1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name: Glutaraldehyde solution

Product Number: G7651
Brand: Sigma-Aldrich

Company: Sigma-Aldrich Israel Ltd.
3 PARK RABIN, PLAUT
76100 REHOVOT
ISRAEL

Telephone: +499728948
Fax: +499728948

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture according to Regulation (EC) No1272/2008
Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 3)
Skin corrosion (Category 1B)
Respiratory sensitization (Category 1)
Skin sensitization (Category 1)
Specific target organ toxicity - single exposure (Category 3)
Acute aquatic toxicity (Category 1)

Toxic by inhalation and if swallowed. Causes burns. May cause sensitization by inhalation and skin contact. Very toxic to aquatic organisms.

Label elements

Signal word: Danger

Hazard statement(s)
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.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.

Precautionary statement(s)
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove
contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Hazard symbol(s)
T Toxic
N Dangerous for the environment

R-phrase(s)
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.

S-phrase(s)
S23 Do not breathe vapour.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Glutaric dialdehyde solution
Glutaraldehyde
Pentane-1,5-dial

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<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Classification</th>
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For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Normal measures for preventive fire protection.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Eye protection
Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form liquid, clear
Colour colourless

Safety data
pH no data available
Melting point -21 °C
Boiling point 101 °C at 1.013 hPa
Flash point no data available
Ignition temperature no data available
Lower explosion limit no data available
Upper explosion limit no data available
Vapour pressure 20 hPa at 20 °C
Density 1,106 g/cm3
Water solubility soluble
Relative vapour density 3.46 - (Air = 1.0)

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
no data available

Materials to avoid
Strong acids, Strong bases, Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Skin corrosion/irritation no data available

Serious eye damage/eye irritation
Eyes: no data available

Respiratory or skin sensitization
May cause allergic respiratory reaction.
May cause allergic skin reaction.

Germ cell mutagenicity
no data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation  May be fatal if inhaled. Causes respiratory tract irritation.
Ingestion   Toxic if swallowed.
Skin        May be harmful if absorbed through skin. Causes skin irritation.
Eyes        Causes eye burns.

Additional Information
RTECS: no data available

12. ECOLOGICAL INFORMATION

Toxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

ADR/RID
UN-Number: 3390  Class: 6.1 (8)  Packing group: I
Proper shipping name: TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S.

IMDG
UN-Number: 3390  Class: 6.1 (8)  Packing group: I  EMS-No: F-A, S-B
Proper shipping name: TOXIC BY INHALATION LIQUID, CORROSIVE, N.O.S.
Marine pollutant: No

IATA
UN-Number: 3390  Class: 6.1 (8)
Proper shipping name: Toxic by inhalation liquid, corrosive, n.o.s.
IATA Passenger: Not permitted for transport
15. REGULATORY INFORMATION

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

16. OTHER INFORMATION

Text of H-code(s) and R-phrase(s) mentioned in Section 3

| Acute Tox. | Acute toxicity |
| Aquatic Acute | Acute aquatic toxicity |
| Flam. Liq. | Flammable liquids |
| H225 | Highly flammable liquid and vapour. |
| 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. |
| H331 | Toxic if inhaled. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H370 | Causes damage to organs. |
| H400 | Very toxic to aquatic life. |
| Resp. Sens. | Respiratory sensitization |
| Skin Corr. | Skin corrosion |
| Skin Sens. | Skin sensitization |
| STOT SE | Specific target organ toxicity - single exposure |
| F | Highly flammable |
| N | Dangerous for the environment |
| R11 | Highly flammable. |
| R23/24/25 | Toxic by inhalation, in contact with skin and if swallowed. |
| R23/25 | Toxic by inhalation and if swallowed. |
| R34 | Causes burns. |
| R39/23/24/25 | Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. |
| R42/43 | May cause sensitization by inhalation and skin contact. |
| R50 | Very toxic to aquatic organisms. |
| T | Toxic |

Further information

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