

# Safety Data Sheet

According to 1907/2006/EC, Article 31

Revision: 07/10/2023

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

- **Product Identifier** - Glutaraldehyde, 70% aqueous, EM Grade
- **Article Number** - 20100 through 20150
- **Relevant identified uses of the substances or mixture and uses advised against.**  
No further relevant information available.
- **Application of the substance/preparation:** Universal fixative for electron microscopy.
- **Details of the supplier of the safety data sheet**

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## 2. Hazards identification

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



GHS06 skull and crossbones

Acute Tox. 3	H301	Toxic if swallowed
Acute Tox. 3	H331	Toxic if inhaled



GHS08 health hazard

Resp. Sens. 1	H334	May cause allergy or asthma symptoms or Breathing difficulties if inhaled.
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GHS05 corrosion

Skin Corr. 1B	H314	Causes severe skin burns and eye damage
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GHS09 environment

Aquatic Acute 1	H400	Very toxic to aquatic life.
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GHS07

Skin Sens. 1

H317

May cause an allergic skin reaction.

STOT SE 3

H335-336

May cause respiratory irritation. May cause drowsiness or dizziness.

**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 is according to the latest editions of the EU-lists, and extended by company and literature data.

**Label elements**

**Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

### 3. Composition/information on ingredients

**Chemical characterization: Mixtures**

**Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:**

CAS: 111-30-8

Glutaral

50%

EINECS: 203-856-5

Acute Tox. 3, H301; Acute Tox. 3, H331; Resp. Sens. 1, H334;

Skin Corr. 1B, H314; Aquatic Acute 1, H400; Skin Sens. 1, H317

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

### 4. First aid measures

**Description of first aid measures**

**General information:**

Immediately remove any clothing soiled by the product.

Remove breathing equipment only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

**After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

**After skin contact:** Immediately wash with water and soap and rinse thoroughly.

**After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing:**

Do not induce vomiting; call for medical help immediately.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

**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. Firefighting measures**

**Extinguishing media**

**Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards arising from the substance or mixture.** No further information available.

**Advice for firefighters**

**Protective equipment:** Mouth respiratory protective device.

## **6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

**Environmental precautions:**

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

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty water.

Do not allow to enter sewers and surface or ground waters.

**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.

**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.

## **7. Handling and storage**

**Handling:**

**Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

**Information about fire and explosion protection:** Keep respiratory protective device available.

**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 container tightly sealed.

**Special end use(s):** No further relevant information available.



## 8. Exposure controls/personal protection

**Additional information about design of technical facilities:** No further data; see item 7.

**Control parameters**

**Ingredients with limit values that require monitoring at the workplace:**

**111-30-8 glutaral**

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

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

**Additional information:** The lists valid during the making were used as basis.

**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.

**Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

**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.

**Eye protection**

Tightly sealed goggles

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

**General information**

**Appearance:**

**Form:** Fluid

**Color:** According to product specification

**Odor:** Characteristic



<b>Odor threshold:</b>	Not determined
<b>pH value:</b>	Not determined
<b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined
<b>Boiling point/Boiling range:</b>	101°C
<b>Flash point:</b>	Not applicable
<b>Flammability:</b>	Not applicable
<b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined
<b>Self-igniting:</b>	Product is not self-igniting
<b>Danger of explosion:</b>	Product does not present an explosion hazard
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
<b>Vapor pressure at 20°C:</b>	23 hPa
<b>Density at 20°C:</b>	1.129 g/cm <sup>3</sup>
<b>Relative density:</b>	Not determined
<b>Vapor density:</b>	Not determined
<b>Evaporation rate:</b>	Not determined
<b>Solubility in/</b>	
<b>Miscibility with water:</b>	Fully miscible
<b>Partition coefficient:</b>	Not determined
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined
<b>Kinematic:</b>	Not determined
<b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0%
<b>Water:</b>	50.0%
<b>VOC (EC):</b>	0.00%
<b>Other information:</b>	No further relevant information available

## 10. Stability and reactivity

### Reactivity

#### Chemical stability

#### **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

**Possibility of hazardous reactions:** No dangerous reactions known.

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

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

**Hazardous decomposition products:** No dangerous decomposition products known.



## 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity:

#### LD/LC50 values relevant for classification:

##### 111-30-8 glutaral

Oral	LD50	134 mg/kg (rat)
Dermal	LD50	2560 mg/kg (rabbit)

#### Primary irritant effect:

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

**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

### 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

**Ecotoxicological effects:**

**Remark:** Very toxic for fish

**Additional ecological information:**

#### General notes:

Water hazard 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.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms.

#### 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

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

#### Uncleaned packaging:

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

**Recommended cleansing agents:** Water, if necessary together with cleansing agents

### 14. Transport information

#### UN-Number

**ADR, IMDG, IATA** UN3265

#### UN proper shipping name

**ADR** 3265 Corrosive liquid, acidic, organic, n.o.s. (glutaral),  
Environmentally Hazardous

**IMDG** Corrosive liquid. Acidic, organic, n.o.s. (glutaral)  
Marine pollutant

**IATA** Corrosive liquid, acidic, organic, n.o.s. (glutaral)

#### Transport hazard class(es)

#### ADR, IMDG

**Class** 8 Corrosive substances

#### IATA

**Class** 8 Corrosive substances

#### Packing group

**ADR, IMDG, IATA** 8 Corrosive substances

**Environmental hazards:** Product contains environmentally hazardous substances glutaral

**Marine pollutant:** Yes

Symbol (fish and tree)

**Special marking (ADR):** Symbol (fish and tree)

**Special precautions for user:** Warning: Corrosive substances

**Transport in bulk according  
to Annex II of MARPOL 73/78  
and the IBC Code:**

Not applicable

#### Transport/Additional information:

#### ADR

**Limited quantities (LQ)** 1L



UN “Model Regulation”:

UN3265, Corrosive liquid, acidic, organic, n.o.s. (glutaral)  
Environmentally Hazardous, 8, II

## 15. Regulatory information

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

## 16. Other Information

This information is based on our present knowledge and should assist the user with the safe handling of this material when properly applied. 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
R23/25	Toxic by inhalation and if swallowed
R34	Causes burns
R42/43	May cause sensitization by inhalation and skin contact
R50	Very toxic to aquatic organisms

### Contact

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### Abbreviations and acronyms:

**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

**IATA:** International Air Transport Association

**GHS:** Globally Harmonized System of Classification and Labelling of Chemicals

**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)

**VOC:** Volatile Organic Compounds (USA, EU)

**LC50:** Lethal concentration, 50 percent

**LD50:** Lethal dose, 50 percent