

# Safety data sheet

according to 1907/2006/EC, Article 31

Date Printed 18.01.2022

Version number 1

Revision Date 18.01.2022

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

- **1.1 Product identifier** Glutaraldehyde 25% aq. soln. EM grade
- **Trade name: Glutaraldehyde 25% aq. soln. EM grade**
- **Article number:** AGR1010, AGR1011, AGR1012
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the preparation:** Universal fixative for electron microscopy.
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier.**  
Agar Scientific Ltd  
Parsonage Lane  
Stansted CM24 8GF  
United Kingdom  
sales@agarscientific.com  
Tel: +44 (0) 1279 813 519
- **Further information obtainable from:** Technical Support
- **1.4 Emergency telephone number:** 24 hours: +44 (0)1856 407333

## SECTION 2: Hazards identification

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



health hazard

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



corrosion

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

Eye Dam. 1      H318 Causes serious eye damage.



environment

Aquatic Chronic 1      H410 Very toxic to aquatic life with long lasting effects.



Acute Tox. 4      H302 Harmful if swallowed.

Acute Tox. 4      H332 Harmful if inhaled.

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

STOT SE 3      H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.

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**Hazard pictograms**


GHS05 GHS07 GHS08 GHS09

**Signal word** Danger

**Hazard-determining components of labelling:**

glutaral

**Hazard statements**

H302+H332 Harmful if swallowed or 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.

H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read carefully and follow all instructions.

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

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

P310 Immediately call a POISON CENTER/doctor.

P321 Specific treatment (see on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

**vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

**3.2 Chemical characterisation: Mixtures**
**Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:**

|                   |   |       |
|-------------------|---|-------|
| CAS: 111-30-8     | glutaral  | 25.0% |
| EINECS: 203-856-5 | Acute Tox. 3, H301; Acute Tox. 2, H330;  Resp. Sens. 1, H334;<br>Skin Corr. 1B, H314;  Skin Sens. 1A, H317; STOT SE 3, H335 |       |

**SVHC**

|          |          |
|----------|----------|
| 111-30-8 | glutaral |
|----------|----------|

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

## SECTION 4: First aid measures

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

Immediately remove any clothing soiled by the product.

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

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- **After inhalation:**  
Supply fresh air.  
No adverse effects are anticipated from inhalation.
- **After skin contact:** 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:**  
Call for a doctor immediately.  
Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **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.

## SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **5.3 Advice for firefighters**
- **Protective equipment:** Positive pressure self-contained breathing apparatus.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear gloves.  
Wear protective gloves and glasses.
- **6.2 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 of water.  
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).  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 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.

## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
Extinguishing media: Water fog - dried resin only.
- **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 container tightly sealed.

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· **7.3 Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

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

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

- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
 Keep away from foodstuffs, beverages and feed.  
 Remove all soiled and contaminated clothing  
 Wash hands before breaks and at the end of work.  
 Avoid contact with the eyes.  
 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

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## SECTION 9: Physical and chemical properties

|  |   |
|--|---|
| · <b>9.1 Information on basic physical and chemical properties</b> |   |
| · <b>General Information</b>                                       |   |
| · <b>Appearance:</b>   |   |
| Form:  | Fluid   |
| Colour:  | According to product specification            |
| · <b>Odour:</b>  | Characteristic                                |
| · <b>Odour threshold:</b>  | Not determined.                               |
| · <b>pH-value:</b>   | Not determined.                               |
| · <b>Change in condition</b>                                       |   |
| Melting point/freezing point:                                      | Undetermined.                                 |
| Initial boiling point and boiling range:                           | 101 °C  |
| · <b>Flash point:</b>  | Not applicable.                               |
| · <b>Flammability (solid, gas):</b>                                | Not applicable.                               |
| · <b>Decomposition temperature:</b>                                | Not determined.                               |
| · <b>Auto-ignition temperature:</b>                                | Product is not selfigniting.                  |
| · <b>Explosive properties:</b>                                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>   |   |
| Lower:   | Not determined.                               |
| Upper:   | Not determined.                               |
| · <b>Vapour pressure at 20 °C:</b>                                 | 23 hPa  |
| · <b>Density at 20 °C:</b>   | 1.061 g/cm <sup>3</sup>                       |
| · <b>Relative density</b>  | Not determined.                               |
| · <b>Vapour density</b>  | Not determined.                               |
| · <b>Evaporation rate</b>  | Not determined.                               |
| · <b>Solubility in / Miscibility with water:</b>                   | Fully miscible.                               |
| · <b>Partition coefficient: n-octanol/water:</b>                   | Not determined.                               |
| · <b>Viscosity:</b>  |   |
| Dynamic:   | Not determined.                               |
| Kinematic:   | Not determined.                               |
| · <b>Solvent content:</b>  |   |
| Water:   | 75.0 %  |
| VOC (EC)   | 0.00 %  |
| Solids content:  | 0.0 %   |
| · <b>9.2 Other information</b>                                     | No further relevant information available.    |

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **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.

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

## SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**

- **Acute toxicity**

Harmful if swallowed or if inhaled.

- **LD/LC50 values relevant for classification:**

### 111-30-8 glutaral

|        |      |                      |
|--------|------|----------------------|
| Oral   | LD50 | 134 mg/kg (rat)      |
| Dermal | LD50 | 2,560 mg/kg (rabbit) |

- **Specific symptoms in biological assay:**

- **Skin corrosion/irritation**

Causes severe skin burns and eye damage.

- **Serious eye damage/irritation**

Causes serious eye damage.

- **Respiratory or skin sensitisation**

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

May cause an allergic skin reaction.

- **Additional toxicological information:**

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

- **Carcinogenicity** Based on available data, the classification criteria are not met.

- **Reproductive toxicity** Based on available data, the classification criteria are not met.

- **STOT-single exposure**

May cause respiratory irritation.

- **STOT-repeated exposure** Based on available data, the classification criteria are not met.

- **Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

- **12.1 Toxicity**

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

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

- **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 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 unneutralised.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

- **12.5 Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

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

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## SECTION 13: Disposal considerations



- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.


## SECTION 14: Transport information

- **14.1 UN-Number**  
· **ADR, IMDG, IATA**

|  |        |
|--|--------|
|  | UN1760 |
|  | UN2927 |
- **14.2 UN proper shipping name**  
· **ADR**

|                     |   |
|---------------------|---|
|                     | 1760 CORROSIVE LIQUID, N.O.S. (glutaral), ENVIRONMENTALLY HAZARDOUS |
| · <b>IMDG, IATA</b> | CORROSIVE LIQUID, N.O.S. (glutaral)                                 |
- **14.3 Transport hazard class(es)**  
· **ADR**

|                |   |
|----------------|---|
|                |   |
| · <b>Class</b> | 8 Corrosive substances.   |
| · <b>Label</b> | 8   |
- **IMDG, IATA**

|                |   |
|----------------|---|
|                |  |
| · <b>Class</b> | 8 Corrosive substances.   |
| · <b>Label</b> | 8   |
- **14.4 Packing group**  
· **ADR, IMDG, IATA**

|  |    |
|--|----|
|  | II |
|  | II |
- **14.5 Environmental hazards:**

|                                 |   |
|---------------------------------|---|
|                                 | Product contains environmentally hazardous substances: glutaral |
| · <b>Marine pollutant:</b>      | Yes   |
| · <b>Special marking (ADR):</b> | Symbol (fish and tree)  |
- **14.6 Special precautions for user**

|  |                                |
|--|--------------------------------|
|  | Warning: Corrosive substances. |
| · <b>Hazard identification number (Kemler code):</b> | 80                             |
| · <b>EMS Number:</b>                                 | F-A,S-B                        |
| · <b>Stowage Category</b>                            | B                              |
| · <b>Stowage Code</b>                                | SW2 Clear of living quarters.  |
- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

|  |                 |
|--|-----------------|
|  | Not applicable. |
|--|-----------------|

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**· Transport/Additional information:**
**· ADR**

- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml
- **Transport category** 2
- **Tunnel restriction code** E

**· IMDG**

- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

- **UN "Model Regulation":** UN 1760 CORROSIVE LIQUID, N.O.S. (GLUTARAL), 8, II, ENVIRONMENTALLY HAZARDOUS

## SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** E1 Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

**· National regulations:**
**· Other regulations, limitations and prohibitive regulations**
**· Substances of very high concern (SVHC) according to REACH, Article 57**

|          |          |
|----------|----------|
| 111-30-8 | glutaral |
|----------|----------|

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

## SECTION 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.
- H330 Fatal if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.

**· Department issuing SDS:** Sales department

**· Contact:**

sales@agarscientific.com  
Tel: +44 (0) 1279 813 519

**· Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

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IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised 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  
 PBT: Persistent, Bioaccumulative and Toxic  
 SVHC: Substances of Very High Concern  
 vPvB: very Persistent and very Bioaccumulative  
 Acute Tox. 3: Acute toxicity – Category 3  
 Acute Tox. 4: Acute toxicity – Category 4  
 Acute Tox. 2: Acute toxicity – Category 2  
 Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
 Resp. Sens. 1: Respiratory sensitisation – Category 1  
 Skin Sens. 1: Skin sensitisation – Category 1  
 Skin Sens. 1A: Skin sensitisation – Category 1A  
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
 Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

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

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