

GLUTARALDEHYDE 50%

Safety Data Sheet

Date of issue: 05/02/2024

Revision date: 05/02/2024

Version: #1

SECTION 1: Identification

1.1. Identification

Product name : Glutaraldehyde 50%
Product form : Mixture
EC No. : 203-856-5
CAS No. : 111-30-8
Formula : C₅H₈O₂

1.2. Relevant identified uses of the substance or mixture and uses advised against

Uses advised against : For research and development purposes. Not suitable for human consumption or veterinary purposes.

1.3. Supplier

FARSA Group Ltd
Sales@farsagroup.az

1.4. Emergency contacts

Emergency number : +994512707856

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Physical hazards : Not classified.
Health hazards : Acute Tox. 3 - H301 Acute Tox. 3 - H311 Acute Tox. 2 - H330 Skin Corr. 1B - H314 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 STOT SE 3 - H335
Environmental hazards : Aquatic Acute 1 - H400 Aquatic Chronic 2 - H411

2.2. Label elements

Pictogram :



Signal word :

Danger

Hazard statements :

H301+H311 Toxic if swallowed or in contact with skin.
H330 Fatal 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.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :

P260 Do not breathe vapour/ spray.
P264 Wash contaminated skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 [In case of inadequate ventilation] wear respiratory protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of water.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

GLUTARALDEHYDE 50%

Safety Data Sheet

P304+P340 IF INHALED: Remove person to fresh air and keep 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.
P312 Call a POISON CENTRE/doctor if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P362+P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/ container in accordance with national regulations.

Supplemental label information

: EUH071 Corrosive to the respiratory tract.

Contains

: Glutaral.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable.

3.2. Mixtures

Name	Product identifier	%
Glutaral	(CAS No) 111-30-8	50
Water	(CAS No) 7732-18-5	50

Classification (Glutaral)

: Acute Tox. 3 - H301
Acute Tox. 3 - H311
Acute Tox. 2 - H330
Skin Corr. 1B - H314
Resp. Sens. 1 - H334
Skin Sens. 1A - H317
STOT SE 3 - H335
Aquatic Acute 1 - H400
Aquatic Chronic 2 - H411

SECTION 4: First-aid measures

4.1. Description of first aid measures

General information

: Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel. Chemical burns must be treated by a physician.

Inhalation

: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention. Place unconscious person on their side in the recovery position and ensure breathing can take place. In the event of any sensitisation symptoms developing, ensure further exposure is avoided.

Ingestion

: Get medical attention immediately. Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Never give anything by mouth to an unconscious person. Place unconscious person on their side in the recovery position and ensure breathing can take place. Keep affected person under observation.

Skin contact

: It is important to remove the substance from the skin immediately. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention. Chemical burns must be treated by a physician.

Eye contact

: Rinse immediately with plenty of water. Do not rub eye. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

Protection of first aiders

: It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

GLUTARALDEHYDE 50%

Safety Data Sheet

4.2. Most important symptoms and effects, both acute and delayed

General information	: The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	: May cause sensitisation or allergic reactions in sensitive individuals. A single exposure may cause the following adverse effects: Difficulty in breathing. Unconsciousness, possibly death.
Ingestion	: May cause sensitisation or allergic reactions in sensitive individuals. May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.
Skin contact	: May cause skin sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.
Eye contact	: Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	: Treat symptomatically. Keep affected person under observation. May cause sensitisation or allergic reactions in sensitive individuals.
-----------------------------	--

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	: Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	: Containers can burst violently or explode when heated, due to excessive pressure build-up. This product is toxic. Severe corrosive hazard. Water used for fire extinguishing, which has been in contact with the product, may be corrosive.
Hazardous combustion products	: Thermal decomposition or combustion products may include the following substances: Very toxic or corrosive gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO ₂).

5.3. Advice for firefighters

Protective actions during firefighting	: Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
Special protective equipment for firefighters	: Regular protection may not be safe. Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	: Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of vapours and spray/mists. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes.
-----------------------------	--

6.2. Environmental precautions

Environmental precautions	: Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.
----------------------------------	---

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up	: Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. This product is corrosive. Provide adequate ventilation. Small Spillages: Collect spillage. Large Spillages: Absorb spillage with non-combustible, absorbent material. The contaminated absorbent may pose the same hazard as the spilled material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. For waste disposal, see Section 13.
--------------------------------	--

6.4. Reference to other section

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

GLUTARALDEHYDE 50%

Safety Data Sheet

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

- : Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists. This product is toxic. This product is corrosive. Immediate first aid is imperative. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene

- : Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

- : Store away from incompatible materials (see Section 10). Store locked up. Keep only in the original container. Keep container tightly closed, in a cool, well-ventilated place. Keep containers upright. Protect containers from damage.

Storage class

- : Toxic storage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

	Glutaral	
Long-term exposure limit (8-hour TWA)		WEL 0.05 ppm 0.2 mg/m ³
Short-term exposure limit (15-minute)		WEL 0.05 ppm 0.2 mg/m ³

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

- : Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimize worker exposure. Ensure the ventilation system is regularly maintained and tested. In case of insufficient ventilation, wear suitable respiratory equipment. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

- : Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection

- : Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

Other skin and body protection

- : Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

- : Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

Respiratory protection

- : Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

Environmental exposure controls

- : Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid	Evaporation rate	No information available
Colour	Colourless.	Flammability (solid, gas)	No information available
Odour	Not known	Vapour pressure	No information available
Odour threshold	No information available	Vapour density	No information available
pH	3.4-5.0	Relative density	1.106
Melting point	-5.8°C	Solubility(ies)	Soluble
Boiling point	101°C	Partition coefficient	No information available
Flash point	No information available	Decomposition temperature	No information available

GLUTARALDEHYDE 50%

Safety Data Sheet

9.2. Other information

Molecular weight : 100.12

SECTION 10: Stability and reactivity

10.1. Reactivity

See the other subsections of this section for further details.

10.2. Chemical stability

Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reaction

No potentially hazardous reactions known.

10.4. Conditions to avoid

There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Corrosive gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity-oral	
Summary	Toxic if swallowed.
ATE oral (mg/kg)	154.0

Acute toxicity-dermal	
Summary	Toxic in contact with skin.
ATE dermal (mg/kg)	600.0

Acute toxicity-inhalation	
Summary	Fatal if inhaled.
ATE inhalation (vapours mg/l)	1.0

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	: Based on available data the classification criteria are not met.
Respiratory sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Based on available data the classification criteria are not met.
Carcinogenicity	: Based on available data the classification criteria are not met. IARC carcinogenicity: None of the ingredients are listed or exempt.
Reproductive toxicity	: Based on available data the classification criteria are not met.
Specific target organ toxicity - single exposure	: May cause respiratory irritation. Corrosive to the respiratory tract. Target organs: Respiratory system, lungs.
Specific target organ toxicity - repeated exposure	: Based on available data the classification criteria are not met.
Aspiration hazard	: Based on available data the classification criteria are not met.
General information	: The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	: May cause sensitisation or allergic reactions in sensitive individuals. A single exposure may cause the following adverse effects: Difficulty in breathing. Unconsciousness, possibly death.
Ingestion	: May cause sensitisation or allergic reactions in sensitive individuals. May cause chemical burns in mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, vomiting.
Skin contact	: May cause skin sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.
Eye contact	: Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.
Route of exposure	: Ingestion Inhalation Skin and/or eye contact
Target organs	: Respiratory system, lungs.
Medical considerations	: Skin disorders and allergies.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

The degradability of the product is not known.

GLUTARALDEHYDE 50%

Safety Data Sheet

12.3. Bioaccumulative potential

Bioaccumulative potential : No data available on bioaccumulation.
Partition coefficient : No information available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information : The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods : Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID/IMDG/ICAO/ADN) : 2922

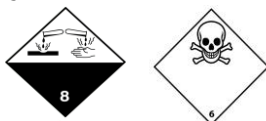
14.2. UN proper shipping name

Proper shipping name (ADR/RID/IMDG/ICAO/ADN) : CORROSIVE LIQUID, TOXIC, N.O.S.

14.3. Transport hazard class(es)

Class (ADR/RID/IMDG/ICAO/ADN) : 8
Subsidiary risk (ADR/RID/IMDG/ICAO/ADN) : 6.1
Classification code (ADR/RID) : CT1

Transport label :



14.4. Packing group

Packing group (ADR/RID/IMDG/ICAO/ADN) : II

14.5. Environmental hazards

No.

14.6. Special precautions for user

EmS : F-A, S-B
ADR transport category : 2
Emergency Action Code : 2X
Hazard Identification Number (ADR/RID) : 86
Tunnel restriction code : (E)

SECTION 15: Regulatory information

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

National regulations :

Health and Safety at Work etc. Act 1974 (as amended).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].
EH40/2005 Workplace exposure limits.

EU legislation :

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) (as amended).
Commission Regulation (EU) No 2015/830 of 28 May 2015.
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories :

EU - EINECS/ELINCS
None of the ingredients are listed or exempt.

GLUTARALDEHYDE 50%

Safety Data Sheet

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet

- : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
- ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
- RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA: International Air Transport Association.
- ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
- IMDG: International Maritime Dangerous Goods.
- CAS: Chemical Abstracts Service.
- ATE: Acute Toxicity Estimate.
- LC₅₀: Lethal Concentration to 50 % of a test population.
- LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
- EC₅₀: 50% of maximal Effective Concentration.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- vPvB: Very Persistent and Very Bioaccumulative.

Classification abbreviations and acronyms

- : Acute Tox. = Acute toxicity
- Resp. Sens. = Respiratory sensitisation
- Skin Corr. = Skin corrosion
- Skin Sens. = Skin sensitisation
- STOT SE = Specific target organ toxicity-single exposure
- Aquatic Acute = Hazardous to the aquatic environment (acute)
- Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Classification procedures according to Regulation (EC) 1272/2008

- : Acute Tox. 2 - H330: Acute Tox. 3 - H311: Acute Tox. 3 - H301: Skin Corr. 1B - H314: STOT SE 3 - H335: Resp. Sens. 1 - H334: Skin Sens. 1 - H317: : Calculation method. Aquatic Acute 1 - H400: Aquatic Chronic 2 - H411: : Calculation method.

Hazard statements in full

- : H301 Toxic if swallowed.
- H311 Toxic in contact with skin.
- 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.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.

Disclaimer:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text