

2D HPE™ Large Gel 12.5% Kit

Cat. No. 43310

Safety Data Sheets of the following Kit Components:

43865	2D HPE™ Large Gel 12.5%
43801	SDS Anode buffer (blue)
43802	SDS Cathode buffer (white)
43371	Cooling Fluid
43805	Equilibration Buffer

Safety Data Sheet

acc. to OSHA HCS

Printing date 02/25/2021

Reviewed on 04/09/2020

1 Identification

- **Product identifier**
- **Trade name:** 2D HPE™ Large Gel 12.5%
- **Article number:** 43865
- **Application of the substance / the mixture** ready-to-use gels for use in gel electrophoresis
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de
- **Information department:** Product Safety department Tel.: +49 6221 13840-35
- **Emergency telephone number:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)

SERVA
■ serving scientists ■

2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.

3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:**
2D HPE™ Large Gel 12.5% gels are polyacrylamide-bisacrylamide layers bound to an inert polyester support film (GEL-FIX™) and covered with a thin polyester film (GEL-FIX™ for Covers).
- **Dangerous components:** Void

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· **Additional information:**

2D HPE™ Large Gel 12.5% gels are articles according to the Article 3, 3. of the REACH Regulation (Regulation (EC) No 1907/2006). We note that the SVHC substance Acrylamide (residual monomer) is included in this article in a concentration below 0,1 %.

4 First-aid measures

· **Description of first aid measures**

· **General information:** No special measures required.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly. Consult doctor if you feel unwell.

· **After eye contact:**

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist In case of complaints.

· **After swallowing:** -

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO₂ extinguishing powder or water spray. Fight larger fire with alcohol resistant foam.

· **Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

Nitrogen oxides (NO_x)

· **Advice for firefighters**

· **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.

· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.

Pick up mechanically.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

None of the ingredients is listed.

· **PAC-2:**

None of the ingredients is listed.

· **PAC-3:**

None of the ingredients is listed.

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Trade name: 2D HPE™ Large Gel 12.5%

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7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store at +2 to +8 °C
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Store in dry conditions.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Store protective clothing separately.
Immediately remove all soiled and contaminated clothing.
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Suitable respiratory protective device recommended.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
Natural rubber, NR
Nitrile rubber, NBR
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Gel between two polyester films

Color: Colorless

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not determined.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapor pressure:** Not applicable.

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**

Water: Insoluble.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not applicable.

Kinematic: Not applicable.

· **Solvent content:**

VOC content: 0.00 %

· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No further relevant informations available.

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

· **Hazardous decomposition products:** In case of fire: See Section 5

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Trade name: 2D HPE™ Large Gel 12.5%

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11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Do not allow product to reach ground water, water course or sewage system.

Water hazard class 1 (Self-assessment): slightly hazardous for water

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:** Disposal must be made according to official regulations.

- **Uncleaned packagings:**

- **Recommendation:**

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

14 Transport information

- **UN-Number**

- **DOT, ADR, ADN, IMDG, IATA** Void

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· UN proper shipping name · DOT, ADR, ADN, IMDG, IATA	Void
· Transport hazard class(es) · DOT, ADR, ADN, IMDG, IATA · Class	Void
· Packing group · DOT, ADR, IMDG, IATA	Void
· Environmental hazards: · Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

None of the ingredients is listed.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

None of the ingredients is listed.

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

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- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product safety department
- **Contact:** +49 6221 13840-35
- **Date of preparation / last revision** 02/25/2021 / 3
- **Abbreviations and acronyms:**
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
 - ICAO: International Civil Aviation Organisation*
 - PBT: persistent, bioaccumulative, toxic substance (REACH)*
 - vPvB: very persistent, very bioaccumulative substance (REACH)*
 - REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals*
 - CLP: Regulation on classification, labelling and packaging of substances and mixtures*
 - bw: body weight*
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
 - IMDG: International Maritime Code for Dangerous Goods*
 - DOT: US Department of Transportation*
 - IATA: International Air Transport Association*
 - ACGIH: American Conference of Governmental Industrial Hygienists*
 - EINECS: European Inventory of Existing Commercial Chemical Substances*
 - ELINCS: European List of Notified Chemical Substances*
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)*
 - NFPA: National Fire Protection Association (USA)*
 - HMIS: Hazardous Materials Identification System (USA)*
 - VOC: Volatile Organic Compounds (USA, EU)*
 - PBT: Persistent, Bioaccumulative and Toxic*
 - vPvB: very Persistent and very Bioaccumulative*
 - NIOSH: National Institute for Occupational Safety*
 - OSHA: Occupational Safety & Health*
 - TLV: Threshold Limit Value*
 - PEL: Permissible Exposure Limit*
 - REL: Recommended Exposure Limit*

US

Buffer Kit for 2D HPE™ Gels

Cat. No. 43312

Safety Data Sheets of the following Kit Components:

43801	SDS Anode buffer (blue)
43802	SDS Cathode buffer (white)
43371	Cooling Fluid
43805	Equilibration Buffer

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/16/2020

Reviewed on 10/16/2020

1 Identification

- **Product identifier**
- **Trade name:** *SDS Anode buffer (blue)*
- **Article number:** 43801
- **Application of the substance / the mixture** *Laboratory chemicals*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de
- **Information department:** *Product Safety department Tel.: +49 6221 13840-35*
- **Emergency telephone number:**
*Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)*



2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** *Void*
- **Hazard pictograms** *Void*
- **Signal word** *Void*
- **Hazard statements** *Void*
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** *PBT - assessment not available.*
- **vPvB:** *vPvB - assessment not available.*

3 Composition/information on ingredients

- **Chemical characterization:** *Mixtures*
- **Description:** *Mixture of the substances listed below with nonhazardous additions.*

- **Dangerous components:**

107-21-1	Ethanediol	5-10%
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Safety Data Sheet

acc. to OSHA HCS

Printing date 10/16/2020

Reviewed on 10/16/2020

Trade name: SDS Anode buffer (blue)

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64-19-7 acetic acid 100 %

I-3%

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly. Consult doctor if you feel unwell.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist In case of complaints.
- **After swallowing:** Wash out mouth. Seek medical advice if discomfort occurs.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:

107-21-1	Ethanediol	30 ppm
64-19-7	acetic acid 100 %	5 ppm

· PAC-2:

107-21-1	Ethanediol	150 ppm
64-19-7	acetic acid 100 %	35 ppm

· PAC-3:

107-21-1	Ethanediol	900 ppm
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acc. to OSHA HCS

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Trade name: SDS Anode buffer (blue)

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64-19-7 acetic acid 100 %

250 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed and store in dry conditions.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

107-21-1 Ethanediol (5-10%)

TLV Short-term value: 10** mg/m³, 50* ppm
 Long-term value: 25* ppm
 *vapor fraction:**inh. fraction, aerosol only

WEEL I (2)

64-19-7 acetic acid 100 % (1-3%)

PEL Long-term value: 25 mg/m³, 10 ppm
 REL Short-term value: 37 mg/m³, 15 ppm
 Long-term value: 25 mg/m³, 10 ppm
 TLV Short-term value: 37 mg/m³, 15 ppm
 Long-term value: 25 mg/m³, 10 ppm

· **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 Keep away from foodstuffs, beverages and feed.
 Store protective clothing separately.
 Immediately remove all soiled and contaminated clothing.
 Avoid contact with the eyes and skin.
 Wash hands before breaks and at the end of work.
- **Breathing equipment:**
 Short term filter device:
 Filter P2
- **Protection of hands:**
 The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
 The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
 The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several

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Trade name: SDS Anode buffer (blue)

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substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

Natural rubber, NR

· **Eye protection:** Safety glasses

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Solution

Color: Blue

· **Odor:** Recognizable

· **Odor threshold:** Not determined.

· **pH-value at 20 °C (68 °F):** 7.9-8.1

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

· **Flash point:** no information available

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapor pressure:** Not determined.

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

· **Solvent content:**

Organic solvents: 6-13 %

VOC content: 1-3 %

· **Other information** No further relevant information available.

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Trade name: SDS Anode buffer (blue)

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10 Stability and reactivity

- **Reactivity** No further relevant informations available
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No further relevant informations available.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** In case of fire: See Section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (Self-assessment): hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Disposal must be made according to official regulations.

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Trade name: SDS Anode buffer (blue)

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- **Uncleaned packagings:**
- **Recommendation:**
Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**
· DOT, ADR, IMDG, IATA Void
- **UN proper shipping name**
· DOT Void
· ADR, IMDG, IATA Void
- **Transport hazard class(es)**
· DOT, ADR, IMDG, IATA
· Class Void
· Label -
- **Packing group**
· DOT, ADR, IMDG, IATA Void
- **Environmental hazards:**
- **Marine pollutant:** No
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

107-21-1 | Ethanediol

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

107-21-1 | Ethanediol

· **Proposition 65**

None of the ingredients is listed.

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

107-21-1 | Ethanediol

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Trade name: SDS Anode buffer (blue)

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· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

107-21-1 Ethanediol

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** Void

· **Hazard pictograms** Void

· **Signal word** Void

· **Hazard statements** Void

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Product safety department

· **Contact:** +49 6221 13840-35

· **Date of preparation / last revision** 10/16/2020 / 2

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative substance (REACH)

REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

CLP: Regulation on classification, labelling and packaging of substances and mixtures

bw: body weight

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/16/2020

Reviewed on 10/16/2020

1 Identification

- **Product identifier**
- **Trade name:** SDS Cathode buffer (white)
- **Article number:** 43802
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de
- **Information department:** Product Safety department Tel.: +49 6221 13840-35
- **Emergency telephone number:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)



2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.

3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 10/16/2020

Reviewed on 10/16/2020

Trade name: SDS Cathode buffer (white)

(Contd. of page 1)

· Dangerous components:

107-21-1	Ethanediol	5-10%
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4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly. Consult doctor if you feel unwell.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist In case of complaints.
- **After swallowing:** Wash out mouth. Seek medical advice if discomfort occurs.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:

All components have the value 30 ppm.

· PAC-2:

All components have the value 150 ppm.

· PAC-3:

All components have the value 900 ppm.

US
(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/16/2020

Reviewed on 10/16/2020

Trade name: SDS Cathode buffer (white)

(Contd. of page 2)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed and store in dry conditions.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

107-21-1 Ethanediol (5-10%)

TLV	Short-term value: 10** mg/m ³ , 50* ppm Long-term value: 25* ppm *vapor fraction:**inh. fraction, aerosol only
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WEEL I (2)

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Store protective clothing separately.
 - Immediately remove all soiled and contaminated clothing.
 - Avoid contact with the eyes and skin.
 - Wash hands before breaks and at the end of work.
- **Breathing equipment:**
 - Short term filter device:
 - Filter P2
- **Protection of hands:**
 - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 - Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
 - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
 - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
 - The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
 - Natural rubber, NR

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Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 10/16/2020

Trade name: SDS Cathode buffer (white)

(Contd. of page 3)

- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Solution
Color:	Colorless
Odor:	Odorless
Odor threshold:	Not determined.

· **pH-value at 20 °C (68 °F):** 7.4-7.6

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

· **Flash point:** no information available

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· **Vapor pressure:** Not determined.

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· Solubility in / Miscibility with

Water: Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents: 5-10 %

VOC content: 0.00 %

· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant informations available

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No further relevant informations available.

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

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Trade name: SDS Cathode buffer (white)

(Contd. of page 4)

· **Hazardous decomposition products:** In case of fire: See Section 5

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Do not allow product to reach ground water, water course or sewage system.

Water hazard class 1 (Self-assessment): slightly hazardous for water

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:** Disposal must be made according to official regulations.

· **Uncleaned packagings:**

· **Recommendation:**

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/16/2020

Reviewed on 10/16/2020

Trade name: SDS Cathode buffer (white)

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14 Transport information

· UN-Number	Void
· DOT, ADR, ADN, IMDG, IATA	Void
· UN proper shipping name	Void
· DOT, ADR, ADN, IMDG, IATA	Void
· Transport hazard class(es)	Void
· DOT, ADR, ADN, IMDG, IATA	Void
· Class	Void
· Packing group	Void
· DOT, ADR, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	Void

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture	
· Section 355 (extremely hazardous substances):	None of the ingredients is listed.
· Section 313 (Specific toxic chemical listings):	All ingredients are listed.
· TSCA (Toxic Substances Control Act):	All components have the value ACTIVE.
· Hazardous Air Pollutants	All ingredients are listed.
· Proposition 65	None of the ingredients is listed.
· Chemicals known to cause cancer:	None of the ingredients is listed.
· Chemicals known to cause reproductive toxicity for females:	None of the ingredients is listed.
· Chemicals known to cause reproductive toxicity for males:	None of the ingredients is listed.
· Chemicals known to cause developmental toxicity:	All ingredients are listed.
· Cancerogenity categories	
· EPA (Environmental Protection Agency)	None of the ingredients is listed.
· TLV (Threshold Limit Value established by ACGIH)	All components have the value A4.
· NIOSH-Ca (National Institute for Occupational Safety and Health)	None of the ingredients is listed.

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Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 10/16/2020

Trade name: SDS Cathode buffer (white)

(Contd. of page 6)

- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product safety department
- **Contact:** +49 6221 13840-35
- **Date of preparation / last revision** 10/16/2020 / 2
- **Abbreviations and acronyms:**
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
 - ICAO: International Civil Aviation Organisation*
 - PBT: persistent, bioaccumulative, toxic substance (REACH)*
 - vPvB: very persistent, very bioaccumulative substance (REACH)*
 - REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals*
 - CLP: Regulation on classification, labelling and packaging of substances and mixtures*
 - bw: body weight*
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
 - IMDG: International Maritime Code for Dangerous Goods*
 - DOT: US Department of Transportation*
 - IATA: International Air Transport Association*
 - ACGIH: American Conference of Governmental Industrial Hygienists*
 - EINECS: European Inventory of Existing Commercial Chemical Substances*
 - ELINCS: European List of Notified Chemical Substances*
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)*
 - NFPA: National Fire Protection Association (USA)*
 - HMIS: Hazardous Materials Identification System (USA)*
 - VOC: Volatile Organic Compounds (USA, EU)*
 - PBT: Persistent, Bioaccumulative and Toxic*
 - vPvB: very Persistent and very Bioaccumulative*
 - NIOSH: National Institute for Occupational Safety*
 - OSHA: Occupational Safety & Health*
 - TLV: Threshold Limit Value*
 - PEL: Permissible Exposure Limit*
 - REL: Recommended Exposure Limit*

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/14/2020

Reviewed on 10/14/2020

1 Identification

- **Product identifier**
- **Trade name:** Cooling Fluid
- **Article number:** 43371
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de
- **Information department:** Product Safety department Tel.: +49 6221 13840-35
- **Emergency telephone number:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)



2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** aqueous solution
- **Dangerous components:**
The product contains no ingredients classified as hazardous substances according to Regulation (EC) No. 1272/2008 (CLP Regulation) in individual concentrations which shall be indicated according to Regulation (EC) No. 1907/2006 (REACH Regulation).

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/14/2020

Reviewed on 10/14/2020

Trade name: Cooling Fluid

(Contd. of page 1)

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly. Consult doctor if you feel unwell.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist In case of complaints.
- **After swallowing:** Wash out mouth. Seek medical advice if discomfort occurs.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

All components have the value 45 mg/m³.

- **PAC-2:**

All components have the value 180 mg/m³.

- **PAC-3:**

All components have the value 1,100 mg/m³.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/14/2020

Reviewed on 10/14/2020

Trade name: Cooling Fluid

(Contd. of page 2)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store at +2 to +8 °C
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed and store in dry conditions.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

56-81-5 glycerol (5-15%)

PEL Long-term value: 15* 5** mg/m³
mist; *total dust **respirable fraction

TLV TLV withdrawn-insufficient data human occup. exp.

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Store protective clothing separately.
 - Immediately remove all soiled and contaminated clothing.
 - Avoid contact with the eyes and skin.
 - Wash hands before breaks and at the end of work.
- **Breathing equipment:**
 - Short term filter device:
 - Filter P2
- **Protection of hands:**
 - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 - Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
 - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
 - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
 - Natural rubber, NR
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/14/2020

Reviewed on 10/14/2020

Trade name: Cooling Fluid

(Contd. of page 3)

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Solution
· Color:	Colorless
· Odor:	Odorless
· Odor threshold:	no information available

· **pH-value at 20 °C (68 °F):** 6-8.3

· **Change in condition**

· Melting point/Melting range:	no information available
· Boiling point/Boiling range:	no information available

· **Flash point:** no information available

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** no information available

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

· Lower:	no information available
· Upper:	no information available

· **Vapor pressure:** no information available

· **Density:** no information available

· **Relative density** no information available

· **Vapor density** no information available

· **Evaporation rate** no information available

· **Solubility in / Miscibility with**

· **Water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** no information available

· **Viscosity:**

· Dynamic:	no information available
· Kinematic:	no information available

· **Solvent content:**

· **VOC content:** 0.00 %

· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant informations available

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No further relevant informations available.

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

· **Hazardous decomposition products:** In case of fire: See Section 5

US

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/14/2020

Reviewed on 10/14/2020

Trade name: Cooling Fluid

(Contd. of page 4)

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Do not allow product to reach ground water, water course or sewage system.

Water hazard class 1 (Self-assessment): slightly hazardous for water

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:** Disposal must be made according to official regulations.

- **Uncleaned packagings:**

- **Recommendation:**

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/14/2020

Reviewed on 10/14/2020

Trade name: Cooling Fluid

(Contd. of page 5)

14 Transport information

· UN-Number	Void
· DOT, ADR, IMDG, IATA	Void
· UN proper shipping name	Void
· DOT	Void
· ADR, IMDG, IATA	Void
· Transport hazard class(es)	Void
· DOT, ADR, IMDG, IATA	Void
· Class	Void
· Label	-
· Packing group	Void
· DOT, ADR, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65

None of the ingredients is listed.

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

(Contd. on page 7)

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Printing date 10/14/2020

Reviewed on 10/14/2020

Trade name: Cooling Fluid

(Contd. of page 6)

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product safety department
- **Contact:** +49 6221 13840-35
- **Date of preparation / last revision** 10/14/2020 / 1
- **Abbreviations and acronyms:**

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HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

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NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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1 Identification

- **Product identifier**
- **Trade name:** Equilibration Buffer
- **Article number:** 43805
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de
- **Information department:** Product Safety department Tel.: +49 6221 13840-35
- **Emergency telephone number:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)



2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** aqueous solution
- **Dangerous components:**
The product contains no ingredients classified as hazardous substances according to Regulation (EC) No. 1272/2008 (CLP Regulation) in individual concentrations which shall be indicated according to Regulation (EC) No. 1907/2006 (REACH Regulation).

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4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly. Consult doctor if you feel unwell.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist In case of complaints.
- **After swallowing:** Wash out mouth. Seek medical advice if discomfort occurs.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂ extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

All components have the value 45 mg/m³.

- **PAC-2:**

All components have the value 180 mg/m³.

- **PAC-3:**

All components have the value 1,100 mg/m³.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed and store in dry conditions.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

56-81-5 glycerol (20-40%)

PEL Long-term value: 15* 5** mg/m³
mist; *total dust **respirable fraction

TLV TLV withdrawn-insufficient data human occup. exp.

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Store protective clothing separately.
 - Immediately remove all soiled and contaminated clothing.
 - Avoid contact with the eyes and skin.
 - Wash hands before breaks and at the end of work.
- **Breathing equipment:**
 - Short term filter device:
 - Filter P2
- **Protection of hands:**
 - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 - Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
 - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
 - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
 - Natural rubber, NR
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Solution
· Color:	Violet
· Odor:	Odorless
· Odor threshold:	Not determined.

· **pH-value at 20 °C (68 °F):** 8.9-9.3

· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	Undetermined.

· **Flash point:** no information available

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** no information available

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

· Lower:	no information available
· Upper:	no information available

· **Vapor pressure:** no information available

· **Density:** no information available

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** no information available

· **Viscosity:**

· Dynamic:	no information available
· Kinematic:	no information available

· **Solvent content:**

· **VOC content:** 0.00 %

· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant informations available

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No further relevant informations available.

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

· **Hazardous decomposition products:** In case of fire: See Section 5

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11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Do not allow product to reach ground water, water course or sewage system.

Water hazard class 1 (Self-assessment): slightly hazardous for water

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:** Disposal must be made according to official regulations.

- **Uncleaned packagings:**

- **Recommendation:**

Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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14 Transport information

<i>· UN-Number</i>	
<i>· DOT, ADR, IMDG, IATA</i>	Void
<i>· UN proper shipping name</i>	
<i>· DOT</i>	Void
<i>· ADR, IMDG, IATA</i>	Void
<i>· Transport hazard class(es)</i>	
<i>· DOT, ADR, IMDG, IATA</i>	
<i>· Class</i>	Void
<i>· Label</i>	-
<i>· Packing group</i>	
<i>· DOT, ADR, IMDG, IATA</i>	Void
<i>· Environmental hazards:</i>	
<i>· Marine pollutant:</i>	No
<i>· Special precautions for user</i>	Not applicable.
<i>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</i>	Not applicable.

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65

None of the ingredients is listed.

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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