

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 24.11.2011

Version number 1

Revision: 24.11.2011

1 Identification of the substance/mixture and of the company/undertaking

- 1.1. Product identifier
- Trade name: Tissue solubilizer Biolute-S
- Article number: 22263
- 1.2. Relevant identified uses of the substance or mixture and uses advised against
- Application of the substance / the preparation Laboratory chemicals
- 1.3. 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
- 1.4. Emergency telephone number: +49 6131 19240 (university hospital Mainz)

SERVA
Electrophoresis

2 Hazards identification

- 2.1. Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



GHS02

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08

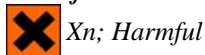
Repr. 2 H361d Suspected of damaging the unborn child.
STOT SE 2 H371 May cause damage to organs.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R20/21/22-68-63-65: Harmful by inhalation, in contact with skin and if swallowed. Possible risk of irreversible effects. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed.



F; Highly flammable

R11: Highly flammable.

- Information concerning particular hazards for human and environment:
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- Classification system:
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

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2.2. Label elements**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

Hazard pictograms GHS02, GHS07, GHS08**Signal word** Danger**Hazard-determining components of labelling:**

toluene

methanol

Hazard statements

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H361d Suspected of damaging the unborn child.

H371 May cause damage to organs.

H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.












P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

P405 Store locked up.

2.3. Other hazards**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

3 Composition/information on ingredients

3.2. Chemical characterization: Mixtures**Description:** Mixture of the substances listed below with harmless additions.**Dangerous components:**

CAS: 108-88-3 EINECS: 203-625-9	toluene  Xn R48/20-63-65;  Xi R38;  F R11 R67 Repr. Cat. 3 -----  Flam. Liq. 2, H225;  Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304;  Skin Irrit. 2, H315; STOT SE 3, H336	60-80%
CAS: 67-56-1 EINECS: 200-659-6	methanol  T R23/24/25-39/23/24/25;  F R11 -----  Flam. Liq. 2, H225;  Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331;  STOT SE 1, H370	5-15%

Additional information For the wording of the listed risk phrases refer to section 16.

4 First aid measures

4.1. Description of first aid measures**General information**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation Supply fresh air and to be sure call for a doctor.**After skin contact** Immediately wash with water and soap and rinse thoroughly.**After eye contact** Rinse opened eye for several minutes under running water.**After swallowing** Drink copious amounts of water and provide fresh air. Call for doctor immediately.

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- **Information for doctor**
- **4.2. Most important symptoms and effects, both acute and delayed** Dizziness
- **4.3. Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

*** 5 Firefighting measures**

- **5.1. Extinguishing media**
- **Suitable extinguishing agents** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents** Water.
- **5.2. Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
- **5.3. Advice for firefighters**
- **Protective equipment:** Mount respiratory protective device.

*** 6 Accidental release measures**

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

*** 7 Handling and storage**

- **Handling**
- **7.1. Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2. 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.
Store in cool, dry conditions in well sealed receptacles.
- **7.3. 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.

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8.1. Control parameters**Components with limit values that require monitoring at the workplace:****108-88-3 toluene (60-80%)**

WEL ()	Short-term value: 384 mg/m ³ , 100 ppm Long-term value: 191 mg/m ³ , 50 ppm Sk
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67-56-1 methanol (5-15%)

WEL ()	Short-term value: 333 mg/m ³ , 250 ppm Long-term value: 266 mg/m ³ , 200 ppm Sk
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· **Additional information:** The lists that were valid during the creation were used as basis.

8.2. Exposure controls**Personal protective equipment****General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.

Breathing equipment:

Short term filter device:
Filter AX.

Protection of hands:

Protective gloves.
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. 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:

PVC gloves
Nitrile rubber, NBR

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

9 Physical and chemical properties

9.1. Information on basic physical and chemical properties**General Information****Appearance:**

Form:	Solution
Colour:	Colourless
Odour:	Aromatic

pH-value at 20°C:	ca. 12.5
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· Change in condition Melting point/Melting range: undetermined Boiling point/Boiling range: 110°C	
· Flash point:	4°C
· Self igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	7.1 Vol %
· Density:	Not determined
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix
· Solvent content:	
Organic solvents:	65.0 %
· VOC %:	71.50 %
· VOC g/l:	715.0 g/l
· Solids content:	35.0 %
· 9.2. Other information	No further relevant information available.

10 Stability and reactivity

- 10.1. Reactivity
- 10.2. Chemical stability
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- 10.3. Possibility of hazardous reactions No dangerous reactions known
- 10.4. Conditions to avoid No further relevant information available.
- 10.5. Incompatible materials: No further relevant information available.
- 10.6. Hazardous decomposition products: No dangerous decomposition products known

11 Toxicological information

- 11.1. Information on toxicological effects
- Acute toxicity:

· LD/LC50 values that are relevant for classification:

108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4h	5320 mg/l (Maus)

67-56-1 methanol

Oral	LD50	13000 mg/kg (rat)
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- **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 shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

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Harmful

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12 Ecological information

- **12.1. Toxicity**
- **Acquatic toxicity:** No further relevant information available.
- **12.2. Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **12.3. Bioaccumulative potential** No further relevant information available.
- **12.4. Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **12.5. Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.
- **12.6. Other adverse effects** No further relevant information available.

13 Disposal considerations

- **13.1. Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|---|
| · 14.1. UN-Number | |
| · ADR, IMDG, IATA | UN1993 |
| · 14.2. UN proper shipping name | |
| · ADR | 1993 FLAMMABLE LIQUID, N.O.S. (TOLUENE, METHANOL) |
| · IMDG | FLAMMABLE LIQUID, N.O.S. (TOLUENE, METHANOL) |
| · IATA | Flammable liquid, n.o.s. (Toluene, Methanol) |
| · 14.3. Transport hazard class(es) | |
| · ADR | |
|  | |
| · Class | 3 Flammable liquids. |
| · Label | 3 |

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· **IMDG, IATA**

· **Class** 3 Flammable liquids.
· **Label** 3

· **14.4. Packing group**
· **ADR, IMDG, IATA** II

· **14.5. Environmental hazards:**
· **Marine pollutant:** No

· **14.6. Special precautions for user** Warning: Flammable liquids.
· **Danger code (Kemler):** 33
· **EMS Number:** F-E,S-E

· **14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADR**
· **Tunnel restriction code** D/E

· **UN "Model Regulation":** UN1993, FLAMMABLE LIQUID, N.O.S., 3, II

* **15 Regulatory information**

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

· **National regulations**

· **Technical instructions (air):**

Class	Share in %
I	5-15
NK	60-80

· **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

· **15.2. 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.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H304 May be fatal if swallowed and enters airways.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H331 Toxic if inhaled.
H336 May cause drowsiness or dizziness.
H361d Suspected of damaging the unborn child.
H370 Causes damage to organs.
H373 May cause damage to organs through prolonged or repeated exposure.
R11 Highly flammable.

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- R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
 R38 Irritating to skin.
 R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
 R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
 R63 Possible risk of harm to the unborn child.
 R65 Harmful: may cause lung damage if swallowed.
 R67 Vapours may cause drowsiness and dizziness.

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

· **Contact:** +49 6221 13840-35

· **Abbreviations and acronyms:**

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

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

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

· *** Data compared to the previous version altered.**

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