 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter ca. 25 Å

Nominal dry flat width 10 mm

Nominal dry diameter 6 mm

Approx. filling volume 0.3 ml/cm

Nominal dry wall thickness 51 μm

**VISKING dialysis tubing, MWCO 12 000 - 14 000**

RC, diameter 16 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter ca. 25 Å

Nominal dry flat width 25 mm

Nominal dry diameter 16 mm

Approx. filling volume 2.0 ml/cm

Nominal dry wall thickness 20 μm

**VISKING dialysis tubing, MWCO 12 000 - 14 000**

RC, diameter 21 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter ca. 25 Å

Nominal dry flat width 34 mm

Nominal dry diameter 21 mm

Approx. filling volume 3.4 ml/cm

Nominal dry wall thickness 23 μm
**VISKING dialysis tubing, MWCO 12 000 - 14 000**

**RC, diameter 28 mm**

HS 39173200

- Packed dry, made from regenerated cellulose (RC). With glyceral as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.
  - Pore diameter: ca. 25 Å
  - Nominal dry flat width: 44 mm
  - Nominal dry diameter: 26 mm
  - Approx. filling volume: 6.4 ml/cm
  - Nominal dry wall thickness: 20 μm

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**VISKING dialysis tubing, MWCO 12 000 - 14 000**

**RC, diameter 49 mm**

HS 39173200

- Packed dry, made from regenerated cellulose (RC). With glyceral as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.
  - Pore diameter: ca. 25 Å
  - Nominal dry flat width: 77 mm
  - Nominal dry diameter: 49 mm
  - Approx. filling volume: 18 ml/cm
  - Nominal dry wall thickness: 41 μm

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**VISKING dialysis tubing, MWCO 12 000 - 14 000**

**RC, diameter 75 mm**

HS 39173200

- Packed dry, made from regenerated cellulose (RC). With glyceral as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.
  - Pore diameter: ca. 25 Å
  - Nominal dry flat width: 117 mm
  - Nominal dry diameter: 75 mm
  - Approx. filling volume: 45.8 ml/cm
  - Nominal dry wall thickness: 74 μm

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</table>

**Vitamin B6, hydrochloride**

see 36020 Thiamine-HCl, page 166

**Vitamin B12**

(Cyanocobalamin; Extrinsic Factor; Antianemic vitamin B)

C_{63}H_{88}N_{14}O_{14}PCo

Mr 1355.4

CAS [150849-52-8]

Storage temperature +2 °C to +8 °C

- Pore diameter: ca. 25 Å
  - Nominal dry flat width: 177 mm
  - Nominal dry diameter: 75 mm
  - Approx. filling volume: 45.8 ml/cm
  - Nominal dry wall thickness: 74 μm

**Vitamin C**

see 14030 L-Ascorbic acid, page 15

**Vitamin H**

see 15060 (+)-Biotin, page 18

**Water demineralized, sterile** molecular biology grade

HS 28530010

DNase/RNase not detected. Autoclaved.

<table>
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**Water DEPC (0.1 %) treated, sterile** molecular biology grade

HS 28530010

DNase/RNase not detected. Autoclaved.

<table>
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**Water for UHPLC-MS**

CAS [7732-18-5]

EINECS 231-791-2 | HS 28539010

- Conductivity ≤ 0.09 μS/cm
- Total organic carbon ≤ 10 ppb
- Acidity ≤ 0.0002 %
- Alkalinity ≤ 0.0005 %
- Residue on evaporation ≤ 0.4 ppm

Transmittance

- 200 nm min. 95.0 %
- 230 nm min. 99.5 %

Fluorescence (quinine)

- 254 nm max. 0.3 ppb
- 365 nm max. 0.3 ppb

UHPLC gradient peak

- 210 nm max. 2 mAU
- Drift at 210 nm max. 8 mAU
- Drift at 254 nm max. 3 mAU

Test LC-MS TIC (50 – 2000 m/z)

ES (+)

Sensitive impurities (reserpine) max. 30 ppb

Metal Compounds

- Na/K/Ca max. 50 ppb
- Al/Fe/Mg max. 20 ppb

Microfiltered, 0.1 μm

<table>
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<tr>
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<tr>
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**WST 1**

(Z-(4-lodophenyl)-3-(4-nitrophenyl)-5-(2,4-disulfophenyl)-2H-tetrazolium,Na-salt)

C_{19}H_{11}JN_{5}O_{8}S_{2}Na

Mr 651.35

CAS [68-19-9]

Storage temperature +2 °C to +8 °C

Monotetrazolium salt which forms a water-soluble (>0.1 M) formazan upon reduction. Suitable for cell proliferation and cytotoxicity assays. Keep dry and dark.

References:


<table>
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**X-Gal**

see 15243 5-Bromo-4-chloro-3-indolyl-β-D-galactoside (X-Gal), page 24

<table>
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<tr>
<td>38391.02</td>
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Visit the Serva website at www.serva.de
**X-phos disodium salt**
see 15259 S-Bromo-4-chloro-3-indolyl-phosphate-Na₂-salt, page 23

**Xanthine oxidase from buttermilk min. 0.9 U/mg protein suspension**
(XOD; Xanthine:oxygen oxidoreductase)
EC 1.1.3.22  M, ca. 283 000

**DANGER**
H334  HS 35079090
Storage temperature +2 °C to +8 °C.

For the determination of xanthine and hypoxanthine (1), adenosine, guanosine (2) and total purines (3). Chromatographically purified; ca. 10 mg/ml in 62 % saturated ammonium sulfate containing sodium salicylate and EDTA.

5 mg correspond to approx. 0.5 ml, 25 mg correspond to approx. 2.5 ml.

**Unit definition:** 1 U catalyzes the oxidation of 1 µmole xanthine per minute at 25 °C, pH 7.5, measured by the increase in absorbance in 290 nm (4).

**References:**

**XOD**
see 38418 Xanthine oxidase from buttermilk min. 0.9 U/mg protein, page 176

**Xpress Blotting Buffer (10x) for Western Blotting**
HS 38220000

The Xpress Blotting Buffer is a ready-to-use buffer reagent for the fast and efficient semi-dry transfer of high and low molecular weight proteins in only 15 min. The buffer system is compatible with nitrocellulose and PVDF membranes. Sufficient for at least 40 vertical mini SDS PAGE gels.

**Content:**
- 10x Connection Paper (Size 80 mm x 85 mm)
- 20x Blotting Fleece sheets (Size 80 mm x 85 mm)
- 250 ml 10x SERVA Xpress Blotting Buffer

**Xpress Blotting Kit for Western Blotting**
HS 38220000

Kit for fast Semi-Dry Western Blotting of 10 vertical mini SDS PAGE gels on nitrocellulose membrane.

SERVA Xpress Blotting Buffer is a ready-to-use buffer reagent for the fast and efficient semi-dry transfer of high and low molecular weight proteins in only 15 min. The use of SERVA's newly developed Blotting Fleece instead of blotting paper allows an efficient, undisturbed transfer in a short time. The pre-cut nitrocellulose membrane sheets show high protein binding, low background and improved stability for easier handling and re-probing.

**Content:**
- 250 ml 10x SERVA Xpress Blotting Buffer
- 20x Blotting Fleece sheets (Size 80 mm x 85 mm)
- 10x Connection Paper (Size 80 mm x 85 mm)
- 10x NC 2 supported nitrocellulose membrane sheets (size 80 mm x 85 mm)

**Xpress PVDF Blotting Kit for Western Blotting**
HS 38220000

Kit for fast Semi-Dry Western Blotting of 10 vertical mini SDS PAGE gels on PVDF membrane.

SERVA Xpress Blotting Buffer is a ready-to-use buffer reagent for the fast and efficient semi-dry transfer of high and low molecular weight proteins in only 15 min. The use of SERVA's newly developed Blotting Fleece instead of blotting paper allows an efficient, undisturbed transfer in a short time. The pre-cut PVDF membrane sheets with the pore size of 0.22 µm show high protein binding and low background.

**Content:**
- 250 ml 10x SERVA Xpress Blotting Buffer
- 20x Blotting Fleece sheets (Size 80 mm x 85 mm)
- 10x Connection Paper (Size 80 mm x 85 mm)
- 10x PVDF membrane sheets, pore size 0.22 µm (size 80 x 85 mm)

**Xpress Micro Dialyzer MD100, MWCO 2 kDa** 1 cartridge
HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

**Content:** 1 detachable 8-microdialysis device strip
**Xpress Micro Dialyzer MD100, MWCO 3.5 kDa**

**single fingers plus rack**

Cat.No. Size

<table>
<thead>
<tr>
<th>Cat.No.</th>
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<tbody>
<tr>
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</tbody>
</table>

**features**

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

**Content:**

- 12 single microdialysis devices in 2 ml microcentrifuge tube

**Xpress Micro Dialyzer Grid-Kit 48 MD100, MWCO 3.5 kDa**

**6 cartridges in deep well plate incl. grid**

Cat.No. Size

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<th>Size</th>
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</table>

**features**

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g., rebuffering of your samples
- Secure grip of the Micro Dialyzer

**Content:**

- 1 kit of 6 cartridge devices, 1 grid

---

**Xpress Micro Dialyzer MD100, MWCO 3.5 kDa**

**single finger**

Cat.No. Size

<table>
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**features**

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

**Content:**

- 1 kit of 12 cartridges in deep well plate (5.0 ml volume), one grid, one lid

---

**Xpress Micro Dialyzer MD100, MWCO 3.5 kDa**

**1 cartridge**

Cat.No. Size

<table>
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<th>Size</th>
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**features**

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Automatic compatible – plate format conforms to the SBS Microplate Standard

**Content:**

- 1 kit of 12 cartridge devices, one 48-well deep well plate (2.2 ml volume)

---

**Xpress Micro Dialyzer MD100, MWCO 3.5 kDa**

**12 cartridges in deep well plate**

Cat.No. Size

<table>
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**features**

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Secure grip of the Micro Dialyzer

**Content:**

- 1 kit of 12 cartridge devices, one 48-well deep well plate (5.0 ml volume), one grid, one lid
**Xpress Micro Dialyzer MD100, MWCO 6 - 8 kDa**

Single fingers in microtube

**HS 39173300**

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

**Content:** 12 single microdialysis devices in 2 ml microcentrifuge tube

**Cat.No.** | **Size**
--- | ---
46106.01 | 12 pieces

---

**Xpress Micro Dialyzer MD100, MWCO 6 - 8 kDa**

Single fingers plus rack

**HS 39173300**

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

**Content:** 56 single microdialysis devices in 2 ml microcentrifuge tube, 96-well rack for 0.5 ml, 1.5 ml und 2.0 ml tubes, forceps

**Cat.No.** | **Size**
--- | ---
46107.01 | 56 pieces

---

**Xpress Micro Dialyzer MD100, MWCO 6 - 8 kDa**

Single fingers plus rack

**HS 39173300**

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

**Content:** 280 single microdialysis devices in 2 ml microcentrifuge tube, 96-well rack for 0.5 ml, 1.5 ml und 2.0 ml tubes, forceps

**Cat.No.** | **Size**
--- | ---
46108.01 | 280 pieces

---

**Xpress Micro Dialyzer MD100, MWCO 6 - 8 kDa**

1 cartridge

**HS 39173300**

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

**Content:** 1 detachable 8-microdialysis device strip

**Cat.No.** | **Size**
--- | ---
46109.01 | 8 pieces

---

**Xpress Micro Dialyzer MD100, MWCO 6 - 8 kDa**

12 cartridges in deep well plate

**HS 39173300**

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – detachable 8-device strips, scalable from 1 to 96 samples
- Automation compatible – plate format conforms to the SBS Microplate Standard

**Content:** 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

**Cat.No.** | **Size**
--- | ---
46110.01 | 1 kit

---

**Xpress Micro Dialyzer GriKit 48 MD100, MWCO 6 - 8 kDa**

6 cartridges in deep well plate incl. grid

**HS 39173300**

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g. rebuffering of your samples
- Secure grip of the Micro Dialyzer

**Content:** 6 detachable 8-microdialysis device strips, one 48-well deep well plate (5.0 ml volume), one grid, one lid

**Cat.No.** | **Size**
--- | ---
46111.01 | 1 kit

---

www.serva.de
Xpress Micro Dialyzer MD100, MWCO 12 - 14 kDa

single fingers plus rack

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 12 single microdialysis devices in 2 ml microcentrifuge tube

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46112.01</td>
<td>12 pieces</td>
</tr>
</tbody>
</table>

Xpress Micro Dialyzer MD100, MWCO 12 - 14 kDa

1 cartridge

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46115.01</td>
<td>8 pieces</td>
</tr>
</tbody>
</table>

Xpress Micro Dialyzer MD100, MWCO 12 - 14 kDa

12 cartridges in deep well plate

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in a. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46116.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

Xpress Micro Dialyzer GridKit 48 MD100, MWCO 12 - 14 kDa

6 cartridges in deep well plate incl. grid

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g. rebuffering of your samples
- Secure grip of the Micro Dialyzer
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 6 detachable 8-microdialysis device strips, one 48-well deep well plate (5.0 ml volume), one grid, one lid

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46117.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

www.serva.de
**Xpress Micro Dialyzer MD100, MWCO 20 kDa**

1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46090.01</td>
<td>8 pieces</td>
</tr>
</tbody>
</table>

**Xpress Micro Dialyzer MD100, MWCO 140 kDa**

12 cartridges in deep well plates

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 12 detachable 8-microdialysis device strips

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46091.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

**Xpress Micro Dialyzer MD100, MWCO 140 kDa**

1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46092.01</td>
<td>8 pieces</td>
</tr>
</tbody>
</table>

**Xpress Micro Dialyzer MD100, MWCO 140 kDa**

12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 12 detachable 8-microdialysis device strips

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46093.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

**Xpress Dialysis Magnetic Mixing Box MD100, MWCO 3.5 kDa**

HS 39173300

All-in-one kit for accelerated high-throughput dialysis (sample volume 10 µl - 100 µl).

Because the samples are in connection via the dialysis buffer the dialysis device is especially suitable for samples with the same or similar salt content or buffer.

Content:
- 12 Cartridges (detachable 8-micro dialyzer strips) in handling box
- Dialysis box
- Magnetic stirring bar
- Sealing film

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46152.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

**Xpress Dialysis Magnetic Mixing Box MD100, MWCO 3.5 kDa Refill Kit**

HS 39173300

Refill kit for Xpress Dialysis Magnetic Mixing Box MD100, MWCO 3.5 kDa, cat no. 46152.

Content:
- 12 Cartridges (detachable 8-micro dialyzer strips) in handling box
- Sealing film

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46153.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

**Xpress Dialysis Magnetic Mixing Box MD100, MWCO 6 - 8 kDa**

HS 39173300

All-in-one kit for accelerated high-throughput dialysis (sample volume 10 µl - 100 µl).

The especially designed dialysis box allows a greater buffer volume and better mixing through a magnetic stirrer bar compared to dialysis in a microtiter plate. This enables high-throughput dialysis of small sample volumes with reduced handling and accelerated dialysis time.

Because the samples are in connection via the dialysis buffer the dialysis device is especially suitable for samples with the same or similar salt content or buffer.

Content:
- 12 Cartridges (detachable 8-micro dialyzer strips) in handling box
- Dialysis box
- Magnetic stirring bar
- Sealing film

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46154.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>
**Xpress Dialysis Magnetic Mixing Box MD100, MWCO 6 - 8 kDa Refill Kit**

Refill kit for Xpress Dialysis Magnetic Mixing Box MD100, MWCO 3.5 kDa, cat no. 46154.

**Content:**
- 12 Cartridges (detachable 8-micro dialyzer strips) in handling box
- Sealing film

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46155.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

**Xpress Dialysis Magnetic Mixing Box MD100, MWCO 12 - 14 kDa**

All-in-one kit for accelerated high-throughput dialysis (sample volume 10 µl - 100 µl).

The especially designed dialysis box allows a greater buffer volume and better mixing through a magnetic stirrer bar compared to dialysis in a microtiter plate. This enables high-throughput dialysis of small sample volumes with reduced handling and accelerated dialysis time. Because the samples are in connection via the dialysis buffer the dialysis device is especially suitable for samples with the same or similar salt content or buffer.

**Content:**
- 12 Cartridges (detachable 8-micro dialyzer strips) in handling box
- Dialysis box
- Magnetic stirring bar
- Sealing film

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46156.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

**Xpress Micro Dialyzer MD300, MWCO 3.5 kDa**

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- Automation compatible – plate format conforms to the SBS Microplate Standard

**Content:**
- 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46095.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

**Xpress Micro Dialyzer MD300, MWCO 2 kDa**

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

**Content:**
- 12 single microdialysis devices in 2 ml microcentrifuge tube

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46118.01</td>
<td>12 pieces</td>
</tr>
</tbody>
</table>

**Xpress Micro Dialyzer MD300, MWCO 6 - 8 kDa**

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

**Content:**
- 1 detachable 8-microdialysis device strip

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46094.01</td>
<td>8 pieces</td>
</tr>
</tbody>
</table>

**Xpress Micro Dialyzer MD300, MWCO 2 kDa**

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

**Content:**
- 1 single microdialysis device strip

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46119.01</td>
<td>8 pieces</td>
</tr>
</tbody>
</table>
Xpress Micro Dialyzer MD300, MWCO 3.5 kDa
12 cartridges in deep well plate
HS 39173300
The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.
- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46120.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

Xpress Micro Dialyzer MD300, MWCO 6 - 8 kDa
single fingers in microtube
HS 39173300
The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.
- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- Secure grip of the Micro Dialyzer

Content: 12 single microdialysis devices in 2 ml microcentrifuge tube

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46121.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

Xpress Micro Dialyzer MD300, MWCO 6 - 8 kDa
1 cartridge
HS 39173300
The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.
- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g. rebuffering of your samples
- Secure grip of the Micro Dialyzer

Content: 1 detachable 8-microdialysis device strip

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46123.01</td>
<td>8 pieces</td>
</tr>
</tbody>
</table>

Xpress Micro Dialyzer GridKit 48 MD300, MWCO 3.5 kDa
6 cartridges in deep well plate incl. grid
HS 39173300
The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.
- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g. rebuffering of your samples
- Secure grip of the Micro Dialyzer

Content: 12 detachable 8-microdialysis device strips, one 48-well deep well plate (2.2 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46124.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

Xpress Micro Dialyzer GridKit 48 MD300, MWCO 6 - 8 kDa
12 cartridges in deep well plate
HS 39173300
The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.
- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g. rebuffering of your samples
- Secure grip of the Micro Dialyzer

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46125.01</td>
<td>8 pieces</td>
</tr>
</tbody>
</table>

Xpress Micro Dialyzer GridKit 48 MD300, MWCO 6 - 8 kDa
6 cartridges in deep well plate incl. grid
HS 39173300
The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.
- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g. rebuffering of your samples
- Secure grip of the Micro Dialyzer

Content: 6 detachable 8-microdialysis device strips, one 48-well deep well plate (2.2 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46124.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>
### Xpress Micro Dialyzer MD300, MWCO 12 - 14 kDa

**Single fingers in microtube**

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46126.01</td>
<td>12 pieces</td>
</tr>
</tbody>
</table>

**12 single microdialysis devices in 2 ml microcentrifuge tube**

**Content:**
- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

### Xpress Micro Dialyzer MD300, MWCO 12 - 14 kDa

**1 cartridge**

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46127.01</td>
<td>8 pieces</td>
</tr>
</tbody>
</table>

**6 detachable 8-microdialysis device strips, one 48-well deep well plate (5.0 ml volume), one grid, one lid**

**Content:**
- Secure grip of the Micro Dialyzer
- Comfortable buffer exchange, e.g. re-buffering of your samples
- More space for pipetting of the dialysis buffer
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

### Xpress Micro Dialyzer MD300, MWCO 20 kDa

**1 cartridge**

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46129.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

**1 cartridge**

**1 kit**

**Xpress Micro Dialyzer MD300, MWCO 12 - 14 kDa 6 cartridges in deep well plate incl. grid**

**Content:**
- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- More space for pipetting of the dialysis buffer
- Secure grip of the Micro Dialyzer

**Xpress Micro Dialyzer GridKit 48 MD300, MWCO 12 - 14 kDa 8 pieces in microtiter plate**

**Content:**
- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- More space for pipetting of the dialysis buffer
- Secure grip of the Micro Dialyzer

**Xpress Micro Dialyzer MD300, MWCO 20 kDa 12 cartridges in deep well plate**

**Content:**
- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- More space for pipetting of the dialysis buffer
- Secure grip of the Micro Dialyzer
### Xpress Micro Dialyzer MD300, MWCO 140 kDa
- **1 cartridge**
- Cat.No.: HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

**Content:** 12 detachable 8-microdialysis device strips, one 96-well deep well plate

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46098.01</td>
<td>8 pieces</td>
</tr>
</tbody>
</table>

### Xpress Micro Dialyzer MD300, MWCO 140 kDa
- **12 cartridges in deep well plate**
- Cat.No.: HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- Automation compatible – plate format conforms to the SBS Microplate Standard

**Content:** 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46098.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

### Xpress Equilibrium Dialyzer ED300, MWCO 3.5 kDa
- **1 cartridge**
- Cat.No.: HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

**Content:** 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46164.01</td>
<td>8 pieces</td>
</tr>
</tbody>
</table>

### Xpress Equilibrium Dialyzer ED300, MWCO 3.5 kDa
- **12 cartridges in deep well plate**
- Cat.No.: HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

**Content:** 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46165.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

### Xpress Equilibrium Dialyzer ED300, MWCO 6 - 8 kDa
- **1 cartridge**
- Cat.No.: HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

**Content:** 1 detachable 8-microdialysis device strip

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46166.01</td>
<td>8 pieces</td>
</tr>
</tbody>
</table>
**Xpress Equilibrium Dialyzer ED300, MWCO 6 - 8 kDa**

12 cartridges in deep well plate

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

**Cat.No.** | **Size**
--- | ---
46167.01 | 1 kit

---

**Xpress Equilibrium Dialyzer ED300, MWCO 12 - 14 kDa**

1 cartridge

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 1 detachable 8-microdialysis device strip

**Cat.No.** | **Size**
--- | ---
46168.01 | 8 pieces

---

**Xpress Equilibrium Dialyzer ED300, MWCO 20 kDa**

12 cartridges in deep well plate

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

**Cat.No.** | **Size**
--- | ---
46171.01 | 1 kit

---

**Xpress Equilibrium Dialyzer ED300, MWCO 140 kDa**

12 cartridges in deep well plate

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

**Cat.No.** | **Size**
--- | ---
46173.01 | 1 kit

---

**Xpress Mini Dialyzer MD1000, MWCO 2 kDa**

1 cartridge

HS 39173300

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 25 ml skirted, conical tubes

**Cat.No.** | **Size**
--- | ---
46144.01 | 6 pieces

---

**Xpress Mini Dialyzer MD1000, MWCO 2 kDa**

1 cartridge

HS 39173300

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 25 ml skirted, conical tubes

**Cat.No.** | **Size**
--- | ---
46144.01 | 6 pieces
**Xpress Mini Dialyzer MD1000, MWCO 2 kDa**

48 single fingers in deep well plate  
HS 39173300

The Xpress Micro Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

**Content:** 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46145.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

**Xpress Mini Dialyzer MD1000, MWCO 3.5 kDa**

Single fingers in tube  
HS 39173300

The Xpress Micro Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

**Content:** 6 single Mini Dialyzer in 25 ml skirted, conical tubes

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46130.01</td>
<td>6 pieces</td>
</tr>
</tbody>
</table>

**Xpress Mini Dialyzer MD1000, MWCO 3.5 kDa**

Single fingers in tube plus 6 tubes  
HS 39173300

The Xpress Micro Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

**Content:** 6 single Mini Dialyzer in 25 ml skirted, conical tubes, 6 additional tubes, 1 forceps

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46131.01</td>
<td>6 pieces</td>
</tr>
</tbody>
</table>

**Xpress Mini Dialyzer MD1000, MWCO 3.5 kDa**

48 single fingers in deep well plate  
HS 39173300

The Xpress Micro Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

**Content:** 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46132.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

**Xpress Mini Dialyzer MD1000, MWCO 6 -8 kDa**

Single fingers in tube  
HS 39173300

The Xpress Micro Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

**Content:** 6 single Mini Dialyzer in 25 ml skirted, conical tubes

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46133.01</td>
<td>6 pieces</td>
</tr>
</tbody>
</table>

**Xpress Mini Dialyzer MD1000, MWCO 6 -8 kDa**

Single fingers in tube plus 6 tubes  
HS 39173300

The Xpress Micro Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

**Content:** 6 single Mini Dialyzer in 25 ml skirted, conical tubes, 6 additional tubes, 1 forceps

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46134.01</td>
<td>6 pieces</td>
</tr>
</tbody>
</table>
Xpress Mini Dialyzer MD1000, MWCO 6 -8 kDa
48 single fingers in deep well plate
The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46135.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

Xpress Mini Dialyzer MD1000, MWCO 12 -14 kDa
48 single fingers in tube
The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46137.01</td>
<td>6 pieces</td>
</tr>
</tbody>
</table>

Xpress Mini Dialyzer MD1000, MWCO 20 kDa
48 single fingers in deep well plate
The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46147.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

Xpress Mini Dialyzer MD1000, MWCO 6 -8 kDa
48 single fingers in tube
The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46136.01</td>
<td>1 kit</td>
</tr>
</tbody>
</table>

Xpress Mini Dialyzer MD1000, MWCO 12 -14 kDa
single fingers in tube plus 6 tubes
The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 25 ml skirted, conical tubes

<table>
<thead>
<tr>
<th>Cat.No.</th>
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</tr>
</thead>
<tbody>
<tr>
<td>46136.01</td>
<td>6 pieces</td>
</tr>
</tbody>
</table>

Xpress Mini Dialyzer MD1000, MWCO 20 kDa
single fingers in tube
HS 39173300
The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 25 ml skirted, conical tubes

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>46146.01</td>
<td>6 pieces</td>
</tr>
</tbody>
</table>

www.serva.de
**Xpress Mini Dialyzer MD1000, MWCO 140 kDa**

**single fingers in tube**

HS 39173300

The Xpress Micro Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

**Content:** 6 single Mini Dialyzer in 28 ml skirted, conical tubes

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>46148.01</td>
<td>6</td>
<td>pieces</td>
</tr>
</tbody>
</table>

**Xpress Mini Dialyzer MD1000, MWCO 140 kDa**

**48 single fingers in deep well plate**

HS 39173300

The Xpress Micro Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

**Content:** 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>46148.01</td>
<td>1</td>
<td>kit</td>
</tr>
</tbody>
</table>

**XTT**

(Sodium 3,3’-[5(Phenylamino)carbonyl]-3,4-Tetrazolium)-Bis(4-methoxy-6-nitro)benzenesulfonic acid hydrate)

C₂₃H₁₆N₇O₁₃S₂Na  Mₚ 674.53  CAS [111072-31-2]

Storage temperature: +2 °C to +8 °C

Monotetrazolium salt which forms a water-soluble formazan upon reduction.

Suitable for anti-HIV (1 - 3) and anti-tumor (4 - 6) drug testing as well as for cell proliferation assays (7 - 8).

**References:**

**XTT Cell Proliferation Assay**

HS 38220000

Storage temperature: -15 °C to -25 °C

The XTT Cell Proliferation Assay is a colorimetric assay that detects the cellular metabolic activities. During the assay, the yellow tetrazolium salt XTT is reduced to a highly coloured formazan dye by dehydrogenase enzymes in metabolically active cells. This conversion only occurs in viable cells and thus, the amount of the formazan produced is proportional to viable cells in the sample. The formazan dye formed in the assay is soluble in aqueous solution and can be quantified by measuring the absorbance at wavelength 450 nm using a spectrophotometer. An electron coupling reagent, such as N-methylphenazonium methyl sulfate (PMS) can significantly improve the efficiency of XTT reduction in cells.

- Easy to use - no need for additional reagents and washing procedures
- Rapid and sensitive - no solubilisation step, works with low cell concentrations
- Accurate – dye absorbance proportional to the number of cells/well

**Content:** 2x 25 ml XTT Reagent, 1 ml Activation Reagent

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>39904.01</td>
<td>1</td>
<td>kit</td>
</tr>
</tbody>
</table>

**Xylan from beech wood**

pure

CAS [9014-63-5]

EINECS 232-760-6  WGK 1  HS 2940000

**Xylene cyanol FF**

C.I.43535  M₁₅₀₄₆  CAS [4463-44-9]

**WARNING**

H319-H335  EINECS 224-728-5  WGK 1  HS 32049000

**D-Xylose**

research grade

C₆H₁₂O₅  Mᵦ 150.13  CAS [58-86-6]

EINECS 200-400-7  WGK 1  HS 29400000

**Assay**

min. 99.0 %

MP 145 - 153 °C

[α] 20 °C/D

(c=10 in water, after 24 h)

+19.0 ° to +21.0 °

Heavy metals (Pb)

max. 5 ppm

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>38550.01</td>
<td>25</td>
<td>g</td>
</tr>
</tbody>
</table>

**Yeast extract SERVABACTER®**

powder

CAS [8013-01-2]

EINECS 232-387-9  HS 38210000

Water soluble fraction of yeast autolysate. A 2 % aqueous solution is clear and has a pH of ca. 6.5 - 7.5. Rich in B-vitamins and growth factors, convenient standard material for culture media. Tested for use in tissue culture.

SERVABACTER = registered trademark of SERVA

<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>24540.02</td>
<td>500 g</td>
</tr>
<tr>
<td>24540.03</td>
<td>5 kg</td>
</tr>
</tbody>
</table>
**YPD Agar, powder** 65 g for 1 liter medium

HS 38210000

A nutritious general growth medium for the propagation of yeast.

20 g/l Tryptone
10 g/l Yeast extract
20 g/l Dextrose
15 g/l Agar

For making 1 L agar medium, suspend 65 g in 1 L distilled water and sterilize by autoclaving. Cool to 45 °C prior dispensing into sterile petri dishes.

**References:**


<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>48508.01</td>
<td>650 g</td>
</tr>
</tbody>
</table>

**YPD Medium, powder** 50 g for 1 liter medium

HS 38210000

A nutritious general growth medium for the propagation of yeast.

20 g/l Tryptone
10 g/l Yeast extract
20 g/l Dextrose

For making 1 L liquid medium suspend 50 g in 1 L distilled water and sterilize by autoclaving.

**References:**


<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>48507.01</td>
<td>500 g</td>
</tr>
</tbody>
</table>

**2xYT Agar, powder** 46 g for 1 liter medium

HS 38210000

For cultivation of *E. coli* and M13 bacteriophages in molecular biology.

16 g/l Tryptone
10 g/l Yeast extract
5 g/l NaCl
15 g Agar

For making 1 L 2x liquid medium suspend 46 g in 900 ml distilled water, adjust the pH to 7.0 with approximately 0.2 ml of 5 N NaOH, fill up to a final volume of 1 L with deionized water and sterilize by autoclaving. Cool to 45 °C prior to dispensing into sterile petri dishes.

**References:**


<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>48504.01</td>
<td>460 g</td>
</tr>
</tbody>
</table>

**2xYT Medium, powder** 31 g for 1 liter medium

HS 38210000

For cultivation of *E. coli* and M13 bacteriophages in molecular biology.

16 g/l Tryptone
10 g/l Yeast extract
5 g/l NaCl

For making 1 L 2x liquid medium suspend 31 g in 900 ml distilled water, adjust the pH to 7.0 with approximately 0.2 ml of 5 N NaOH, fill up to a final volume of 1 L with deionized water and sterilize by autoclaving.

**References:**


<table>
<thead>
<tr>
<th>Cat.No.</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>48503.01</td>
<td>620 g</td>
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<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Erläuterungen zum Produkteintrag (German)</td>
<td>192</td>
</tr>
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<td>Key to Products Entries (English)</td>
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<td>H-/EUH-/P-Codes (German)</td>
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<td>H-/EUH-/P-Codes (Italian)</td>
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<tr>
<td>H-/EUH-/P-Codes (Spanish)</td>
<td>210</td>
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<tr>
<td>Allgemeine Geschäftsbedingungen (AGB)</td>
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</tr>
<tr>
<td>Terms and Conditions of Sale and Supply (TCS&amp;S, English)</td>
<td>215</td>
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<tr>
<td>List of Trademarks</td>
<td>216</td>
</tr>
</tbody>
</table>
Erläuterungen zum Produkt eintrag

1. Produktname
N-(2-Hydroxyethyl)piperazine-N'-2-ethane sulfonic acid
analytical grade

2. Reinheitsgrad
analytical grade
Standardqualität für analytische Arbeiten

3. research grade (reinst)
Hochwertige Qualität für Forschung und Produktion

4. molecular biology grade
Laboratoriumsreagens für die molekularbiologische Forschung, getestet auf Abwesenheit von DNasen und RNasen

5. pure (rein)
Gereinigtes Reagens für universellen Einsatz

6. pract.
Reagens für synthetische Zwecke

Nur einwandfreie, unseren Spezifikationen entsprechende Ware wird für den Verkauf freigegeben.

Glucose oxidase from Aspergillus niger ca. 220 U/mg
lyoph.

Amido Black 10 B
(Acid Black 1; Naphthalene Black B; Naphthol Blue Black B; Buffalo Black NBR)

Acrylamide 4X
analytical grade

GC

8. Produktbeschreibung
Mit Anwendungshinweisen, Literaturzitaten, chemischen und physikalischen Spezifikationen

9. Strukturformel

10. Katalognummer, Abpackungen, Preise (EUR)
Viele unserer Produkte sind auch in größeren Mengen als jeweils im Katalog angegeben zu günstigeren Bedingungen lieferbar. Bitte fragen Sie nach »Bulk Quantities«.

11. EC-Nummer
Enzyme-Klassifizierungsnummer

12. Lagertemperatur
Ist bei einem Produkt keine spezielle Lagertemperatur angegeben, erfolgt die Lagerung bei Raumtemperatur.

13. Kühlsendung
Besonders empfindliche Präparate werden gekühlt (✱) oder gefroren (✱✱) verschickt. Die Haltbarkeit bei Trockeneisversand beträgt bei ca. 30 °C Außentemperatur mindestens 48 Stunden. Für Trockeneislieferungen berechnen wir eine Pauschale.

14. CI-Nummer
Farbenindexnummer (Colour Index)

15. Einstufung gefährlicher Stoffe/Gemische

Ziel der Verordnung ist es, ein hohes Schutzniveau für die menschliche Gesundheit und für die Umwelt sicherzustellen. Außerdem wird eine weltweite Harmonisierung von Vorschriften für die Einstufung und Kennzeichnung von chemischen Stoffen und Gemischen erreicht.

Nach CLP-Verordnung Anhang V sind die gefährlichen Stoffe und Gemische mit folgenden Gefahrenpiktogrammen zu kennzeichnen:

1. Produktname

2. Reinheitsgrad
analytical grade
Standardqualität für analytische Arbeiten

research grade (reinst)
 Hochwertige Qualität für Forschung und Produktion

molecular biology grade
Laboratoriumsreagens für die molekularbiologische Forschung, getestet auf Abwesenheit von DNasen und RNasen

pure (rein)
 Gereinigtes Reagens für universellen Einsatz

pract.
 Reagens für synthetische Zwecke

Nur einwandfreie, unseren Spezifikationen entsprechende Ware wird für den Verkauf freigegeben.

Jedes Produkt enthält eine Chargenkennzeichnung, die auf dem Etikett als Zahlencode oder Zahlen- und Buchstabencode vermerkt ist (im Falle einer Rückfrage bitte angeben).

3. Synonyme

4. Summenformel

5. Molekulargewicht
Relative Molekülmasse

6. CAS-Nummer

7. HS-Nummer
Harmonisiertes System zur Bezeichnung und Zuordnung der Waren im Internationalen Handel (= Zolltarif-Nummer)

References:
1. Good, N.E. et al. (1966) Biochemistry 5, 467-77
Reproduktionstoxizität: Beeinträchtigungen von Sexualfunktion und Fruchtbarkeit bei Mann und Frau sowie Entwicklungs- toxisität bei den Nachkommen (differenziert als Kategorie 1A, 1B und Kategorie 2).

20. Gefahrgut-Transport
Gegenstände oder Stoffe, welche in der Lage sind, ein Risiko für Gesundheit, Sicherheit, Eigentum oder die Umwelt darzustellen und die in den Verzeichnis- nen gefährlicher Güter der Gefahrgutvorschriften des angewendeten Verkehrsträgers aufgeführt oder die entsprechend dieser Vorschriften klassifiziert sind.

UN-Nummer

ID-Nummer

Verpackungsgruppen
Gefahrgüter sind einer dem Grad der von ihnen ausgehenden Gefahr entsprechenden Verpackungsgruppe zugeteilt.

21. WGK
Die wassergefährdenden Stoffe werden nach der Novelle VwVwS vom 27. Juli 2005 entsprechend ihrer Gefährlichkeit in eine der folgenden Wasser- gefährdungsklassen eingestuft:

WGK 1: stark wassergefährdend
WGK 2: wassergefährdend
WGK 1: schwach wassergefährdend

See:
IMDG-Code Internationaler Code für die Beförde- rung gefährlicher Güter mit Seeschiffen
Luft:
IATA-DGR Gefahrgutvorschriften der IATA - Flugge- sellschaften

Gefahrgüter können sicher transportiert werden, vorausgesetzt, dass einige Grundsätze genau befolgt werden.

Die richtige Deklaration durch den Versender ge- währleistet, dass alle am Transportablauf Beteiligten wissen, welches Gefahrgut sie transportieren und was bei einem Vorfall oder Unfall am Boden oder im Flug zu tun ist.


Für diese Gefahrgutverpackungen berechnen wir eine Kostenpauschale.


Signalworte:
Gefahr: Signalwort für die schwerwiegenden Gefahrkategorien
Achtung: Signalwort für die weniger schwerwiegenden Gefahrkategorien

Gefahrenhinweise (H-Sätze):
beschreiben die Art und gegebenenfalls den Schwerewgrad der von einem gefährlichen Stoff oder Gemisch ausgehenden Gefahr.

Sicherheitshinweise (P-Sätze):
Textaussagen, die eine (oder mehrere) empfohlene Sicherheitsmaßnahme(n) beschreiben.

Gemische:
Gemische oder Lösungen, die aus zwei oder mehr Stoffen bestehen

SVHC:
Besonders besorgniserregende Substanz der soge- nannten Kandidatenliste für die mögliche Aufnahme in das Verzeichnis der zulassungspflichtigen Stoffe (Anhang XIV der Verordnung (EG) Nr. 1907/2006).

Die Stoffe erfüllen mindestens eines der in Artikel 57 dieser Verordnung angegebenen Kriterien:

a) kreisierzeugend
b) erbmutaquellend

c) fortzuezungsgefährdend
d) persistent, bioakkumulierbar und toxisch
e) sehr persistent und sehr bioakkumulierbar
f) wahrscheinlich mit schwerwiegenden Wirkungen auf die menschliche Gesundheit oder auf die Umwelt.

Der Pflicht zur Weitergabe von Informationen über Stoffe gemäß Verordnung (EG) Nr. 1907/2006 bezüglich der sehr besorgniserregenden Stoffe kommt SERVA durch die Markierung dieser Stoffe mit SVHC nach.

17. EG-Index-Nummer

18. EG-Nummer
Offizielle Nummer des Stoffes in der Europäischen Union. Es werden drei Gruppen unterschieden: 1) EINECS: kann der Verzeichnis der auf dem Markt vorhandenen Stoffe entnommen werden, beginnend mit 200-001-8 2) ELINCS: kann der Liste der angemeldeten Stoffe entnommen werden, beginnend mit 400-010-09 3) NLP: kann der Liste »no-longer-polymer« entnom- men werden, beginnend mit 500-001-0

19. Luftgrenzwert
Die Gefahrgüterverordnung unterscheidet nachfol- gende Grenzwerte in der Luft am Arbeitsplatz:

AGW: Arbeitsplatzgrenzwert

Begriffsbestimmungen (Gefahrkategorien) ge- mäß Anhang I der Verordnung (EG) Nr. 1272/2008

Karziningen
Ein Stoff oder ein Gemisch, der/das Krebs erzeugen oder die Krebsbeginnlichkeit erhöhen kann, wird als karziningen angesehen (differenziert als Kategorie 1A, 1B und Kategorie 2)

Mutagen
wird bei Stoffen verwendet, die zu einer gesteigerten Mutationshäufigkeit in Zellpopulationen und/oder Organismen führen (differenziert als Kategorie 1A, 1B und Kategorie 2).

See: www.serva.de

193
Key to Product Entries

1. Product Name
2. Quality Characteristics
3. Synonyma
4. Molecular Formula
5. Molecular Weight
6. CAS Number
7. HS Numbers
8. Product Description
9. Structural Formula
10. Catalog Number, Package Sizes and Prices (EUR)
11. EC-Number
12. Storage Temperature
13. Refrigerated Shipments
14. CI-Number
15. Classification of hazardous substances and mixtures
16. Definitions in Regulation (EC) concerning the classification of hazardous Substances and mixtures

1. **N-(2-Hydroxyethyl)piperazine-N'2-ethane sulfonic acid**
   - analytical grade
   - C8H18N2O4S
   - M 238.3
   - CAS [7365-45-9]
   - pKa 20= 7.55
   - Buffering substance (1). Tested for use in tissue culture (2).
   - Physical parameters (3).
   - assay (titr.) A 1 cm/10 % in water 260 nm min. 99.0 %
   - 280 nm max. 0.1
   - Heavy metals (Pb) pH 10 % in water max. 0.08
   - max. 10 ppm
   - 5.0 - 6.5

2. **Glucose oxidase from Aspergillus niger ca. 220 U/mg**
   - lyophil.
   - EC 1.1.3.4
   - Storage temperature -15 °C to -25 °C

3. **Amido Black 10 B**
   - (Acid Black 1; Naphthalene Black B; Naphthol Blue Black B; Buffalo Black NBR)
   - C120470
   - C9H6N2O2S
   - M 616.5

4. **Acrylamide 4X**
   - analytical grade
   - C3H5NO
   - M 71.1
   - CAS [79-06-1]

5. **Acrylamide 4X**
   - C3H5NO
   - M 71.1
   - CAS [79-06-1]

6. **Glucose oxidase from Aspergillus niger ca. 220 U/mg**
   - lyophil.
   - EC 1.1.3.4
   - Storage temperature -15 °C to -25 °C

7. **Amido Black 10 B**
   - (Acid Black 1; Naphthalene Black B; Naphthol Blue Black B; Buffalo Black NBR)
   - C120470
   - C9H6N2O2S
   - M 616.5

8. **Acrylamide 4X**
   - analytical grade
   - C3H5NO
   - M 71.1
   - CAS [79-06-1]

9. **Glucose oxidase from Aspergillus niger ca. 220 U/mg**
   - lyophil.
   - EC 1.1.3.4
   - Storage temperature -15 °C to -25 °C

10. **Amido Black 10 B**
    - (Acid Black 1; Naphthalene Black B; Naphthol Blue Black B; Buffalo Black NBR)
    - C120470
    - C9H6N2O2S
    - M 616.5

11. **Acrylamide 4X**
    - analytical grade
    - C3H5NO
    - M 71.1
    - CAS [79-06-1]

12. **Amido Black 10 B**
    - (Acid Black 1; Naphthalene Black B; Naphthol Blue Black B; Buffalo Black NBR)
    - C120470
    - C9H6N2O2S
    - M 616.5

13. **Acrylamide 4X**
    - analytical grade
    - C3H5NO
    - M 71.1
    - CAS [79-06-1]

14. **Amido Black 10 B**
    - (Acid Black 1; Naphthalene Black B; Naphthol Blue Black B; Buffalo Black NBR)
    - C120470
    - C9H6N2O2S
    - M 616.5

15. **Acrylamide 4X**
    - analytical grade
    - C3H5NO
    - M 71.1
    - CAS [79-06-1]

16. **Amido Black 10 B**
    - (Acid Black 1; Naphthalene Black B; Naphthol Blue Black B; Buffalo Black NBR)
    - C120470
    - C9H6N2O2S
    - M 616.5

17. **Acrylamide 4X**
    - analytical grade
    - C3H5NO
    - M 71.1
    - CAS [79-06-1]

18. **Amido Black 10 B**
    - (Acid Black 1; Naphthalene Black B; Naphthol Blue Black B; Buffalo Black NBR)
    - C120470
    - C9H6N2O2S
    - M 616.5

19. **Acrylamide 4X**
    - analytical grade
    - C3H5NO
    - M 71.1
    - CAS [79-06-1]

20. **Amido Black 10 B**
    - (Acid Black 1; Naphthalene Black B; Naphthol Blue Black B; Buffalo Black NBR)
    - C120470
    - C9H6N2O2S
    - M 616.5

21. **Acrylamide 4X**
    - analytical grade
    - C3H5NO
    - M 71.1
    - CAS [79-06-1]

1. **Product Name**
2. **Quality Characteristics**
    - analytical grade
    - High quality reagent for analytical work.

3. **Molecular Formula**

4. **Molecular Weight**

5. **CAS Number**

6. **HS Numbers**

7. **Product Description**

Each product has a lot indication marked on the label as a code which is needed as a reference for all claims.

8. **Structural Formula**

10. **Catalog Number, Package Sizes and Prices (EUR)**

Please ask for quantities others than those stated here—many of our products are available at favorable bulk prices.

11. **EC-Number**

Enzyme Classification Number

12. **Storage Temperature**

13. **Refrigerated Shipments**

If necessary our products are shipped chilled (✱) or frozen (✱✱) in containers withstanding ambient temperatures up to 30 °C for a minimum of 48 hours. A surplus fee is applicable.

14. **CI-Number**

Colour Index Number

15. **Classification of hazardous substances and mixtures**

The European system on globally harmonised classification, labelling and packaging of substances and mixtures (GHS/CLP) bases on Regulation (EC) No.1272/2008 (CLP-Regulation) which has become effective on 20th January 2009. SERVA’s substances and mixtures are classified, labelled and packaged according to this regulation.

It’s the aim of this regulation to ensure a high level of protection of human health and the environment. In addition it is essential to harmonize the provisions and criteria for the classification and labelling of substances and mixtures.

According to Annex V of this regulation the hazardous substances and mixtures have to be labeled with the hazard Pictograms as given below:

- **GHS01**
- **GHS06**
- **GHS02**
- **GHS07**
- **GHS03**
- **GHS08**
- **GHS04**
- **GHS09**
- **GHS05**

16. **Definitions in Regulation (EC) concerning the classification of hazardous Substances and mixtures.**

**Signal word:**
- Danger: a signal word indicating the more severe hazard categories
- Warning: a signal word indicating the less severe hazard categories
Hazard statements (H-Phrases):
Describe the nature of the hazards of a hazardous substance or mixture, including, where appropriate, the degree of hazard

Precautionary statements (P-Phrases):
A phrase that describes recommended safety measure(s)

Mixture:
A mixture or solution composed of two or more substances

SVHC:
Substance of very high concern on the so called candidate list for a possible inclusion in the list of substances subject to authorisation (annex XIV of Regulation (EC) No. 1907/2006).

Substances included on this list meet at least one of the criteria given in Article 57 of this regulation:
a) carcinogenic
b) mutagenic
c) toxic for reproduction
d) persistent, bioaccumulative and toxic
e) very persistent and very bioaccumulative
f) probable serious effects to human health or the environment

Referring to the duty to communicate informations on substances according to Regulation (EC) No. 1907/2006 regarding the substances of very high concern, SERVA marks these substances with SVHC.

17. EG Index Number
Number given by the list of appendix I of the Guideline No. 67/548/EWG (European Economic Community) respectively regulation (EG) No. 1272/2008.

18. EG Number
It is the official number of the substance within the European Union. The numbers are divided into three groups:
1) EINECS: The EINECS number can be obtained from the European Inventory of Existing Commercial Chemical Substance (EINECS), numbers start at 200-001-8
2) ELINCS: The ELINCS number can be obtained from the European List of Notified Substances, numbers start at 400-010-9
3) NLP: The NLP number can be obtained from the list of ‘No-longer-polymers’, numbers start at 500-001-0

19. Thresholds
The Hazardous Substances Ordinance provides the following definitions for a hazard present in the air at site of work (acc. To German official standards):

OELV: occupational exposure limit value

Definitions and hazard categories according to Annex I of Regulation (EC) No 1272/2008

Carcinogen means a substance or a mixture of substances which induce cancer or increase its incidence (distinguished as Category 1A, 1B and Category 2).

Mutagen used for agents giving rise to an increased occurrence of mutations in populations of cells and/or organisms (distinguished as Category 1A, 1B and Category 2).

Reproductive toxicity: Adverse effects on sexual function and fertility in adult males and females, as well as developmental toxicity in the offspring (distinguished as Category 1A, 1B and Category 2).

20. Dangerous Goods Transport
Dangerous goods are articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods of the applied mode of transport’s Dangerous Goods Regulations or which are classified according to these Regulations

UN-Number
The four-digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods to identify a substance or a particular group of substances. The prefix „UN“ must always be used in conjunction with these numbers.

ID-Number
The ID-Number is a temporary identification number (ID) in the 8000 series assigned to an article or substance for which no UN-number has been assigned.
The prefix „ID“ must always be used in conjunction with these numbers.
The dangerous goods are divided for all modes of transport in the following UN hazard classes, some further distinguished in sub-divisions.

Class Description
1 Explosives
2 Gases
3 Flammable liquids
4.1 Flammable solids, self-reactive substances and solid desensitized explosives
4.2 Substances liable to spontaneous combustion
4.3 Substances which, in contact with water, emit flammable gases
5.1 Oxidizers
5.2 Organic peroxides
6.1 Toxic substances
6.2 Infectious substances
7 Radioactive material
8 Corrosives
9 Miscellaneous dangerous goods

Packing Groups
Dangerous goods are assigned to the relevant packing group according to the degree of hazard they present:

Packing group I - high danger
Packing group II - medium danger
Packing group III - low danger

Dangerous Goods Regulations distinguished as the modes of transport:

Road:
ADR European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)

Rail:
RID Regulations concerning the International Carriage of Dangerous Goods by Rail

Inland waterway:
ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

Sea:
IMDG-Code International Maritime Dangerous Goods Code

Air:
IATA DGR International Air Transport Association Dangerous Goods Regulations

Dangerous goods can be transported safely provided when certain principles are strictly followed.
The proper declaration of dangerous goods by the shipper ensures that all in the transportation chain know what dangerous goods they are transporting and what to do if an incident or accident occurs in flight or on the ground.

Dangerous goods normally are packed in UN performance-tested specification packagings. These are not required when dangerous goods are shipped in „limited quantities“ or „excepted quantities“.

We reserve the right to ask for a surcharge for packaging suited for transportation of dangerous goods.

21. WGK
Water endangering substances are classified in compliance according to their hazardous properties:

WGK 3: extremely hazardous for water
WGK 2: hazardous for water
WGK 1: slightly hazardous for water

www.serva.de
Global Harmonisiertes Einstufungs- und Kenzeichnungssystem (GHS)


Ziel der Verordnung ist es, ein hohes Schutzniveau für die menschliche Gesundheit und für die Umwelt sicherzustellen. Außerdem wird eine weltweite Harmonisierung von Vorschriften für die Einstufung und Kennzeichnung von chemischen Stoffen und Gemischen erreicht.

Wir möchten unseren Kunden mit dieser Information einen Einblick in die neue Systematik vermitteln und gleichzeitig die Möglichkeit bieten, sich mit den neuen Piktogrammen sowie H- (Gefahrenhinweis-) und P- (Sicherheitshinweise-) Sätzen vertraut zu machen.

H-Sätze

Gefahrenhinweise für physikalische Gefahren

H200 Instabil, explosiv.
H201 Explosiv, Gefahr der Massenexplosion.
H202 Explosiv; große Gefahr durch Splitter, Spreng- und Wurfstücke.
H203 Explosiv; Gefahr durch Feuer, Luftdruck oder Splitter, Spreng- und Wurfstücke.
H204 Gefahr durch Feuer oder Splitter, Spreng- und Wurfstücke.
H205 Gefahr der Massenexplosion bei Feuer.
H220 Extrem entzündbares Gas.
H221 Entzündbares Gas.
H222 Extrem entzündbares Aerosol.
H223 Entzündbares Aerosol.
H224 Flüssigkeit und Dampf extrem entzündbar.
H225 Flüssigkeit und Dampf leicht entzündbar.
H226 Flüssigkeit und Dampf entzündbar.
H227 Brennbare Flüssigkeit.
H228 Entzündbarer Feststoff.
H229 Behälter steht unter Druck: Kann bei Einfrieren bersten.
H230 Explosionsgefahr selbst ohne Luftzufuhr.
H231 Explosionsgefahr selbst ohne Luftzufuhr bei erhöhtem Druck und / oder erhöhter Temperatur.
H240 Erwärmung kann Explosion verursachen.
H241 Erwärmung kann Brand oder Explosion verursachen.
H242 Erwärmung kann Brand verursachen.
H250 Entzündet sich in Berührung mit Luft von selbst.
H251 Selbstentzündungsfähig; kann in Brand geraten.
H252 In großen Mengen selbstentzündungsfähig; kann in Brand geraten.
H260 In Berührung mit Wasser entstehen entzündbare Gase, die sich spontan entzünden können.
H261 In Berührung mit Wasser entstehen entzündbare Gase.
H270 Kann Brand verursachen oder verstärken; Oxidationsmittel.
H271 Kann Brand oder Explosion verursachen; starkes Oxidationsmittel.
H272 Kann Brand verstärken; Oxidationsmittel.
H280 Enthält Gas unter Druck; kann bei Erwärmung explodieren.
H281 Enthält tiefkaltes Gas; kann Kälteverbrennungen oder -verätzungen verursachen.
H290 Kann gegenüber Metallen korrosiv sein.

Gefahrenhinweise für Gesundheitsgefahren

H300 Lebensgefahr bei Verschlucken.
H301 Giftig bei Verschlucken.
H302 Gesundheitsschädlich bei Verschlucken.
H303 Kann bei Verschlucken gesundheitsschädlich sein.
H304 Kann bei Verschlucken und Eindringen in die Atemwege tödlich sein.
H305 Kann beim Verschlucken und wenn es in die Atemwege gelangt gesundheitsschädlich sein.
H310 Lebensgefahr bei Hautkontakt.
H311 Giftig bei Hautkontakt.
H312 Gesundheitsschädlich bei Hautkontakt.
H313 Kann bei Berührung mit der Haut gesundheitsschädlich sein.
H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
H315 Verursacht Hautreizungen.
H316 Verursacht leichte Hautreizungen.
H317 Kann allergische Hautreaktionen verursachen.
H318 Verursacht schwere Augenschäden.
H319 Verursacht schwere Augenreizung.
H320 Verursacht Augenreizungen.
H330 Lebensgefahr bei Einatmen.
H331 Giftig bei Einatmen.
H332 Gesundheitsschädlich bei Einatmen.
H333 Kann beim Einatmen gesundheitsschädlich sein.
H334 Kann bei Einatmen Allergie, asthmatische Symptome oder Astmabeschwerden verursachen.
H335 Kann die Atemwege reizen.
H336 Kann Schlaflosigkeit und Benommenheit verursachen.
H340 Kann genetische Defekte verursachen Expositionsweg angeben, sofern schlüssig belegt ist, dass diese Gefahr bei keinem anderen Expositionsweg besteht.
H341 Kann vermutlich genetische Defekte verursachen.
H350 Kann Krebs erzeugen.
H351 Kann bei Einatmen Krebs erzeugen.
H352 Kann vermutlich Krebs erzeugen.
H353 Kann bei Einatmen Krebs erzeugen.
H360 Kann die Fruchtbarmkeit beeinträchtigen oder das Kind im Mutterleib schädigen.
H360D Kann das Kind im Mutterleib schädigen.
H360DF Kann die Fruchtbarmkeit beeinträchtigen.
H360DFO Kann die Fruchtbarmkeit beeinträchtigen. Kann das Kind im Mutterleib schädigen.

E-U-H-Sätze

Ergänzende Gefahrenmerkmale

EUH001 In trockenem Zustand explosionsfähig. EUH006 Mit und ohne Luft explosionsfähig. EUH014 Reagiert heftig mit Wasser. EUH018 Kann bei Verwendung explosionsfähige entzündbare Dämpfe/ Luft-Gemische bilden. EUH019 Kann explosionsfähige Peroxide bilden. EUH029 Entwickelt bei Berührung mit Wasser giftige Gase. EUH044 Explosionsgefahr bei Erhitzen unter Einschluss. EUH059 Die Ozonschicht schädigend. EUH066 Wiederholter Kontakt kann zu spröder oder rissiger Haut führen. EUH070 Giftig bei Berührung mit den Augen. EUH071 Wird ätzend auf die Atemwege.

P-Sätze

Sicherheitshinweise


Gefahrenhinweise für Umweltgefahren


H-/EUH-/P-Codes (German)

www.serva.de
P270c
Schutzhandschuhe und Gesichtsschutz tragen.
P270b
Schutzhandschuhe tragen.
P270a
Schutzhandschuhe / Schutzkleidung tragen.
P261
Augenschutz / Gesichtsschutz tragen.
P258
Schwarz emaillierbare/flammhemmende Kleidung tragen.
P254
Atemschutz tragen.
P251
Unter inertem Gas handhaben. Vor Feuchtigkeit schützen.
P252
Unter inertem Gas handhaben. Vor Feuchtigkeit schützen.
P235
Kühlen halten. Vor Sonnenbestrahlung schützen.
P210
Kühl halten. Vor Sonnenbestrahlung schützen.
P301
BEI VERSCHLUCKEN:
P302
BEI BERÜHRUNG MIT DER HAUT:
P303
BEI BERÜHRUNG MIT DER HAUT (oder dem Haar):
P304
BEI EINATMEN:
P305
BEI KONTAKT MIT DEN AUGEN:
P306
BEI KONTAKT MIT DER KLEIDUNG:
P307
BEI KONTAKT MIT DER HAUT:
P308
BEI KONTAKT MIT DEN AUGEN:
P309
BEI KONTAKT MIT DER KLEIDUNG:
P310
Sofort GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P311
GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P312
GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P313
GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P314
GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P315
Sofort GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P316
Sofort GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P317
Sofort GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P318
Sofort GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P319
Sofort GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P320
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P321
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P322
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P323
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P324
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P325
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P326
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P327
Sofort GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P328
Sofort GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P329
Sofort GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P330
Mund ausspülen.
P331
KEIN Erbrechen herbeiführen.
P332
Zum Löschen verwenden: CO₂, Sand, Löschpulver.
P333
Zum Löschen verwenden: Spezialpulver für Metallbrände.
P334
Zum Löschen verwenden: Wassersprühstrahl.
P335
Zum Löschen verwenden: Wasser.
P336
Zum Löschen verwenden: Wasser. 
P337
Zum Löschen verwenden: Wasser. 
P338
Zum Löschen verwenden: Wasser. 
P339
Zum Löschen verwenden: Wasser. 
P340
Zum Löschen verwenden: Wasser. 
P341
Zum Löschen verwenden: Wasser. 
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Zum Löschen verwenden: Wasser. 
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Zum Löschen verwenden: Wasser. 
P356
Zum Löschen verwenden: Wasser. 
P357
Zum Löschen verwenden: Wasser. 
P358
Zum Löschen verwenden: Wasser. 
P359
Zum Löschen verwenden: Wasser. 
P360
Zum Löschen verwenden: Wasser. 
P361
alle kontaminierten Kleidungsstücke sofort ausziehen.
P362
alle kontaminierten Kleidungsstücke sofort ausziehen.
P363
alle kontaminierten Kleidungsstücke sofort ausziehen.
P364
alle kontaminierten Kleidungsstücke sofort ausziehen.
P365
alle kontaminierten Kleidungsstücke sofort ausziehen.
P366
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P388
alle kontaminierten Kleidungsstücke sofort ausziehen.
P389
alle kontaminierten Kleidungsstücke sofort ausziehen.
P390
alle kontaminierten Kleidungsstücke sofort ausziehen.
P391
alle kontaminierten Kleidungsstücke sofort ausziehen.
P371 + P380 + P375
P401
... aufbewahren.
P401a
Gemäß örtlicher/ regionaler/nationaler/internationaler Vorschriften lagern.
P402
An einem trockenen Ort aufbewahren.
P403
An einem gut belüfteten Ort aufbewahren.
P404
In einem geschlossenen Behälter aufbewahren.
P405
Unter Verschluss aufbewahren.
P406
In korrosionsbeständigem Behälter mit korrosionsbeständiger Auskleidung aufbewahren.
P407
Luftspalt zwischen Stapeln/Paletten lassen.
P410
Vor Sonnenbestrahlung schützen.
P411
Bei Temperaturen von nicht mehr als ... °C/... °F aufbewahren.
P411a
Bei Temperaturen von nicht mehr als ... °C aufbewahren.
P412
Nicht Temperaturen von mehr als 50 °C aussetzen.
P413
Schüttgut in Mengen von mehr als ... kg/... lbs bei Temperaturen von nicht mehr als ... °C/... °F aufbewahren.
P413a
Schüttgut in Mengen von mehr als ... kg bei Temperaturen von nicht mehr als ... °C aufbewahren.
P413b
Schüttgut in Mengen von mehr als ... lbs bei Temperaturen von nicht mehr als ... °F aufbewahren.
P414
Von anderen Materialien entfernt aufbewahren.
P415
Von Lebensmitteln getrennt lagern.
P416
Von brennbaren Stoffen getrennt lagern.
P417
Von Oxidationsmitteln getrennt lagern.
P418
Von Reduktionsmitteln getrennt lagern.
P419
Von Wasser getrennt lagern.
P420
Von Metallen getrennt lagern.
P421
Von Säuren getrennt lagern.
P422
Inhalte in / unter Inertgas aufbewahren.
P423
Inhalte unter Schutzgas aufbewahren.
P424
Inhalte unter Lösungsmittel aufbewahren.
P425
Unter Wasser aufbewahren.
P426
Unter Stickstoff aufbewahren.
P427
In einem geschlossenen Behälter an einem trockenen Ort aufbewahren.
P428
Behälter dicht verschlossen an einem gut belüfteten Ort aufbewahren.
P429
Kühl an einem gut belüfteten Ort aufbewahren.
P430
Vor Sonnenbestrahlung geschützt an einem gut belüfteten Ort aufbewahren.
P431
Vor Sonnenbestrahlung geschützt und nicht Temperaturen von mehr als 50 °C aussetzen.
P432
Kühl und bei Temperaturen von nicht mehr als ... °C/... °F aufbewahren.
P433
Kühl und bei Temperaturen von nicht mehr als ... °C aufbewahren.
P434
Kühl und bei Temperaturen von nicht mehr als ... °F aufbewahren.
P501
Inhalts-/Behälter ... zuführen.
P501a
P502
Informationen zur Wiederverwendung/Wiederverwertung beim Hersteller/Lieferanten anfragen.
The GHS regulation resp. CLP (regulation on Classification, Labeling and Packaging of Substances and Mixtures) regulation (EG) No 1272/2008 has become effective on 20th January 2009.

This regulation will amend and repeal Directives 67/548/EEC and 1999/45/EC over a period of a few years, and amend Regulation (EC) No 1907/2006. It’s the aim of this regulation to ensure a high level of protection of human health and the environment. In addition it is essential to harmonize the provisions and criteria for the classification and labeling of substances and mixtures.

With this information we would like to give our customers an insight into the new systematic and simultaneously provide an opportunity to become acquainted with the new pictograms as well as with the H (hazard warnings)- and P (safety information) codes.

### H-Codes

#### Hazard statements for physical hazards

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H200</td>
<td>Unstable explosives.</td>
</tr>
<tr>
<td>H201</td>
<td>Explosive; mass explosion hazard.</td>
</tr>
<tr>
<td>H202</td>
<td>Explosive, severe projection hazard.</td>
</tr>
<tr>
<td>H203</td>
<td>Explosive; fire, blast or projection hazard.</td>
</tr>
<tr>
<td>H204</td>
<td>Fire or projection hazard.</td>
</tr>
<tr>
<td>H205</td>
<td>May mass explode in fire.</td>
</tr>
<tr>
<td>H220</td>
<td>Extremely flammable gas.</td>
</tr>
<tr>
<td>H221</td>
<td>Flammable gas.</td>
</tr>
<tr>
<td>H222</td>
<td>Extremely flammable aerosol.</td>
</tr>
<tr>
<td>H223</td>
<td>Flammable aerosol.</td>
</tr>
<tr>
<td>H224</td>
<td>Extremely flammable liquid and vapour.</td>
</tr>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>H226</td>
<td>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>H227</td>
<td>Combustible liquid.</td>
</tr>
<tr>
<td>H228</td>
<td>Flammable solid.</td>
</tr>
<tr>
<td>H229</td>
<td>Pressurised container: May burst if heated.</td>
</tr>
<tr>
<td>H230</td>
<td>May react explosively even in the absence of air.</td>
</tr>
<tr>
<td>H231</td>
<td>May react explosively even in the absence of air at elevated pressure / or temperature.</td>
</tr>
<tr>
<td>H240</td>
<td>Heating may cause an explosion.</td>
</tr>
<tr>
<td>H241</td>
<td>Heating may cause a fire or explosion.</td>
</tr>
<tr>
<td>H242</td>
<td>Heating may cause a fire.</td>
</tr>
<tr>
<td>H250</td>
<td>Catches fire spontaneously if exposed to air.</td>
</tr>
<tr>
<td>H251</td>
<td>Self-heating: may catch fire.</td>
</tr>
<tr>
<td>H252</td>
<td>Self-heating in large quantities; may catch fire.</td>
</tr>
<tr>
<td>H260</td>
<td>In contact with water releases flammable gases which may ignite spontaneously.</td>
</tr>
<tr>
<td>H261</td>
<td>In contact with water releases flammable gases.</td>
</tr>
<tr>
<td>H270</td>
<td>May cause or intensify fire; oxidiser.</td>
</tr>
<tr>
<td>H271</td>
<td>May cause fire or explosion; strong oxidiser.</td>
</tr>
<tr>
<td>H272</td>
<td>May intensify fire; oxidiser.</td>
</tr>
<tr>
<td>H280</td>
<td>Contains gas under pressure; may explode if heated.</td>
</tr>
<tr>
<td>H281</td>
<td>Contains refrigerated gas; may cause cryogenic burns or injury.</td>
</tr>
<tr>
<td>H282</td>
<td>May be corrosive to metals.</td>
</tr>
</tbody>
</table>

#### Hazard statements for health hazards

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H300</td>
<td>Fatal if swallowed.</td>
</tr>
<tr>
<td>H301</td>
<td>Toxic; if swallowed.</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H303</td>
<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>H304</td>
<td>May be fatal if swallowed and enters airways.</td>
</tr>
<tr>
<td>H305</td>
<td>May be harmful if swallowed and enters airways.</td>
</tr>
<tr>
<td>H310</td>
<td>Fatal in contact with skin.</td>
</tr>
<tr>
<td>H311</td>
<td>Toxic in contact with skin.</td>
</tr>
<tr>
<td>H312</td>
<td>Harmful in contact with skin.</td>
</tr>
<tr>
<td>H313</td>
<td>May be harmful in contact with skin.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H316</td>
<td>Causes mild skin irritation.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H320</td>
<td>Causes eye irritation.</td>
</tr>
<tr>
<td>H330</td>
<td>Fatal if inhaled.</td>
</tr>
<tr>
<td>H331</td>
<td>Toxic if inhaled.</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H333</td>
<td>May be harmful if inhaled.</td>
</tr>
<tr>
<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness.</td>
</tr>
<tr>
<td>H340</td>
<td>May cause genetic defects.</td>
</tr>
<tr>
<td>H341</td>
<td>Suspected of causing genetic defects.</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer.</td>
</tr>
<tr>
<td>H351</td>
<td>May cause cancer by inhalation.</td>
</tr>
<tr>
<td>H352</td>
<td>Suspected of causing cancer.</td>
</tr>
<tr>
<td>H353</td>
<td>Suspected of causing cancer by inhalation.</td>
</tr>
<tr>
<td>H360</td>
<td>May damage fertility or the unborn child.</td>
</tr>
<tr>
<td>H360D</td>
<td>May damage fertility.</td>
</tr>
<tr>
<td>H360DF</td>
<td>May damage fertility.</td>
</tr>
<tr>
<td>H360FD</td>
<td>May damage fertility. Suspected of damaging the unborn child.</td>
</tr>
<tr>
<td>H361</td>
<td>May cause harm to breast-fed children.</td>
</tr>
<tr>
<td>H361F</td>
<td>Suspected of damaging the unborn child.</td>
</tr>
<tr>
<td>H361FD</td>
<td>Suspected of damaging fertility.</td>
</tr>
<tr>
<td>H362</td>
<td>May cause cancer.</td>
</tr>
<tr>
<td>H363</td>
<td>Causes damage to organs.</td>
</tr>
<tr>
<td>H371</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs.</td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs.</td>
</tr>
</tbody>
</table>
H300+H310 Fatal if swallowed or in contact with skin.
H301+H330 Fatal if swallowed or if inhaled.
H302+H330 Toxic if swallowed, in contact with skin or if inhaled.
H303+H331 Toxic if swallowed or inhaled.
H302+H312+H332 Harmful if swallowed or in contact with skin.
H303+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H302+H333 Harmful if swallowed or if inhaled.
H303+H331+H333 May be harmful if swallowed or in contact with skin.
H303+H313+H333 May be harmful if swallowed, in contact with skin or if inhaled.
H310+H330 Fatal in contact with skin or if inhaled.
H311+H331 Toxic in contact with skin or if inhaled.
H312+H332 Harmful in contact with skin or if inhaled.
H313+H333 May be harmful in contact with skin or if inhaled.
H315+H320 Causes skin and eye irritation.

**Hazard statements for environmental hazards**

H400 Very toxic to aquatic life.
H401 Toxic to aquatic life.
H402 Harmful to aquatic life.
H410 Toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.
H420 Harms public health and the environment by destroying ozone in the upper atmosphere.

**EUH-Codes**

**Supplemental hazard informations**

EUH 001 Explosives when dry.
EUH 006 Explosive with or without contact with air.
EUH 014 Reacts violently with water.
EUH 016 In use may form flammable/explosive vapour-air mixture.
EUH 019 May form explosive peroxides.
EUH029 Contact with water liberates toxic gas.
EUH031 Contact with acids liberates toxic gas.
EUH032 Contact with acids liberates very toxic gas.
EUH 044 Risk of explosion if heated under confinement.
EUH 059 Hazardous to the ozone layer.
EUH 066 Repeated exposure may cause skin dryness or cracking.
EUH 070 Toxic by eye contact.
EUH 071 Corrosive to the respiratory tract.

**P-Codes**

**P101**
If medical advice is needed, have product container or label at hand.
**P102**
Keep out of reach of children.

**P103**
Read label before use.
**P201**
Obtain special instructions before use.
**P202**
Do not handle until all safety precautions have been read and understood.
**P210**
Keep away from heat/sparks/open flames/hot surfaces. ... No smoking.
**P210a**
Keep away from heat. - No smoking.
**P210b**
Keep away from sparks. - No smoking.
**P210c**
Keep away from open flames. - No smoking.
**P210d**
Keep away from hot surfaces. - No smoking.
**P211**
Do not spray on an open flame or other ignition source.
**P220**
Keep/Stow away from clothing/.../combustible materials.
**P220a**
Keep away from clothing.
**P220b**
Keep away from combustible materials.
**P220c**
Keep away from reducing agents, heavy metal compounds, acids and alkalis.
**P220d**
Keep away from oxidising and acidic substances, as well as heavy metal compounds.
**P220e**
Keep away from iron.
**P220f**
Keep away from water.
**P220g**
Keep away from acids.
**P220h**
Keep away from alkaline solutions.
**P220i**
Keep away from metals.
**P220j**
Keep away from oxidising and acidic substances.
**P220k**
Keep away from flammable organic substances.
**P220l**
Keep away from acids, reducing agents and flammable materials.
**P221**
Take any precaution to avoid mixing with combustibles...
**P222**
Do not allow contact with air.
**P223**
Keep away from any possible contact with water, because of violent reaction and possible flash fire.
**P230**
Keep wetted with...
**P230a**
Keep wetted.
**P231**
Handle under inert gas.
**P232**
Protect from moisture.
**P233**
Keep container tightly closed.
**P234**
Keep only in original container.
**P235**
Keep cool.
**P240**
Ground/bond container and receiving equipment.
**P241**
Use explosion-proof electrical/ventilating/lighting/.../equipment.
**P242**
Use only non-sparking tools.
**P343**
Take precautionary measures against static discharge.
**P244**
Keep reduction valves free from grease and oil.
**P250**
Do not subject to grinding/shock/.../friction.
**P251**
Pressurized container. Do not pierce or burn, even after use.
**P260**
Do not breathe dust/fume/gas/mist/vapours/spray.
**P260a**
Do not breathe dust.
**P260b**
Do not breathe fume.
**P260c**
Do not breathe gas.
**P260d**
Do not breathe mist.
**P260e**
Do not breathe vapours.

**P261**
Avoid breathing dust/fume/gas/mist/vapours/spray.
**P261a**
Avoid breathing dust.
**P261b**
Avoid breathing fume.
**P261c**
Avoid breathing gas.
**P261d**
Avoid breathing mist.
**P261e**
Avoid breathing vapours.
**P261f**
Avoid breathing spray.
**P261g**
Avoid breathing mist/vapours/spray.
**P262**
Do not get in eyes, on skin, or on clothing.
**P263**
Avoid contact during pregnancy/while nursing.
**P264**
Wash ... thoroughly after handling.
**P270**
Do not eat, drink or smoke when using this product.
**P271**
Use only outdoors or in a well-ventilated area.
**P272**
Contaminated work clothing should not be allowed out of the workplace.
**P273**
Avoid release to the environment.
**P300**
Wear protective gloves/protective clothing/eye protection/ face protection.
**P301**
Wear protective gloves / eye protection / face protection.
**P302**
Wear protective gloves / eye protection.
**P303**
Wear protective gloves / face protection.
**P304**
Wear protective clothing / eye protection.
**P305**
Wear protective clothing / face protection.
**P306**
Wear protective clothing.
**P307**
Wear protective gloves.
**P308**
Wear protective gloves / protective clothing.
**P309**
Wear protective gloves / protective clothing.
**P310**
Wear face protection.
**P311**
Wear cold insulating gloves/face shield/eye protection.
**P312**
Wear fire/flame resistant/retardant clothing.
**P313**
Wear respiratory protection.

**P401**
IF SWALLOWED:
**P302**
IF IN SKIN:
**P303**
IF IN SKIN (or hair):
**P304**
IF INHALED:
**P305**
IF IN EYES:
**P306**
IF ON CLOTHING:
**P307**
IF EXPOSED or concerned:
**P310**
Immediately call a POISON CENTER or doctor/physician.
**P311**
Call a POISON CENTER or doctor/physician.
**P312**
Call a POISON CENTER or doctor/physician if you feel unwell.
**P313**
Get medical advice/attention.
**P314**
Get medical advice/attention if you feel unwell.
**P315**
Get immediate medical advice/attention.
**P320**
Specific treatment is urgent (see ... on this label).
**P321**
Specific treatment (see ... on this label).
**P330**
Rinse mouth.
**P331**
Do NOT induce vomiting.
P332 If skin irritation occurs:
P333 If skin irritation or rash occurs:
P334 Immersed in cool water/wrap in wet bandages.
P335 Brush off loose particles from skin.
P336 Thaw frosted parts with lukewarm water. Do no rub affected area.
P337 If eye irritation persists:
P338 Remove contact lenses, if present and easy to do. Continue rinsing.
P339 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P340 Stop leak if safe to do so.
P341 Fight fire remotely due to the risk of explosion.
P342 IF exposed: Call a POISON CENTER or doctor/physician.
P343 IF exposed or concerned: Get medical advice/attention.
P344 IF swallowed: Call a POISON CENTER or doctor/physician.
P345 Keep cool. Protect from sunlight.
P346 Collect spillage.
P347 Collect spillage.
P348 • P323 Handle under inert gas. Protect from moisture.
P349 • P335 Store in a well-ventilated place. Keep container tightly closed.
P350 • P373 Store under water.
P351 Rinse cautiously with water for several minutes.
P352 Wash with plenty of soap and water.
P353 Rinse skin with water/shower.
P354 Rinse skin immediately with water after contact with skin irritants or corrosives.
P355 Rinse skin with water/shower.
P356 Stop if skin irritation occurs: Get medical advice/attention.
P357 Use for extinction: BC powder.
P358 Use for extinction: Fire-extinguishing powder.
P359 Use for extinction: Dry sand.
P360 Use for extinction: CO₂ powder or water spray.
P361 Use for extinction: Special powder for metal fires.
P362 Use for extinction: Water.
P363 Wash contaminated clothing before reuse.
P364 And wash it before reuse.
P365 P375 In case of fire: Use for extinction: CO₂, sand, extinguishing powders.
P366 P370+P380+P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P367 P370 + P380 + P375 In case of fire: Use for extinction: Dry sand.
P368 P370 + P380 + P375 In case of fire: Use for extinction: Sand.
P369 P370 + P380 + P375 In case of fire: Evacuate area.
P370 + P380 + P375 In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
La réglementation GHS (classification, labelling and packaging of substances and mixtures) a été mise en œuvre en janvier 2009. Cette réglementation vise à assurer un niveau élevé de protection de la santé et de l'environnement et à harmoniser les provisions et critères de classification et de étiquetage des substances et mélanges.

With this information we would like to give our customers an insight into the new systematic and simultaneously provide an opportunity to become acquainted with the new pictograms as well as with the H (hazard warnings)- and P (safety information) codes.

**H - Codes**

**Des Mentions de danger des dangers physiques**

<table>
<thead>
<tr>
<th>GHS Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H200</td>
<td>Explosif instable.</td>
</tr>
<tr>
<td>H201</td>
<td>Explosif; danger d'explosion en masse.</td>
</tr>
<tr>
<td>H202</td>
<td>Explosif; danger sérieux de projection.</td>
</tr>
<tr>
<td>H203</td>
<td>Explosif; danger d'incendie, d'effet de souffle ou de projection.</td>
</tr>
<tr>
<td>H204</td>
<td>Danger d'incendie ou de projection.</td>
</tr>
<tr>
<td>H205</td>
<td>Danger d'explosion en masse en cas d'incendie.</td>
</tr>
<tr>
<td>H220</td>
<td>Gaz extrêmement inflammable.</td>
</tr>
<tr>
<td>H221</td>
<td>Gaz inflammable.</td>
</tr>
<tr>
<td>H222</td>
<td>Aérosol extrêmement inflammable.</td>
</tr>
<tr>
<td>H223</td>
<td>Aérosol inflammable.</td>
</tr>
<tr>
<td>H224</td>
<td>Liquide et vapeurs extrêmement inflammables.</td>
</tr>
<tr>
<td>H225</td>
<td>Liquide et vapeurs très inflammables.</td>
</tr>
<tr>
<td>H226</td>
<td>Liquide et vapeurs inflammables.</td>
</tr>
<tr>
<td>H227</td>
<td>Liquide combustible.</td>
</tr>
<tr>
<td>H228</td>
<td>Matière solide inflammable.</td>
</tr>
<tr>
<td>H229</td>
<td>Récipient sous pression: peut éclater sous l'effet de la chaleur.</td>
</tr>
<tr>
<td>H230</td>
<td>Peut exploser même en l'absence d'air.</td>
</tr>
<tr>
<td>H231</td>
<td>Peut exploser même en l'absence d’air à une pression et/ou température élevée(s).</td>
</tr>
<tr>
<td>H232</td>
<td>Peut s'enflammer ou exploser sous l'effet de la chaleur.</td>
</tr>
<tr>
<td>H233</td>
<td>Peut s'enflammer ou exploser sous l'effet de l'air.</td>
</tr>
<tr>
<td>H240</td>
<td>Peut s'enflammer ou exploser sous l'effet de la chaleur.</td>
</tr>
<tr>
<td>H241</td>
<td>Peut s'enflammer ou exploser sous l'effet de la chaleur.</td>
</tr>
<tr>
<td>H242</td>
<td>Peut s'enflammer sous l'effet de l'air.</td>
</tr>
<tr>
<td>H250</td>
<td>S’enflamme spontanément au contact de l’air.</td>
</tr>
<tr>
<td>H251</td>
<td>Matière auto-échauffante; peut s’enflammer.</td>
</tr>
<tr>
<td>H252</td>
<td>Matière auto-échauffante en grandes quantités; peut s’enflammer.</td>
</tr>
<tr>
<td>H260</td>
<td>Dégage au contact de l’eau des gaz inflammables qui peuvent s’enflammer spontanément.</td>
</tr>
<tr>
<td>H261</td>
<td>Dégage au contact de l’eau des gaz inflammables.</td>
</tr>
<tr>
<td>H270</td>
<td>Peut provoquer ou aggraver un incendie; combustant.</td>
</tr>
<tr>
<td>H271</td>
<td>Peut provoquer un incendie ou une explosion; combustant.</td>
</tr>
<tr>
<td>H272</td>
<td>Peut provoquer ou aggraver un incendie; combustant.</td>
</tr>
<tr>
<td>H280</td>
<td>Contient un gaz sous pression; peut exploser sous l'effet de la chaleur.</td>
</tr>
<tr>
<td>H281</td>
<td>Contient un gaz réfrigéré; peut causer des brûlures ou bles- sures cryogéniques.</td>
</tr>
<tr>
<td>H290</td>
<td>Peut être corrosif pour les métaux.</td>
</tr>
</tbody>
</table>

**Des Mentions de danger des dangers pour la santé**

<table>
<thead>
<tr>
<th>GHS Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H300</td>
<td>Mortel en cas d’ingestion.</td>
</tr>
<tr>
<td>H301</td>
<td>Toxique en cas d’ingestion.</td>
</tr>
<tr>
<td>H302</td>
<td>Nocif en cas d’ingestion.</td>
</tr>
<tr>
<td>H303</td>
<td>Peut être nocif en cas d’ingestion.</td>
</tr>
<tr>
<td>H304</td>
<td>Peut être mortel en cas d’ingestion et de pénétration dans les voies respiratoires.</td>
</tr>
<tr>
<td>H305</td>
<td>Peut être nocif en cas d’ingestion et de pénétration dans les voies respiratoires.</td>
</tr>
<tr>
<td>H310</td>
<td>Mortel par contact cutané.</td>
</tr>
<tr>
<td>H311</td>
<td>Toxique par contact cutané.</td>
</tr>
<tr>
<td>H312</td>
<td>Nocif par contact cutané.</td>
</tr>
<tr>
<td>H313</td>
<td>Peut être nocif par contact cutané.</td>
</tr>
<tr>
<td>H314</td>
<td>Provoque des brûlures de la peau et des lésions oculaires graves.</td>
</tr>
<tr>
<td>H315</td>
<td>Provoque une irritation cutanée.</td>
</tr>
<tr>
<td>H300+H310</td>
<td>Mortel par ingestion ou par contact cutané.</td>
</tr>
<tr>
<td>H300+H310+H330</td>
<td>Mortel par ingestion, par contact cutané ou par inhalation.</td>
</tr>
<tr>
<td>H300+H330</td>
<td>Mortel par ingestion ou par inhalation.</td>
</tr>
<tr>
<td>H301+H311</td>
<td>Toxique par ingestion ou par contact cutané.</td>
</tr>
<tr>
<td>H301+H331</td>
<td>Toxique par ingestion, par contact cutané ou par inhalation.</td>
</tr>
<tr>
<td>H301+H331</td>
<td>Toxique par ingestion ou par inhalation.</td>
</tr>
<tr>
<td>H302+H312</td>
<td>Nocif en cas d’ingestion ou de contact cutané.</td>
</tr>
<tr>
<td>H302+H312+H332</td>
<td>Nocif en cas d’ingestion, de contact cutané ou d’inhalation.</td>
</tr>
<tr>
<td>H300+H312</td>
<td>Nocif en cas d’ingestion ou d’inhalation.</td>
</tr>
<tr>
<td>H303+H313</td>
<td>Peut être nocif en cas d’ingestion ou de contact cutané.</td>
</tr>
<tr>
<td>H303+H313+H333</td>
<td>Peut être nocif en cas d’ingestion, de contact cutané ou d’inhalation.</td>
</tr>
<tr>
<td>H303+H333</td>
<td>Peut être nocif en cas d’ingestion ou d’inhalation.</td>
</tr>
<tr>
<td>H310+H330</td>
<td>Mortel par contact cutané ou par inhalation.</td>
</tr>
<tr>
<td>H311+H331</td>
<td>Toxique par contact cutané ou par inhalation.</td>
</tr>
<tr>
<td>H312+H332</td>
<td>Nocif en cas de contact cutané ou d’inhalation.</td>
</tr>
<tr>
<td>H314+H333</td>
<td>Peut être nocif en cas de contact cutané ou d’inhalation.</td>
</tr>
<tr>
<td>H314+H333</td>
<td>Cause une irritation cutanée et oculaire.</td>
</tr>
<tr>
<td>H316</td>
<td>Provoque une légère irritation cutanée.</td>
</tr>
<tr>
<td>H317</td>
<td>Peut provoquer une allergie cutanée.</td>
</tr>
<tr>
<td>H318</td>
<td>Provoque des lésions oculaires graves.</td>
</tr>
<tr>
<td>H319</td>
<td>Provoque une sévère irritation des yeux.</td>
</tr>
<tr>
<td>H320</td>
<td>Provoque une irritation oculaire.</td>
</tr>
<tr>
<td>H330</td>
<td>Mortel par inhalation.</td>
</tr>
<tr>
<td>H331</td>
<td>Toxique par inhalation.</td>
</tr>
<tr>
<td>H332</td>
<td>Nocif par inhalation.</td>
</tr>
<tr>
<td>H333</td>
<td>Peut être nocif par inhalation.</td>
</tr>
<tr>
<td>H334</td>
<td>Peut provoquer des symptômes allergiques ou d’asthme ou des difficultés respiratoires par inhalation.</td>
</tr>
<tr>
<td>H335</td>
<td>Peut iriter les voies respiratoires.</td>
</tr>
<tr>
<td>H336</td>
<td>Peut provoquer somnolence ou vertiges.</td>
</tr>
</tbody>
</table>
EUH059 Dangerux pour la couche d’ozone.
EUH006 L’exposition répétée peut provoquer des démangeaisons ou irritation de la peau.
EUH070 Toxique par contact cutané.
EUH071 Convoyant pour les voies respiratoires.

P - Codes
P101 En cas de consultation d’un médecin, garder à disposition le récipient ou l’étiquette.
P102 Tenir hors de portée des enfants.
P103 Lire l’étiquette avant utilisation.
P201 Se procurer les instructions avant utilisation.
P202 Ne pas manier avant d’avoir lu et compris toutes les précautions de sécurité.
P210a Tenir à l’écart de la chaleur/des étincelles/des flammes nues/ des surfaces chaudes. - Ne pas fumer.
P210b Tenir à l’écart des étincelles. - Ne pas fumer.
P210c Tenir à l’écart des flammes nues. - Ne pas fumer.
P210d Tenir à l’écart des surfaces chaudes. - Ne pas fumer.
P211 Ne pas vaporiser sur une flamme nue ou sur toute autre source d’ignition.
P220 Tenir/stocker à l’écart des vêtements/matières combustibles.
P220a Tenir à l’écart des vêtements.
P220b Tenir à l’écart des matières combustibles.
P220c Tenir à l’écart des agents de réduction, des composés de métaux lourds, des acides et des alcalins.
P220d Tenir à l’écart des matières oxydantes et acides ainsi que des composés de métaux lourds.
P220e Tenir à l’écart du fer.
P220f Tenir à l’écart de l’eau.
P220g Tenir à l’écart des acides.
P220h Tenir à l’écart des lessives alcalines.
P220i Tenir à l’écart des métaux.
P220j Tenir à l’écart des matières oxydantes et acides.
P220k Tenir à l’écart des substances organiques inflammables.
P220l Tenir à l’écart des acides, agents de réduction et matières inflammables.
P221 Tenir à l’écart des matières oxydantes et acides.
P222 Prendre toutes précautions pour éviter de mélanger avec des matières combustibles.
P223 Ne pas laisser au contact de l’air.
P224 Éviter tout contact avec l’eau, à cause du risque de réaction violente et d’inflammation spontanée.
P225a Maintenir humidifié avec...
P230a Maintenir humidifié.
P231 Manipuler sous gaz inert.
P232 Protéger du froid.
P233 Conserver uniquement dans le récipient d’origine.
P235 Tenir au frais.
P236 Mise à la terre/électricité/équipotentialisation du récipient et du matériel de réception.
P237 Utiliser du matériel électrique/de ventilation/d’éclairage/ antideflagrant.
P239 Ne pas respirer les poussières/fumées/gaz/brouillards/va-peurs/aérosols.
P240 Ne pas respirer les fumées.
P250 Ne pas respirer les aérosols.
P251 Ne pas respirer les brouillards.
P252 Ne pas respirer les gaz.
P253 Ne pas respirer les vapeurs.
P256 Ne pas respirer les aérosols.
P257 Ne pas respirer les brouillards/vapeurs/aérosols.
P260 Ne pas respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.
P261 Ne pas respirer les poussières.
P261b Éviter de respirer les vapeurs.
P261c Éviter de respirer les gaz.
P261d Éviter de respirer les brouillards.
P261e Éviter de respirer les aérosols.
P261f Éviter de respirer les vapeurs.
P261g Éviter de respirer les brouillards/vapeurs/aérosols.
P262 Éviter tout contact avec les yeux, la peau ou les vêtements.
P263 Éviter tout contact avec la substance au cours de la grossesse/pendant l’allaitement.
P270 Ne pas manger, boire ou fumer en manipulant ce produit.
P271 Utiliser seulement en plein air ou dans un endroit bien ventilé.
P272 Les vêtements de travail contaminés ne devraient pas sortir du lieu de travail.
P273 Éviter le rejet dans l’environnement.
P274 Porter des gants de protection/des vêtements de protection/ un équipement de protection des yeux/du visage.
P275 Porter des gants de protection / un équipement de protection des yeux / un équipement de protection du visage.
P276 Porter des gants de protection / un équipement de protection des yeux.
P277 Porter des gants de protection / un équipement de protection du visage.
P278 Porter des gants de protection / un équipement de protection des yeux.
P279 Porter des gants de protection / un équipement de protection du visage.
P280a Porter des vêtements de protection / un équipement de protection des yeux.
P280b Porter des vêtements de protection / un équipement de protection du visage.
P280c Porter des vêtements de protection / un équipement de protection des yeux.
P280d Porter des vêtements de protection / un équipement de protection du visage.
P280e Porter des vêtements de protection / un équipement de protection des yeux.
P280f Porter des vêtements de protection / un équipement de protection du visage.
P280g Porter des vêtements de protection / un équipement de protection des yeux.
P280h Porter des gants de protection / des vêtements de protection.
P280i Porter des gants de protection.
P280j Porter des gants de protection.
P281 Porter des gants de protection / des vêtements de protection.
P282 Porter des gants de protection contre le froid/un équipement de protection du visage/ des yeux.
P283 Porter des vêtements résistant au feu/aux flammes/ignifuges.
**P384**
Porter un équipement de protection respiratoire.

**P304**
En cas de contact avec la peau:

**P303**
En cas de contact avec la peau (ou les cheveux):

**P305**
En cas de contact avec les yeux:

**P306**
En cas de contact avec les vêtements:

**P308**
En cas d’exposition prouvée ou suspectée:

**P310**
Appeler immédiatement un CENTRE ANTIPOISON ou un médecin.

**P311**
Appeler un CENTRE ANTIPOISON ou un médecin.

**P372**
Porter un équipement de protection respiratoire.

**P373**
En cas d’ingestion:

**P370**
En cas de contact avec la peau:

**P375**
En cas de contact avec les yeux:

**P376**
En cas de contact avec les vêtements:

**P377**
En cas d’exposition prouvée ou suspectée:

**P378**
Utiliser pour l’extinction: CO₂, sable, poudre d’extinction.

**P379**
Utiliser pour l’extinction: Eau.

**P380**
Utiliser pour l’extinction: Brouillard d’eau.

**P381**
Utiliser pour l’extinction: Mousse.

**P382**
Utiliser pour l’extinction: Mousse résistant à l’alcool.

**P383**
Utiliser pour l’extinction: Poudre d’extinction.

**P384**
Utiliser pour l’extinction: CO₂, sable, poudre d’extinction.

**P385**
En cas d’incendie: utiliser pour l’extinction: sable, poudre d’extinction.

**P386**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée.

**P387**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée.

**P388**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée ou eau pulvérisée.

**P389**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée.

**P390**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée ou eau pulvérisée.

**P391**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée.

**P392**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée.

**P393**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée.

**P394**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée.

**P395**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée.

**P396**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée.

**P397**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée.

**P398**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée.

**P399**
En cas d’incendie: utiliser pour l’extinction: Eau pulvérisée.

**P400**
Stockier...

**P401a**
Stockier conformément à la réglementation locale/régionale/nationale/internationale.

**P402**
Stockier dans un endroit sec.

**P403**
Stockier dans un endroit bien ventilé.

**P404**
Stockier dans un récipient fermé.

**P405**
Garder sous clef.

**P406**
Stockier dans un récipient résistant à la corrosion/récipient en acier inoxydable.

**P407**
Ménager un intervalle d’air entre les piles/palettes.

**P410**
Protéger du rayonnement solaire.
### Sistema mondiale armonizzato di classificazione ed etichettatura delle sostanze chimiche (GHS)

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<th>Livelli di pericolo</th>
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<td>Picc.</td>
<td>H200</td>
<td>H201, H202, H203</td>
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<td>Pericolo</td>
<td>H204</td>
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<td>H252, H261</td>
</tr>
<tr>
<td>Nessun pittogramma</td>
<td>H221, H229</td>
<td></td>
</tr>
</tbody>
</table>

### H - Codici

**Indicazioni di pericolo pericofo fisico**

- **H200**: Esplosivo instabile.
- **H201**: Esplosivo; pericolo di esplosione di massa.
- **H202**: Esplosivo; grave pericolo di proiezione.
- **H203**: Esplosivo; pericolo di incendio, di spostamento d’aria o di proiezione.
- **H204**: Pericolo di incendio o di proiezione.
- **H205**: Pericolo di esplosione di massa in caso d’incendio.
- **H220**: Gas altamente inammissibile.
- **H221**: Gas inammissibile.
- **H222**: Aerosol altamente inammissibile.
- **H223**: Aerosol inammissibile.
- **H224**: Liquido e vapori altamente inammissibili.
- **H225**: Liquido e vapori facilmente inammissibili.
- **H226**: Liquido e vapori inammissibili.
- **H227**: Liquido combustibile.
- **H228**: Solido inammissibile.
- **H229**: Recipiente sotto pressione: può esplodere se riscaldato.
- **H230**: Può reagire in modo esplosivo anche in assenza di aria.
- **H231**: Può reagire in modo esplosivo anche in assenza di aria a temperatura e/o pressione elevata.
- **H240**: Rischio di esplosione per riscaldamento.
- **H241**: Rischio d’incendio o di esplosione per riscaldamento.
- **H242**: Rischio d’incendio per riscaldamento.
- **H250**: Spontaneamente inammissibile all’aria.
- **H251**: Autoriscaldante; può infiammarsi.
- **H252**: Autoriscaldante in grandi quantità; può infiammarsi.
- **H260**: A contatto con l’acqua libera gas inammissibili che possono infiammarsi spontaneamente.
- **H261**: A contatto con l’acqua libera gas inammissibili.
- **H270**: Può provocare o aggravare un incendio; combustibile.
- **H271**: Può provocare un incendio o un’esposizione; molto combustibile.
- **H272**: Può aggiungere un incendio; combustibile.
- **H280**: Contiene gas sotto pressione; può esplodere se riscaldato.

**Consegnante**

Se le sostanze a cui si riferisce questo documento sono commercializzate a livello locale, regionale, nazionale o internazionale, si consiglia di contattare il negozio o la azienda per ulteriori informazioni. I libretti di sicurezza delle aziende di produzione e di distribuzione contengono informazioni più dettagliate.
H281 Contiene gas refrigerato; può provocare ustioni o lesioni ossevolpiche.
H290 Può essere corrosivo per i metalli.

Indicazioni di pericolo per la salute

H300 Letale se ingerito.
H301 Tossico se ingerito.
H302 Nocivo se ingerito.
H303 Può essere nocivo per inalazione.
H304 Può essere letale in caso di ingestione e di penetrazione nelle vie respiratorie.
H305 Può essere nocivo per inalazione e se raggiungono le vie respiratorie.
H310 Letale per contatto con la pelle.
H311 Tossico per contatto con la pelle.
H312 Nocivo per contatto con la pelle.
H313 Può essere nocivo a contatto con la pelle.
H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.
H315 Provoca irritazione cutanee.
H316 Causa leggera irritazione cutanee.
H317 Può provocare una reazione allergica cutanee.
H318 Provoca gravi lesioni oculari.
H319 Provoca grave irritazione oculare.
H320 Causa irritazione agli occhi.
H330 Letale se inalato.
H331 Tossico se inalato.
H332 Nocivo se inalato.
H333 Può essere nocivo per inalazione.
H334 Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.
H335 Può irritare le vie respiratorie.
H336 Può provocare sonnolenza o vertigini.
H340 Può provocare alterazioni genetiche.
H341 Sospettato di provocare alterazioni genetiche.
H350 Può provocare il cancro.
H350i Può provocare il cancro se inalato.
H351 Sospettato di provocare il cancro. H351i Sospettato di provocare il cancro per inalazione. H360 Può nuocere alla fertilità o al feto.
H360D Può nuocere al feto.
H360DF Può nuocere al feto. Sospettato di nuocere alla fertilità.
H360F Può nuocere alla fertilità.
H360FD Può nuocere alla fertilità. Può nuocere al feto.
H360FG Può nuocere alla fertilità. Sospettato di nuocere al feto.
H361 Sospettato di nuocere alla fertilità o al feto.
H361d Sospettato di nuocere al feto.
H361f Sospettato di nuocere alla fertilità Sospettato di nuocere al feto.
H362 Può essere nocivo per i lattanti allattati al seno.
H370 Provoca danni agli organi.

H371 Può provocare danni agli organi.
H372 Provoca danni agli organi in caso di esposizione prolungata o ripetuta.
H373 Può provocare danni agli organi in caso di esposizione prolungata o ripetuta.
H370+H310 Mortale in caso di inghiottimento o a contatto con la pelle.
H330+H310+H330 Mortale se ingerito, a contatto con la pelle o se inalato.
H300+H311 Tossico se ingerito a contatto con la pelle.
H301+H331 Tossico se ingerito o a contatto con la pelle.
H302+H312 Nocivo se ingerito a contatto con la pelle o se inalato.
H303+H313 Tossico se ingerito o a contatto con la pelle o se inalato.
H304+H331 Tossico se ingerito o a contatto con la pelle.
H305+H332 Tossico se ingerito o a contatto con la pelle.
H306+H333 Nocivo a contatto con la pelle o se inalato.

H315+H320 Può essere nocivo a contatto con la pelle o per inalazione.
H313+H333 Nocivo a contatto con la pelle o se inalato.
H312+H332 Nocivo a contatto con la pelle o se inalato.
H311+H331 Tossico a contatto con la pelle o se inalato.
H310+H330 Può essere nocivo per ingestione o per inalazione.
H303+H313 Nocivo a contatto con la pelle o se inalato.
H303+H331 Nocivo a contatto con la pelle o se inalato.
H303+H333 Nocivo a contatto con la pelle o se inalato.
H302+H332 Nocivo a contatto con la pelle o se inalato.
H302+H331 Nocivo a contatto con la pelle o se inalato.
H301+H331 Nocivo a contatto con la pelle o se inalato.
H300+H330 Nocivo a contatto con la pelle o se inalato.
H300+H313 Nocivo a contatto con la pelle o se inalato.
H300+H312 Nocivo a contatto con la pelle o se inalato.
H300+H311 Nocivo a contatto con la pelle o se inalato.
H300+H310 Nocivo a contatto con la pelle o se inalato.
H300+H332 Nocivo a contatto con la pelle o se inalato.
H300+H333 Nocivo a contatto con la pelle o se inalato.

H372 Può provocare danni agli organi.
H371 Può provocare danni agli organi.
H370 Può provocare danni agli organi in caso di esposizione prolungata o ripetuta.
H373 Può provocare danni agli organi in caso di esposizione prolungata o ripetuta.

P - Codices

P101 In caso di consultazione di un medico, tenere a disposizione il contenitore o l’etichetta del prodotto.
P102 Tenere fuori dalla portata dei bambini.
P103 Leggere l’etichetta prima dell’uso.
P201 Procursare istruzioni specifiche prima dell’uso.
P202 Non manipolare prima di avere letto e compreso tutte le avvertenze.
P210 Tenere lontano da fonti di calore/scintille/fiamme libere/super- fici riscaldate. - Non fumare.
P210a Tenere lontano da fonti di calore - Non fumare.
P210b Tenere lontano da scintille - Non fumare.
P210c Tenere lontano da fiamme libere. - Non fumare.
P210d Tenere lontano da superfici riscaldate - Non fumare.
P210e Non vaporizzare su una fiamma libera o altra fonte di accen- sione.
P220 Tenere/conservare lontano da indumenti/materiali combu- stibili.
P220a Tenere lontano da indumenti.
P220b Tenere lontano da materiali combustibili.
P220c Tenere lontano da riducibili, da composti di metalli pesanti, acidi e alcali.
P220d Tenere lontano da sostanze ossidanti e acide e da composti di metalli pesanti.
P220e Tenere lontano da ferro.
P220f Tenere lontano da acqua.
P220g Tenere lontano da acidi.
P220h Tenere lontano da soluzioni alcaline.
P220i Tenere lontano da metalli.
P220j Tenere lontano da sostanze ossidanti e acide.
P220k Tenere lontano da sostanze organiche infiammabili.
P220l Tenere lontano da acidi, riducibili e materiali infiammabili.
P221 Prenderle dopo aver consultato l’etichetta del prodotto.
P221a Prendere precauzioni contro il contatto con le tenere lontano da indumenti/materiali combustibili.
P222 Evitare il contatto con l’aria.
P223 Evitare qualsiasi contatto con l’acqua: pericolo di reazione violenta e di infiammazione spontanea.
P230 Manutenere umido con....
P230a Manuteneri umido.
P231 Manipolare in atmosfera di gas inerte.
P232 Proteggere dall’umidità.
P233 Tenere il recipiente ben chiuso.
P234 Conservare soltanto nel contenitore originale.
P235 Conservare in luogo fresco.
P240 Mettere a terra/massa il contenitore o l’etichetta del prodotto.
P241 Utilizzare impianti elettrici/di ventilazione/d’illuminazione/a prova di esplosione.
P242 Utilizzare solo utensili antiscintillante.
P243 Prendere precauzioni contro le scariche elettrostatiche.
P244 Manutenere le valvole di riduzione libere da grasso e olio.
IN CASO DI INALAZIONE: 
P304 IN CASO DI CONTACTTO CON GLI OCCHI: 
P305 IN CASO DI CONTACTTO CON GLI INDUMENTI: 
P306 IN CASO DI esposizione: 
P307 IN CASO di esposizione o di possibile esposizione: 
P309 IN CASO di esposizione o di maledere: 
P310 Contattare immediatamente un CENTRO ANTIVELENI o un medico. 
P311 Contattare un CENTRO ANTIVELENI o un medico. 
P312 In caso di maledere, contattare un CENTRO ANTIVELENI o un medico. 
P313 Consultare un medico. 
P314 In caso di maledere, consultare un medico. 
P315 Consultare immediatamente un medico. 
P316 Trattamento specifico urgente (vedere su questa etichetta). 
P317 Trattamento specifico (vedere su questa etichetta). 
P318 Misure specifiche (vedere su questa etichetta). 
P320 Sciacquare la bocca. 
P321 NON provoco il vomito. 
P322 In caso di irritazione della pelle: 
P323 In caso di irritazione o eruzione della pelle: 
P324 Immergere in acqua fredda/avvolgere con un bendaggio umido. 
P325 Rimuovere le particelle depositate sulla pelle. 
P326 Spingere le parti congelate usando acqua tiepida. Non sfregare 
P327 IN CASO di exposizione, contattare un CENTRO ANTIVELENI 
P328 IN CASO di exposizione o di possibile esposizione: 
P329 IN CASO di esposizione o di maledere: 
P330 Sciacquare la pelle/fare una doccia. 
P331 Lavare delicatamente e abbondantemente con acqua e sapon. 
P332 Sciacquare accuratamente per parecchi minuti. 
P333 Sciacquare la pelle/fare una doccia. 
P334 Sciacquare immediatamente e abbondantemente con acqua e sapon. 
P335 Sciacquare accuratamente per parecchi minuti. 
P336 Lavare abbondantemente con acqua e sapon. 
P337 Se l’irritazione degli occhi persiste: 
P338 toglier le eventuali lenti a contatto se è agevole farlo. Conti- 
P339 Trasportare l’infortunato all’aria aperta e mantenuto a riposo 
P340 Se la respirazione è difficile, trasportare l’infortunato all’aria 
P341 Se la respirazione è difficile, trasportare l’infortunato all’aria 
P342 In caso di sintomi respiratori: 
P343 In caso di contatto con gli occhi: 
P344 Bloccare la perdita se non c’è pericolo. 
P345 In caso d’incendio dovuto a perdita di gas, non estinguere a 
P346 In caso di contatto con gli indumenti: 
P347 IN CASO DI INALAZIONE: 
P348 IN CASO DI INALAZIONE: 
P349 IN CASO DI INALAZIONE: 
P350 IN CASO DI INALAZIONE: 
P351 In caso di incendio: 
P352 In caso di incendio: 
P353 IN CASO DI INALAZIONE: 
P354 IN CASO DI INALAZIONE: 
P355 IN CASO DI INALAZIONE: 
P356 IN CASO DI INALAZIONE: 
P357 IN CASO DI INALAZIONE: 
P358 IN CASO DI INALAZIONE: 
P359 IN CASO DI INALAZIONE: 
P360 IN CASO DI INALAZIONE: 
P361 Dovrebbero essere lavati immediatamente e abbondantemente con 
P362 IN CASO DI INALAZIONE: 
P363 IN CASO DI INALAZIONE: 
P364 IN CASO DI INALAZIONE: 
P365 IN CASO DI INALAZIONE: 
P366 IN CASO DI INALAZIONE: 
P367 IN CASO DI INALAZIONE: 
P368 IN CASO DI INALAZIONE: 
P369 IN CASO DI INALAZIONE: 
P370 IN CASO DI INALAZIONE: 
P371 IN CASO DI INALAZIONE: 
P372 IN CASO DI INALAZIONE: 
P373 IN CASO DI INALAZIONE: 
P374 IN CASO DI INALAZIONE: 
P375 Rischio di esplosione. Utilizzare i mezzi estinguenti a grande 
P376 Bloccare la perdita se non c’è pericolo. 
P377 IN CASO DI incendio dovuto a perdita di gas, non estinguere a 
P378 IN CASO DI inalazione dove a perdita di gas, non estinguere a 
P379 IN CASO DI inalazione dove a perdita di gas, non estinguere a 
P380 IN CASO DI inalazione dove a perdita di gas, non estinguere a 
P381 IN CASO DI inalazione dove a perdita di gas, non estinguere a 
P382 IN CASO DI inalazione dove a perdita di gas, non estinguere a
| P308+P311 | In caso di esposizione o di possibile esposizione: contattare un CENTRO ANTIVELLENI/un medico. |
| P306+P313 | IN CASO di esposizione o di possibile esposizione, consultare un medico. |
| P309+P311 | IN CASO di esposizione o di malessere, contattare un CENTRO ANTIVELLENI o un medico. |
| P322+P313 | In caso di imputazione della pelle: consultare un medico. |
| P333+P313 | In caso di imputazione o eruzione della pelle: consultare un medico. |
| P335+P334 | Rimuovere le particelle depositate sulla pelle. Immergere in acqua fredda/avvolgere con un bendaggio umido. |
| P354+P311 | In caso di sintomi respiratori: contattare un CENTRO ANTIVELENI o un medico. |
| P301+P306 | Tenere in luogo fresco. Proteggere dai raggi solari. |
| P337+P313 | Se l’imputazione degli occhi persiste, consultare un medico. |
| P337+P313 | In caso di irritazione degli occhi persistente: consultare un medico. |
| P332+P313 | In caso di irritazione della pelle: consultare un medico. |
| P333+P313 | In caso di irritazione o eruzione della pelle: consultare un medico. |
| P337+P313 | In caso di irritazione o eruzione della pelle: consultare un medico. |
| P337+P313 | In caso di irritazione o eruzione della pelle: consultare un medico. |
| P301+P306 | Tenere in luogo fresco a temperature non superiori a ... °F. |
| P411a+P235 | Conservare in luogo fresco a temperature non superiori a ... °C. |
| P411b | Conservare a temperature non superiori a ... °F. |
| P412 | Non esporsi a temperature superiori a 50 °C/122 °F. |
| P413 | Conservare le rinfuse di peso superiore a ...kg/...lb a temperature non superiori a ... °C. |
| P413b | Conservare le rinfuse di peso superiore a ...kg a temperature non superiori a ... °F. |
| P420 | Conservare lontano da altri materiali. |
| P420a | Conservare lontano da alimeniti. |
| P420b | Conservare lontano da sostanze inflammebili. |
| P420c | Conservare lontano dal oliganti. |
| P420d | Conservare lontano da riducenti. |
| P420e | Conservare lontano dal acqua. |
| P420f | Conservare lontano da metalli. |
| P420g | Conservare lontano dal alcalini. |
| P420h | Conservare lontano da sostanze alcalini. |
| P422 | Conservare sotto... |
| P422a | Conservare sotto azoto. |
| P422b | Conservare sotto a gas inerte. |
| P422c | Conservare sotto a gas proteettivo. |
| P422d | Conservare sotto solvente. |
| P422e | Conservare in acqua. |
| P422f | Conservare sotto petrolio. |
| P422g | Conservare sotto acido. |
| P422h | Conservare sotto cloro. |
| P422i | Conservare sotto azoto. |
| P402+P404 | Conservare in luogo asciutto e in recipiente chiuso. |
| P403+P404 | Proteggere dai raggi solari. Non esporre a temperature superiori a 50 °C/122 °F. |
| P411a+P235 | Conservare in luogo fresco a temperature non superiori a ... °C. |
| P411b+P235 | Conservare in luogo fresco a temperature non superiori a ... °F. |
| P111 | Smaltire il prodotto/recipiente in ... |
| P501a | Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali. |
| P502 | Chiedere informazioni al produttore o fornitore per il recupero/ riciclaggio. |
**Indicaciones de peligro asignada a peligro físico**

<table>
<thead>
<tr>
<th>H- Código</th>
<th>Peligro</th>
</tr>
</thead>
<tbody>
<tr>
<td>H200</td>
<td>Explosivo inestable.</td>
</tr>
<tr>
<td>H201</td>
<td>Explosivo; peligro de explosión en masa.</td>
</tr>
<tr>
<td>H202</td>
<td>Explosivo; grave peligro de proyección.</td>
</tr>
<tr>
<td>H203</td>
<td>Explosivo; peligro de incendio, de onda expansiva o de proyección.</td>
</tr>
<tr>
<td>H204</td>
<td>Peligro de incendio o de proyección.</td>
</tr>
<tr>
<td>H205</td>
<td>Peligro de explosión en masa en caso de incendio.</td>
</tr>
<tr>
<td>H220</td>
<td>Gas extremadamente inflamable.</td>
</tr>
<tr>
<td>H221</td>
<td>Gas inflamable.</td>
</tr>
<tr>
<td>H222</td>
<td>Aerosol extremadamente inflamable.</td>
</tr>
<tr>
<td>H223</td>
<td>Aerosol inflamable.</td>
</tr>
<tr>
<td>H224</td>
<td>Líquido y vapores extremadamente inflamables.</td>
</tr>
<tr>
<td>H225</td>
<td>Líquido y vapores muy inflamables.</td>
</tr>
<tr>
<td>H226</td>
<td>Líquidos y vapores inflamables.</td>
</tr>
<tr>
<td>H227</td>
<td>Líquido combustible.</td>
</tr>
<tr>
<td>H228</td>
<td>Sólido inflamable.</td>
</tr>
<tr>
<td>H229</td>
<td>Envasa a presión. Puede reventar si se calienta.</td>
</tr>
<tr>
<td>H230</td>
<td>Puede explotar incluso en ausencia de aire.</td>
</tr>
<tr>
<td>H231</td>
<td>Puede explotar incluso en ausencia de aire, a presión y/o temperatura elevadas.</td>
</tr>
<tr>
<td>H240</td>
<td>Peligro de explosión en caso de calentamiento.</td>
</tr>
<tr>
<td>H241</td>
<td>Peligro de incendio o explosión en caso de calentamiento.</td>
</tr>
<tr>
<td>H242</td>
<td>Peligro de incendio en caso de calentamiento.</td>
</tr>
<tr>
<td>H250</td>
<td>Se infirma espontáneamente en contacto con el aire.</td>
</tr>
<tr>
<td>H251</td>
<td>Se calienta espontáneamente; puede inflamarse.</td>
</tr>
<tr>
<td>H252</td>
<td>Se calienta espontáneamente en grandes cantidades; puede inflamarse.</td>
</tr>
<tr>
<td>H260</td>
<td>En contacto con el agua desprende gases inflamables que pueden inflamarse espontáneamente.</td>
</tr>
<tr>
<td>H261</td>
<td>En contacto con el agua desprende gases inflamables.</td>
</tr>
<tr>
<td>H270</td>
<td>Puede provocar un incendio, explosión o explosión por choque.</td>
</tr>
<tr>
<td>H271</td>
<td>Puede provocar una reacción alérgica en la piel.</td>
</tr>
<tr>
<td>H272</td>
<td>Provoca dermatitis.</td>
</tr>
<tr>
<td>H280</td>
<td>Contiene gas a presión; peligro de explosión en caso de calentamiento.</td>
</tr>
<tr>
<td>H281</td>
<td>Contiene un gas refrigerado; puede provocar quemaduras o lesiones cutáneas.</td>
</tr>
<tr>
<td>H290</td>
<td>Puede ser corrosivo para los metales.</td>
</tr>
</tbody>
</table>

**Indicaciones de peligro para la salud humana**

<table>
<thead>
<tr>
<th>H- Código</th>
<th>Peligro</th>
</tr>
</thead>
<tbody>
<tr>
<td>H300</td>
<td>Mortal en caso de ingestión.</td>
</tr>
<tr>
<td>H301</td>
<td>Tóxico en caso de ingestión.</td>
</tr>
<tr>
<td>H302</td>
<td>Nocivo en caso de ingestión.</td>
</tr>
<tr>
<td>H303</td>
<td>Puede ser nocivo en contacto con la piel.</td>
</tr>
<tr>
<td>H304</td>
<td>Puede ser mortal en caso de ingestión y penetración en las vías respiratorias.</td>
</tr>
<tr>
<td>H305</td>
<td>Puede ser nocivo en caso de ingestión y de penetración en las vías respiratorias.</td>
</tr>
<tr>
<td>H310</td>
<td>Mortal en contacto con la piel.</td>
</tr>
<tr>
<td>H311</td>
<td>Tóxico en contacto con la piel.</td>
</tr>
<tr>
<td>H312</td>
<td>Nocivo en contacto con la piel.</td>
</tr>
<tr>
<td>H313</td>
<td>Puede ser nocivo en contacto con la piel.</td>
</tr>
<tr>
<td>H314</td>
<td>Provoca quemaduras graves en la piel y lesiones oculares graves.</td>
</tr>
<tr>
<td>H315</td>
<td>Provoca inflamación cutánea.</td>
</tr>
<tr>
<td>H316</td>
<td>Provoca una leve inflamación cutánea.</td>
</tr>
<tr>
<td>H317</td>
<td>Puede provocar una reacción alérgica en la piel.</td>
</tr>
<tr>
<td>H318</td>
<td>Provoca lesiones oculares graves.</td>
</tr>
<tr>
<td>H319</td>
<td>Provoca inflamación ocular grave.</td>
</tr>
<tr>
<td>H320</td>
<td>Provoca inflamación ocular.</td>
</tr>
<tr>
<td>H330</td>
<td>Mortal en caso de inhalación.</td>
</tr>
<tr>
<td>H331</td>
<td>Tóxico en caso de inhalación.</td>
</tr>
<tr>
<td>H332</td>
<td>Nocivo en caso de inhalación.</td>
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<tr>
<td>H333</td>
<td>Puede ser nocivo si se inhala.</td>
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<tr>
<td>H334</td>
<td>Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.</td>
</tr>
<tr>
<td>H335</td>
<td>Puede irritar las vías respiratorias.</td>
</tr>
<tr>
<td>H336</td>
<td>Puede provocar somnolencia o vértigo.</td>
</tr>
<tr>
<td>H340</td>
<td>Puede provocar efectos genéticos.</td>
</tr>
<tr>
<td>H341</td>
<td>Se sospecha que provoca efectos genéticos.</td>
</tr>
<tr>
<td>H350</td>
<td>Puede provocar cáncer.</td>
</tr>
<tr>
<td>H351</td>
<td>Se sospecha que provoca cáncer.</td>
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<tr>
<td>H352</td>
<td>Puede provocar cáncer probablemente a causa de la inhalación.</td>
</tr>
<tr>
<td>H360</td>
<td>Puede perjudicar la fertilidad o dañar al feto.</td>
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<tr>
<td>H360D</td>
<td>Puede dañar al feto.</td>
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<tr>
<td>H360DF</td>
<td>Puede dañar al feto.</td>
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<tr>
<td>H360F</td>
<td>Puede dañar al feto.</td>
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<tr>
<td>H360FD</td>
<td>Puede dañar al feto.</td>
</tr>
<tr>
<td>H361</td>
<td>Se sospecha que perjudica la fertilidad o daña al feto.</td>
</tr>
<tr>
<td>H361D</td>
<td>Se sospecha que daña al feto.</td>
</tr>
<tr>
<td>H381</td>
<td>Se sospecha que perjudica a la fertilidad.</td>
</tr>
<tr>
<td>H381F</td>
<td>Se sospecha que perjudica a la fertilidad.</td>
</tr>
</tbody>
</table>
EUH019 Puede formar peróxidos explosivos. EUH029 En contacto con agua libera gases tóxicos. EUH031 En contacto con ácidos libera gases tóxicos. EUH032 En contacto con ácidos libera gases muy tóxicos. EUH044 Riesgo de explosión al calentarlo en ambiente confinado. EUH069 Peligroso para la capa de ozono. EUH066 La exposición repetida puede provocar sequedad o formación de grietas en la piel. EUH070 Tóxico en contacto con los ojos. EUH071 Corrosivo para las vías respiratorias.

P - Códigos


H- /EUH/P-Codes (Spanish)


Indicaciones de peligro para el medio ambiente


EUH - Códigos

Información suplementaria sobre los peligros

EUH001 Explosivo en estado seco. EUH002 Explosivo en contacto o sin contacto con el aire. EUH014 Reacciona violentamente con el agua. EUH016 Al usarlo pueden formarse mezclas aire-vapor explosivas o inflamables.
P200g
Llevar guantes de protección.

P200h
Llevar guantes de protección / prendas de protección.

P200i
Llevar gafas de protección / máscara de protección.

P200j
Llevar máscara de protección.

P202
Llevar guantes que aísen del frío/gafas/máscara.

P203
Llevar prendas ignífugas/resistentes al fuego/resistentes a las llamas.

P204
Llevar equipo de protección respiratoria.

P301
EN CASO DE INGESTIÓN:
P302
EN CASO DE CONTACTO CON LA PIEL:
P303
EN CASO DE CONTACTO CON LA PIEL (o el pelo):
P304
EN CASO DE INHALACIÓN:
P305
EN CASO DE CONTACTO CON LOS OJOS:
P306
EN CASO DE EXPOSICIÓN manifiesta o presunta:
P307
Consultar a un médico.
P310
Llevar equipo de protección respiratorio.
P313
Consultar a un médico.
P314
Consultar a un médico en caso de malestar.
P315
Consultar a un médico inmediatamente.
P320
Se necesita urgentemente un tratamiento específico (ver en esta etiqueta).
P321
Se necesita un tratamiento específico (ver en esta etiqueta).
P330
Enjuagar la boca.
P331
NO provocar el vómito.
P332
EN caso de irritación cutánea:
P333
El iniciar inmediatamente.
P334
Sumergir en agua fresca/aplicar compresas húmedas.
P335
Sacudir las partículas que se hayan depositado en la piel.
P336
Descongelar las partes heladas con agua tibia. No frotar la zona afectada.
P337
Si persiste la irritación ocular.
P338
Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.
P339
Transportar a la víctima al exterior y mantenerla en reposo en una posición confortable para respirar.
P340
En caso de síntomas respiratorios:
P351
Aclarar cuidadosamente con agua durante varios minutos.
P352
Lavar con agua y jabón abundantes.
P353
Aclarar la piel con agua/ducharse.
P354
Aclarar inmediatamente con agua abundante las prendas y la piel contaminadas antes de quitarse la ropa.
P355
Quitarse inmediatamente las prendas contaminadas.
P356
Quitarse las prendas contaminadas y lavarlas antes de volver a usarlas.
P357
Lavar las prendas contaminadas antes de volver a usarlas.
P358
Y lavar antes de volverla a usar.
P360
EN caso de incendio importante y en grandes cantidades:
P370
EN caso de incendio.
P371
EN caso de incendio importante y en grandes cantidades:
P372
Riesgo de explosión en caso de incendio.
P373
NO luchar contra el incendio cuando el fuego llega a los explosivos.
P374
Luchar contra el incendio desde una distancia razonable, tomando las precauciones habituales.
P375
Luchar contra el incendio a distancia, dado el riesgo de explosión.
P376
Detener la fuga, si no hay peligro en hacerlo.
P377
Fuga de gas en llamas: No apagar, salvo si la fuga puede detenerse sin peligro.
P378
Utilizar … para apagarlo.
P379
Utilizar para apagarlo: CO₂, polvo extintor o chorro de agua rociada.
P380
Utilizar para apagarlo: Polvo especial para incendios de metal.
P381
Utilizar para apagarlo: Polvo para incendios de metal.
P382
Utilizar para apagarlo: Polvo para incendios de metal.
P383
Utilizar para apagarlo: Espuma.
P384
Utilizar para apagarlo: Espuma resistente al alcohol.
P385
Utilizar para apagarlo: Polvo extintor.
P386
Utilizar para apagarlo: Polvo extintor.
P387
Utilizar para apagarlo: Polvo extintor.
P388
Utilizar para apagarlo: Agua.
P389
Utilizar para apagarlo: Agua nebulizada.
P390
Utilizar para apagarlo: Chorro de agua rociada.
P391
Recoger el vertido.
P392
EN CASO DE INGESTIÓN: Llamar inmediatamente a un CENTRO DE INFORMACIÓN TOXICOLOGICA o a un médico.
P393
EN CASO DE INHALACIÓN: Llamar a un CENTRO ANTOXILOGICO o a un médico.
P394
EN CASO DE EXPOSICIÓN: Utilizar para apagarlo: Cemento.
P395
EN CASO DE CONTACTO CON LA PIEL: Lavar con agua fresca/aplicar compresas húmedas.
P396
EN CASO DE CONTACTO CON LA PIEL: Pelar la piel.
P397
EN CASO DE CONTACTO CON LA PIEL: Lavar la piel con agua y jabón abundante.
P398
EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitarse inmediatamente las prendas contaminadas.
P399
EN CASO DE CONTACTO CON LA PIEL: Sacar los dientes de contacto, si lleva y resulta fácil. Seguir aclarando.
P400
EN caso de malestar.
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Almacenar …
P402
Almacenar en un lugar seco.
P403
Almacenar en un lugar bien ventilado.
P404
Almacenar en un recipiente cerrado.

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P405
Guardar bajo llave.
P406
Almacenar en un recipiente resistente a la corrosión con revestimiento interior resistente.
P407
Dejar una separación entre los bloques/los palés de carga.
P410
Proteger de la luz del sol.
P411
Almacenar a temperaturas no superiores a ...
°C/ ...
°F.
P411a
Almacenar a temperaturas no superiores a ...
°C.
P411b
Almacenar a temperaturas no superiores a ...
°F.
P412
No exponer a temperaturas superiores a 50 °C/122 °F.
P413
Almacenar las cantidades a granel superiores a ...
kg/ ...lfs a temperaturas no superiores a ...
°C/ ...
°F.
P413a
Almacenar las cantidades a granel superiores a ...
kg a temperaturas no superiores a ...
°C.
P413b
Almacenar las cantidades a granel superiores a ...
lbs a temperaturas no superiores a ...
°F.
P420
Almacenar alejado de otros materiales. P420a
Almacenar alejado de alimentos. P420b
Almacenar alejado de materiales inflamables. P420c
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Almacenar el contenido en ...
P422a
Almacenar el contenido en gas inerte. P422b
Almacenar el contenido en gas protector. P422c
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Almacenar inmerso en agua. P422e
Almacenar inmerso en petróleo. P422f
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Almacenar en un lugar seco. P403+P233
Almacenar en un lugar bien ventilado. Mantener el recipiente cerrado herméticamente. P403+P235
Almacenar en un lugar bien ventilado. Mantener en lugar fresco. P410+P403
Proteger de la luz del sol. Almacenar en un lugar bien ventilado. P410a+P412
Proteger de la luz del sol. No exponer a temperaturas superiores a 50 °C/122 °F. P411a+P235
Almacenar a temperaturas no superiores a ...
°C/ ...
°F. Mantener en lugar fresco. P411a+P235
Almacenar a temperaturas no superiores a ...
°C. Mantener en lugar fresco. P411b+P235
Almacenar a temperaturas no superiores a ...
°F. Mantener en lugar fresco. P501
Eliminar el contenido/el recipiente en ...
P501a
Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional. P502
Pedir información al fabricante o proveedor sobre su recuperación o reciclado.
Allgemeine Geschäftsbedingungen (AGB)

I. Geltungsbereich und Einbeziehung

1. Es gelten ausschließlich unsere AGB. Hiervon abweichende AGB des Kunden werden nur durch ausdrückliche Vereinbarung in Schriftform oder durch Erklärungen mit qualifizierter elektronischer Unterschrift wirksam einbezogen. Nach Vertragsabschluss ist die Einbeziehung abweichender AGB nicht mehr möglich.
2. Unsere AGB gelten nur gegenüber Unternehmen und juristischen Personen des öffentlichen Rechts (einschließlich den nicht rechtfähigen Anstalten d. R.); sie gelten auch für alle für einstweilige Verträge mit diesen, ohne dass es eine erneute Vereinbarung ihrer Einbeziehung bedarf.

II. Binding an Angebote, Angaben bei Vertragsabschluss, Abweichungen von Angaben bei Vertragsabschluss

1. Wir sind berechtigt, unsere Angebote bis zur Annahme zu widerrufen, es sei denn wir haben uns unser Angebot verpflichtet.
2. Auf unserer Webseite, in Katalogen oder ähnlichen Unterlagen enthalten die Leistung oder das Produkt beschreibende Angaben sowie öffentliche Äußerungen von uns oder Herstellern sind nicht verbindlich, es sei denn die dort ausgewiesenen Verwendungseigenschaften und Beschaffenheit der Ware mit dem Kunde vereinbart oder der Kunde kann sie aufgrund der öffentlichen Äußerungen erwarten.

III. Preisangaben, Preise, Zuschläge, Zahlungsbedingungen, Verzug

1. Mit uns vereinbarte Preise sowie unsere Katalogpreise verstehen sich bereits bei Inlandslieferungen netto frei Haus, d.h. einschließlich Anlieferung und Verpackung und sind zahlenbar ohne Abzug. Bei Mindestmengen, Gefahr- und Kühlsendienst erhöben wir grundsätzlich zum vereinbarten Preis einen Zuschlag.
2. Unsere Preisangaben sind nur verbindlich nach Maßgabe der nachstehenden Ziff. 3.
3. Wir behalten uns vor, dass die Oberflächen- oder Leistungseigenschaften mehr als drei Monate nach dem Abtretung, Bürgschaft, Schadenersatz u. a.). Hierzu gehören auch bedingte Forderungen.
4. Übersteigt der Wert der Gesamtheit der uns zustehenden Sicherheiten die Höhe der Abtretung, Bürgschaft, Schadenersatz u. a.). Hierzu gehören auch bedingte Forderungen.

IV. Lieferung, Liefertermin, Lieferverzug

1. Vereinbarte Liefertermine gelten als eingehalten, wenn die Ware zum vereinbarten Liefertermin dem Transportunternehmen übergeben wurde. Wir melden dem Kunden auf Wunsch die Versandadresse des Versenders.
2. Der Liefertermin wird nach unseren voraussichtlichen Leistungsvoraussetzungen vereinbart und versteht sich vorbehaltlich von uns nicht zu vertretender Umstände und Ereignisse, die bei Vertragsabschluss nicht gegeben waren oder uns widerfahren waren, als Datum des vereinbarten Termines einzuplanen, sofern wir nicht ausdrücklich zu einer anderen Freigabe berechtigt.
3. Welche Fräse die Ware zum vereinbarten Liefertermin dem Transportunternehmen übergeben wurde. Wir melden dem Kunden auf Wunsch die Versandadresse des Versenders.

V. Eigentumsvorbehalt

1. Die Ware bleibt unser Eigentum bis zur Bezahlung sämtlicher, auch künftig entstehender Forderungen gegen den Kunden, gleich aus welchem Rechtsgrund (auch Wechsel, Schick, Abtretung, Bürgschaft, Schuldensatz u. a.). Hierzu gehören auch bedingte Forderungen.
2. Der Kunde darf Vorbehaltsware im ordnungsgemäßen Geschäftsbetrieb, und zwar durch die Abweichung von ihr der Vertragszweck gefährdet würde.
3. 5. Der Kunde hat uns den Zugriff Dritter auf die Vorbehaltsware oder die uns abgetretenen Sicherheiten vorbehaltlich von uns nicht zu vertretenden Umständen und Ereignissen, die für die Erreichung des Vertragszwecks wesentlich sind (“Kardinalsverpflichtung”). In diesen Fällen ist die Schadensersatzleistung nur bis zu einem Betrag von 100.000,– €. Sollte in einem solchen Fall unsere Haftpflichtversicherung einzutreten oder Ersatzlieferung an den Kunden.

VI. Gefahrübergang, Versicherung

1. Die Gefahr geht mit Übergabe an die Transportperson, deren Beauftragten oder andere Personen, die von uns benannt sind, auf den Kunden über, es sei denn dass die Ware mit eigenen Leuten oder eigenen Fahrzeugen zum Kunden gebracht wird. Soweit sich der Vertrag ohne Formverschulden von uns verzögert oder unmöglich wird, geht die Gefahr mit Meldung der Versandbereitschaft auf den Kunden über. Diese Gefährübertragungsbestimmun- gen gelten auch bei Rücksendungen nach Mängelbeseitigung, entgeltlicher Serviceleistung oder Ersatzlieferung an den Kunden.

VII. Wichtige Hinweise zu unseren Produkten!

1. Lagerung: Bei sämtlichen Substanzen geben wir Lagertemperaturen an, die wir für mehrmonatige Transport in der Regel ohne Qualitätsverlust überstehen, liefern wir sie nur auf besonderen Wunsch) und gegen Aufpreis als Kühlsendung aus.
I. Scope and Incorporation

1. Our Terms and Conditions of Sale and Supply (TCS&S) apply exclusively. Deviating Conditions of Purchase of the customer shall not be effective unless we expressly accept them in writing or by off with qualified electronic signature. After formation of contract, deviating Conditions of Purchase may be integrated formlessly.

2. Our TCS&S shall only apply towards customers that are businesses in the sense of section 14 of the German Civil Code, or public law entities (comprising such not having the status of a legal person).

3. Our TCS&S apply on all future relations between the parties, even if not agreed upon expressly.

II. Commitment of Offers, Specifications, Deviations from Specifications

1. We reserve the right to revoke our offers until their acceptance unless we designate them as binding.

2. Product characteristics mentioned on our websites, applicable catalogues or similar manners may not be binding unless such characteristics were expressly agreed upon with the customer or the customer relies on them legitimately due to public utterance.

3. Deviations from product characteristics agreed upon shall be deemed according to the contract if the deviation reasonably has to be accepted by the customer, or does not or not substantially reduce the suitability of the product for the contractually presupposed use, unless we represented the missing characteristic or could realize that it was of major importance for the customer, or its absence endangers the sense of the agreement.

III. Prices, Payment

1. All prices are net prices, computed in EURO, exclusive value-added tax (VAT). For domestic deliveries we do not charge packaging, transportation, or other incidental costs.

2. Our prices are binding according to below standing para. III. 3.

3. If lead times agreed upon are more than 3 months, we may increase or have to reduce the prices agreed upon in the scope of market prices, if, after formation of the contract our cost structure or price level is due to changes of cost of materials. Irrespective of the lead time agreed upon, we may have to adapt our price to the market price, if such has changed more than 4.5% between the date of contract formation and the delivery date agreed upon.

4. If customer’s default with a payment lasts longer than 30 calendar days, cheques or bills of exchange of the customer are protested, or an insolventy petition is filed against customer, we shall be entitled to set due and payable the whole of the price of all goods bought or agreed to be bought by the customer, to retain all deliveries and services, and to demand return of the reserved goods or to collect them from third party areas and take possession of them.

5. The customer shall not be entitled to any right of retention or refusal or offset of his counterclaims against our claims unless the counterclaims the customer exercises retention or refusal or set-off against our claims are uncontested or res judicata.

IV. Delivery, Delivery Date, Default of Delivery

1. Deadlines for deliveries shall be deemed to have been met when the goods are handed over to the forwarding agent. We shall notify the customer on it’s request of the readiness for shipment.

2. Deadlines for deliveries are agreed upon on the basis of our expected ability to perform and are subject to all facts, events and circumstances not attributable to us and not given at the time of the formation of contract. Such circumstances are especially force majeure, and other unforeseeable events. Such circumstances lead to an extension of the delivery date, even if occurring during our default with delivery. In such case also an additional period of time, fixed by the customer, is extended by the duration of such circumstances.

3. If we are in default of delivery for more than eight weeks, customer may rescind the contract after fruitless expiration of a reasonable additional period of time fixed by customer. Periods of default are computed irrespective of circumstances not attributable to us, as mentioned in para. IV. 2.

4. We reserve the right to rescind the contract in cases of a delay in the delivery not attributable to us, such as described in para. IV. 2., by written notice to the customer. Should shipment be delayed due to circumstances beyond our control, the risk shall pass to the customer upon notification of readiness for shipment. These provisions about passing of risk also apply on returns after correction of faults, repair works at customer’s cost, and replacement delivery.

5. On request of the customer and at its cost, we shall insure the goods delivered against the risks notified to us by the customer.

V. Retention of Title

1. We retain the title in any items delivered by us prior to the receipt of all payments due from customer’s business transactions with us, e.g. the purchase price including any subsidiary claims, all charges due on the redemption and/or clearance of drafts, bills of exchange, and/or cheques accepted in payment. Claims subject to a condition precedent are included.

2. Until payment in full of the purchase price, customer shall not pledge the goods, assign or transfer them as security, or otherwise charge them with the rights of any third party, but may sell them in the ordinary course of business. The customer shall make the passing of title of the resold goods subject to their full payment.

3. The customer agrees to assign at this point in time any of its claims, including any claims based on credit insurance policies resulting from the resale of any items subject to retention of title, including any associated rights, irrespective of whether the item subject to retention of title has been resold to one or several buyers. Should any accounts receivable assigned have been included in a current account, the agreed assignment shall also refer to any items resulting from the current account.

4. The customer is entitled to collect the purchase prices from resold goods until further notice. If we set due and payable the whole of the price of all goods bought or agreed to be bought by the customer, the customer shall be entitled to assign to us his buyer from the assignment pursuant to para. V. 3., to provide us all necessary information, present all relevant documents, resp. make available to us its bookkeeping for information purposes.

5. In case of gross negligence of persons we use to perform our obligation our liability is - as far as our guarantee goes; (iv) liability pursuant to the German Product Liability Act or any other mandatory statutory liability regulations; and (v) misrepresentation.

6. In all other cases of our liability, the following provisions apply: a. In case of gross negligence of persons we use to perform our obligation our liability is - irrespective of the legal grounds thereof - limited to 100,000 EURO and we are liable only for the foreseeable damage typical to such contracts, provided that such persons are no organ or member of the executive authority or the board of directors of our company ("cardinal obligations"). In all other cases of gross negligence, our liability is unlimited, b. in case of slight or normal negligence we are liable only if we breach material contractual obligations ("cardinal obligations") and our liability is limited to 50,000 EURO - irrespective of the legal grounds for our liability. c. Should, in a case of liability is limited to a certain amount, the amount (principally) covered by our insurance exceed such limitation, we are liable to the amount of such insurance sum.

7. The above provisions apply accordingly for the personal liability of our employees, repre-sentatives and organs.

X. Severability

The invalidity or non-enforceability of any part of the present General Conditions of Sale and Supply and of any contract between the parties which refers thereto shall not affect the validity of the remaining terms and conditions thereof.

XI. Interpretation of Terms of Trade

1. Place of performance for all our contractual obligations is D 69115 Heidelberg.

2. Place of jurisdic-tion for all disputes arising out of the contractual relationship is Heidelberg. We have the option to sue the customer at its general place of jurisdiction.

3. German law shall apply.

4. Any customary terms of trade shall be interpreted in accordance with the INCOTERMS current at the time.

XII. About SERVA

1. SERVA is a limited liability company registered in the commercial register of the Local Court of Heidelberg under HRB No. 360/15, duly incorporated for an unlimited duration, and validly existing under the laws of Germany.

2. Our registered offices are at Carl-Benz-Straße 7, D 69115 Heidelberg, Germany. This address shall be used as address against which the transportation order is sent, the transporter’s mandatory or member of the executive staff and do not breach material contractual obligations.

3. Our taxpayer’s identification number for value-added tax (Umsatzsteueridentnummer) is DE 812517285.

State: 06.12.2016 pe
The following company trademarks have been used in this catalog:

<table>
<thead>
<tr>
<th>Trademark</th>
<th>Company Name</th>
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<tbody>
<tr>
<td>Actidione</td>
<td>Upjohn</td>
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<tr>
<td>Adogen</td>
<td>Ashland Chemical Co.</td>
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<td>Aliquat</td>
<td>Cognis Corp.</td>
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<td>Celite</td>
<td>Manville Corp.</td>
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