

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

Printing date 12.01.2012

Version number 1

Revision: 12.01.2012

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

- **1.1. Product identifier**
- **Trade name:** Glutaraldehyde 25 % solution in water
- **Article number:**  
23114  
43808
- **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**



Acute Tox. 3 H331 Toxic if inhaled.



Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



Skin Corr. 1B H314 Causes severe skin burns and eye damage.



Aquatic Acute 1 H400 Very toxic to aquatic life.

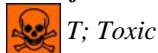


Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

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



R23: Toxic by inhalation.

(Contd. on page 2)

GB

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## according to 1907/2006/EC, Article 31

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**Trade name: Glutaraldehyde 25 % solution in water**

(Contd. of page 1)

**C; Corrosive**

R34: Causes burns.

**Xn; Harmful**

R22: Harmful if swallowed.

**Xn; Sensitising**

R42/43: May cause sensitisation by inhalation and skin contact.

**Xi; Irritant**

R37: Irritating to respiratory system.

**N; Dangerous for the environment**

R50: Very toxic to aquatic organisms.

· **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.

· **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 GHS05, GHS06, GHS08, GHS09**

· **Signal word Danger**

· **Hazard-determining components of labelling:**

glutaral

· **Hazard statements**

H302 Harmful if swallowed.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

· **Precautionary statements**

P273 Avoid release to the environment.

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

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

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

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

· **2.3. Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** PBT - assessment not available.

· **vPvB:** vPvB - assessment not available.

### 3 Composition/information on ingredients

· **3.2. Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with harmless additions.

(Contd. on page 3)

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

Printing date 12.01.2012











Version number 1

Revision: 12.01.2012

**Trade name: Glutaraldehyde 25 % solution in water**

(Contd. of page 2)

**· Dangerous components:**

CAS: 111-30-8 EINECS: 203-856-5	glutaral  T R23/25;  C R34;  Xn R42/43;  N R50  Acute Tox. 3, H301;  Acute Tox. 3, H331;  Resp. Sens. 1, H334;  Skin Corr. 1B, H314;  Aquatic Acute 1, H400;  Skin Sens. 1, H317	15-30%
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· **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**  
Remove contaminated clothing.  
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 rinse with water.
- **After eye contact**  
Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing.
- **After swallowing** Drink copious amounts of water and provide fresh air. Call for doctor immediately.
- **Information for doctor**
- **4.2. Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **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**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2. Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3. Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**  
Collect contaminated fire fighting water separately. It must not enter the sewage system.

**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.  
Dilute with plenty of water.
- **6.3. Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
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.

GB

(Contd. on page 4)

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

Printing date 12.01.2012

Version number 1

Revision: 12.01.2012

Trade name: *Glutaraldehyde 25 % solution in water*

(Contd. of page 3)

## 7 Handling and storage

- **Handling**

- **7.1. Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

- **Information about protection against explosions and fires:** Keep respiratory protective device available.

- **7.2. 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:**

Store away from flammable substances.

Store away from oxidizing agents.

- **Further information about storage conditions:**

Store under lock and key and with access restricted to technical experts or their assistants only.

Keep receptacle tightly sealed.

- **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.

- **8.1. Control parameters**

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

**111-30-8 glutaral (15-30%)**

WEL	Short-term value: 0.2 mg/m <sup>3</sup> , 0.05 ppm
	Long-term value: 0.2 mg/m <sup>3</sup> , 0.05 ppm
Sen	

- **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.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

Short term filter device:

Filter P3.

- **Protection of hands:**

Neoprene 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.

(Contd. on page 5)

**Safety data sheet**  
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Printing date 12.01.2012

Version number 1

Revision: 12.01.2012

**Trade name: Glutaraldehyde 25 % solution in water**

(Contd. of page 4)

- **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:** Tightly sealed goggles.
- **Body protection:** Protective work clothing.

## 9 Physical and chemical properties

### · 9.1. Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

· <b>Form:</b>	Fluid
· <b>Colour:</b>	Colourless
· <b>Odour:</b>	Unpleasant

· **pH-value at 20°C:** 3.5

#### · Change in condition

· **Melting point/Melting range:** undetermined  
· **Boiling point/Boiling range:** > 100°C

· **Flash point:** Not applicable

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

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

· **Density at 20°C:** 1.06 g/cm<sup>3</sup>

#### · Solubility in / Miscibility with

· **Water:** Fully miscible

#### · Solvent content:

· **Organic solvents:** 0.0 %  
· **VOC %:** 0.00 %  
· **9.2. Other information** There are no more data available.

## 10 Stability and reactivity

- **10.1. Reactivity** No further relevant informations available
- **10.2. Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3. Possibility of hazardous reactions** Danger of polymerisation
- **10.4. Conditions to avoid** No further relevant information available.
- **10.5. Incompatible materials:** No further relevant information available.
- **10.6. Hazardous decomposition products:** Carbon monoxide and carbon dioxide

## 11 Toxicological information

### · 11.1. Information on toxicological effects

#### · Acute toxicity:

#### · LD/LC50 values that are relevant for classification:

#### 111-30-8 glutaral

Oral	LD50	100 mg/kg (Maus)
		134 mg/kg (rat)

#### · Primary irritant effect:

· **on the skin:** Caustic effect on skin and mucous membranes.

(Contd. on page 6)

**Safety data sheet**  
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Version number 1

Revision: 12.01.2012

**Trade name: Glutaraldehyde 25 % solution in water**

(Contd. of page 5)

- **on the eye:** Strong caustic effect.
- **Sensitization:**  
Sensitization possible through inhalation.  
Sensitization possible through skin contact.
- **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:  
Toxic  
Harmful  
Corrosive  
Irritant  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

## 12 Ecological information

- **12.1. Toxicity**
- **Aquatic 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.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**  
Water danger class 3 (German Regulation) (Self-assessment): extremely hazardous for water.  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Must not reach sewage water or drainage ditch undiluted or unneutralized.  
Danger to drinking water if even extremely 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.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |  |  |
|--|--|
| · <b>14.1. UN-Number</b>               |  |
| · <b>ADR, IMDG, IATA</b>               | UN2922   |
| · <b>14.2. UN proper shipping name</b> |  |
| · <b>ADR</b>                           | 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (Glutaral), ENVIRONMENTALLY HAZARDOUS |
| · <b>IMDG</b>                          | CORROSIVE LIQUID, TOXIC, N.O.S. (Glutaral)                                 |
| · <b>IATA</b>                          | Corrosive liquid, toxic, n.o.s. (Glutaral)                                 |

(Contd. on page 7)

GB

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Revision: 12.01.2012

Trade name: *Glutaraldehyde 25 % solution in water*

(Contd. of page 6)

## · 14.3. Transport hazard class(es)

## · ADR



· Class 6.1 Toxic substances.  
· Label 8+6.1

## · IMDG



· Class 6.1 Toxic substances.  
· Label 8+6.1

## · IATA



· Class 6.1 Toxic substances.  
· Label 8+6.1

## · 14.4. Packing group

· ADR, IMDG, IATA II

## · 14.5. Environmental hazards:

· Marine pollutant: Product contains environmentally hazardous substances:  
glutaral  
Symbol (fish and tree)  
· Special marking (ADR): Symbol (fish and tree)

## · 14.6. Special precautions for user

· Danger code (Kemler): Warning: Toxic substances.  
86  
· EMS Number: F-A,S-A

## · 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 E

## · UN "Model Regulation":

UN2922, CORROSIVE LIQUID, TOXIC, N.O.S.  
(Glutaral), ENVIRONMENTALLY HAZARDOUS, 8 (6.1),  
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	15-30

(Contd. on page 8)

GB

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**Trade name: Glutaraldehyde 25 % solution in water**

(Contd. of page 7)

- **Water hazard class:** Water danger class 3 (Self-assessment): extremely 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**

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H331 Toxic if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H400 Very toxic to aquatic life.

R23/25 Toxic by inhalation and if swallowed.

R34 Causes burns.

R42/43 May cause sensitisation by inhalation and skin contact.

R50 Very toxic to aquatic organisms.

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

· **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.**

GB