

MATERIAL SAFETY DATA SHEET**Product Name:** Glutaraldehyde solution, 25 % in water**CAS No.:** 111-30-8**Version:** 0**1. Identification**

Product Code : 90612
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2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
GLUTARALDEHYDE SOLUTION, 25 % IN WATER	111-30-8	23-31 %

3. Hazards Identification**Hazard classification****Health hazards**

Acute toxicity (Oral) : Category 4
Skin corrosion/irritation : Category 2
Serious eye damage/eye irritation : Category 1
Skin sensitizer : Category 1
Specific target organ toxicity - single exposure : Category 3

Labels elements**Hazard symbol**

Signal word : Danger
Hazard statement : Harmful if swallowed.
Causes serious eye damage.
Causes skin irritation.
May cause respiratory irritation.
May cause an allergic skin reaction.
Very toxic to aquatic life.

Precautionary statement

Prevention : Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in

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a well-ventilated area. Wash hands thoroughly after handling. Avoid release to the environment.

- Response** : IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. Do NOT induce vomiting. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
- Storage** : Store in a well-ventilated place. Keep container tightly closed. Store locked up.
- Disposal** : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Other hazards which do not result in GHS classification** : None.

4. First Aid Measures

- General information** : Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand. Show this safety data sheet to the doctor in attendance.
- Ingestion** : Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.
- Inhalation** : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- Skin contact** : Wash the skin immediately with soap and water. If skin irritation or an allergic skin reaction develops, get medical attention. Wash contaminated clothing before reuse.
- Eye contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. In case of irritation from airborne exposure, move to fresh air.
- Most important symptoms/effects, acute and delayed** : Harmful if swallowed. Causes serious eye damage. Irritating to eyes, respiratory system and skin.
- Indication of immediate medical attention and special treatment needed** : Treat symptomatically. Symptoms may be delayed.

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- General fire hazards** : In case of fire and/or explosion do not breathe fumes. Move container from fire area if it can be done without risk. Use water spray to keep fire-exposed containers cool.
- Suitable (and unsuitable) extinguishing media**
- Suitable extinguishing media** : Use fire-extinguishing media appropriate for surrounding materials.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : May burn, but does not ignite readily.
- Special protective equipment and precautions for firefighters**
- Special fire fighting procedures** : No unusual fire or explosion hazards noted.
- Special protective equipment for fire-fighters** : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures** : Keep unauthorized personnel away. Keep upwind. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.
- Methods and material for containment and cleaning up** : Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dike far ahead of larger spill for later recovery and disposal. Clean surface thoroughly to remove residual contamination.
- Notification Procedures** : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.
- Environmental precautions** : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

MATERIAL SAFETY DATA SHEET**Product Name:** Glutaraldehyde solution, 25 % in water**CAS No.:** 111-30-8**Version:** 0**7. Handling and Storage**

- Precautions for safe handling** : Use personal protective equipment as required. Do not taste or swallow. Do not eat, drink or smoke when using the product. Do not get in eyes and avoid contact with skin and clothing. Avoid breathing mist. Wash hands thoroughly after handling.
- Conditions for safe storage, including any incompatibilities** : Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. Store in a cool and well-ventilated place.

8. Exposure Controls Personal Protection**Control parameters****Occupational exposure limits** : None established.**Appropriate engineering controls** : No data available.**Individual protection measures, such as personal protective equipment**

General information : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection : Wear safety glasses with side shields (or goggles) and a face shield.

Hand protection : Wear protective gloves.

Other : Wear suitable protective clothing.

Respiratory protection : If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures : Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Do not get this material in contact with skin. Do not get in eyes.

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Appearance	:	Colorless Liquid.
Odor	:	Characteristic
pH	:	No data available.
Melting point/freezing point	:	-10 °C
Initial boiling point and boiling range	:	101 °C
Flash Point	:	No data available.
Vapor pressure	:	0.2 kPa
Vapor density	:	No data available.
Relative density	:	1.09 (20 °C)
Solubility in water	:	Soluble
Solubility (other)	:	No data available.
Formula	:	OHC(CH ₂) ₃ CHO
Molecular Weight	:	100.12 g/mol

10. Stability and Reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Material is stable under normal conditions.
Possibility of hazardous reactions	:	Hazardous polymerization does not occur.
Conditions to avoid	:	Contact with incompatible materials. Heat.
Incompatible materials	:	Contact with alkalis. Oxidizing agents.
Hazardous decomposition products	:	Fire or excessive heat may produce hazardous decomposition products.

11. Toxicological Information**Information on likely routes of exposure**

Ingestion	:	Harmful if swallowed. May cause burns of the gastrointestinal tract if swallowed.
Inhalation	:	May cause irritation to the respiratory system.
Skin contact	:	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	:	Causes serious eye damage.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)**

Oral Product	:	No data available.
Specified substance(s): GLUTARALDEHYDE	:	LD 50 (Rat): 96.1 mg/kg LD 50 (Mouse): 100 mg/kg
Dermal Product	:	No data available.
Specified substance(s): GLUTARALDEHYDE	:	LD 50 (Rabbit): 2,560 mg/kg
Inhalation Product	:	No data available.
Specified substance(s):	:	LC 50 (Rat, 4 h): 24 mg/l

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GLUTARALDEHYDE

- Repeated dose toxicity Product** : No data available.
- Skin corrosion/irritation Product** : Causes skin irritation.
- Serious eye damage/eye irritation Product** : Causes serious eye damage.
- Respiratory or skin sensitization Product** : May cause an allergic skin reaction.
- Carcinogenicity Product** : This substance has no evidence of carcinogenic properties.
- IARC Monographs on the Evaluation of Carcinogenic Risks to Humans DIOXANE** : No carcinogenic components identified
- US. National Toxicology Program (NTP) Report on Carcinogens DIOXANE** : No carcinogenic components identified
- US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050** : No carcinogenic components identified
- Germ cell mutagenicity**
- In vitro Product** : No mutagenic components identified
- In vivo Product** : No mutagenic components identified
- Reproductive toxicity Product** : No components toxic to reproduction
- Specific target organ toxicity - single exposure Product** : Respiratory tract irritation.
- Specific target organ toxicity - repeated exposure Product** : None known.
- Aspiration hazard Product** : May be harmful if swallowed and enters airways.
- Other effects** : None known.

12. Ecological Information

Ecotoxicity

Acute hazards to the aquatic environment :

Fish Product : No data available.

Specified substance(s): : LC 50 (Bluegill Sunfish, 96 h): 13 mg/l
 GLUTARALDEHYDE : LC 50 (Bluegill Sunfish, 24 h): 19 mg/l
 : LC 50 (Bluegill Sunfish, 48 h): 13 mg/l
 : LC 50 (Bluegill Sunfish, 72 h): 13 mg/l
 : LC 50 (Rainbow Trout, 24 h): 17 mg/l

Aquatic invertebrates Product : LC 50 (Water Flea, 48 h): 16.3 mg/l
 : LC 50 (Grass Shrimp, 96 h): 41 mg/l
 : LC 50 (Green or European shore crab (Carcinus maenas), 96 h): 465 mg/l

Chronic hazards to the aquatic environment :

Fish Product : No data available.
Aquatic invertebrates Product : No data available.
Toxicity to Aquatic Plants Product: : No data available.

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- Biodegradation Product** : The product is not expected to be biodegradable.
BOD/COD ratio Product : No data available.
Bioaccumulative potential
Bioconcentration factor (BCF) Product : No data available on bioaccumulation.
Partition coefficient n-octanol / water (log Kow) Product : No data available.
Mobility in soil : No data available.
Other adverse effects : Very toxic to aquatic organisms.

13. Disposal consideration

- Disposal instructions** : Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Contaminated packaging** : Since emptied containers retain product residue, follow label warnings even after container is emptied.

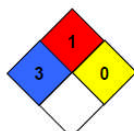
14. Transport Information

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT	UN 3082	GLUTARALDEHYDE	9	III	No
IMDG	UN 3082	GLUTARALDEHYDE	9	III	No
IATA	UN 3082	GLUTARALDEHYDE	8	III	No

15. Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

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Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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