

SAFETY DATA SHEET

Version 6.9 Revision Date 08/07/2024 Print Date 08/08/2024

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

1.1 Product identifiers

Product name : Glutaraldehyde solution

Product Number : G6403

Brand : Sigma-Aldrich

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

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption

(40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by

MilliporeSigma.

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.

3050 SPRUCE ST ST. LOUIS MO 63103 UNITED STATES

Telephone : +1 314 771-5765 Fax : +1 800 325-5052

1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-

527-3887 CHEMTREC (International) 24

Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302 Acute toxicity, Inhalation (Category 3), H331 Skin corrosion (Category 1B), H314 Serious eye damage (Category 1), H318 Respiratory sensitization (Category 1), H334

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Skin sensitization (Category 1), H317

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335 Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram			
Signal Word	Danger		
Hazard Statements			
H302	Harmful 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.		
H411	Toxic to aquatic life with long lasting effects.		
Precautionary Statements			
P261	Avoid breathing mist or vapors.		
P264	Wash skin thoroughly after handling.		
P270	Do not eat, drink or smoke when using this product.		
P271	Use only outdoors or in a well-ventilated area.		
P272	Contaminated work clothing must not be allowed out of the		
	workplace.		
P273	Avoid release to the environment.		
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.		
P285	In case of inadequate ventilation wear respiratory protection.		
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.		
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.		
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.		
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.		
P305 + P351 + P338 +	IF IN EYES: Rinse cautiously with water for several minutes.		
P310	Remove contact lenses, if present and easy to do. Continue		
	rinsing. Immediately call a POISON CENTER/ doctor.		
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.		
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER/		
D262	doctor.		
P363	Wash contaminated clothing before reuse.		
P391	Collect spillage.		
P403 + P233 P405	Store in a well-ventilated place. Keep container tightly closed. Store locked up.		
1 703	Store locked up.		

Dispose of contents/ container to an approved waste disposal

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P501



2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Synonyms : Glutaric dialdehyde solution

Gluteraldehyde Pentane-1,5-dial

Formula : $C_5H_8O_2$

Molecular weight : 100.12 g/mol

Component		Classification	Concentration
Glutaraldehyde			
CAS-No. EC-No. Index-No.	111-30-8 203-856-5 605-022-00-X	Flam. Liq. 4; Acute Tox. 3; Acute Tox. 2; Skin Corr. 1B; Eye Dam. 1; Resp. Sens. 1; Skin Sens. 1A; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 2; H227, H301, H330, H314, H318, H334, H317, H335, H400, H411 Concentration limits: >= 0.5 %: STOT SE 3, H335; M-Factor - Aquatic Acute: 1	>= 50 - < 70 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

No data available

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

No data available Sigma-Aldrich - G6403

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5.2 Special hazards arising from the substance or mixture

Carbon oxides Combustible.

5.3 Advice for firefighters

No data available

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For personal protection see section 8.

6.2 Environmental precautions

No data available

6.3 Methods and materials for containment and cleaning up

No data available

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

No data available

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

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Component	CAS-No.	Value	Control parameters	Basis
Glutaraldehyde	111-30-8	С	0.2 ppm 0.8 mg/m3	USA. NIOSH Recommended Exposure Limits
		С	0.05 ppm 0.2 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		С	0.05 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Dermal Sensitization Respiratory sensitization Not classifiable as a human carcinogen		

8.2 Exposure controls

Personal protective equipment

Skin 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.

Full contact

Material: Nature latex/chloroprene Minimum layer thickness: 0.6 mm Break through time: 480 min

Material tested:Lapren® (KCL 706 / Aldrich Z677558, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 120 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail

sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Control of environmental exposure

Prevent product from entering drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance Form: liquid, clear Color: colorless

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Millipore SigMa b) Odor
 c) Odor Threshold
 d) pH
 e) Melting point/freezing point
 No data available
 -21 °C (-6 °F)

f) Initial boiling point 101 °C 214 °F at 1,013 hPa and boiling range

g) Flash point ()No data available
 h) Evaporation rate No data available
 i) Flammability (solid, qas)

j) Upper/lower No data available flammability or explosive limits

k) Vapor pressure 20 hPa at 20 °C (68 °F)

I) Vapor density 3.46 - (Air = 1.0)m) Density 1.106 g/cm3

Relative density No data available

n) Water solubility soluble

o) Partition coefficient: No data available n-octanol/water

p) Autoignition No data available temperature

q) Decomposition No data available temperature

r) Viscosity No data available

s) Explosive properties Not classified as explosive.

t) Oxidizing properties none

9.2 Other safety information

Relative vapor 3.46 - (Air = 1.0) density

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No data available

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10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong acids, Strong bases, Strong oxidizing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Acute toxicity estimate Oral - 400 mg/kg (Calculation method)

Inhalation: No data available

Acute toxicity estimate Inhalation - 4 h - 0.56 mg/l - dust/mist(Calculation method)

Dermal: No data available

No data available

Skin corrosion/irritation

Remarks: Causes skin burns. Remarks: Mixture causes burns.

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

Reproductive toxicity

No toxicity to reproduction

Specific target organ toxicity - single exposure

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AilliPORE

Remarks: No data available

Mixture may cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Liver - Irregularities - Based on Human Evidence

Components

Glutaraldehyde

Acute toxicity

LD50 Oral - Rat - male and female - 200 mg/kg

(US-EPA)

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger

of perforation of the esophagus and the stomach.

LC50 Inhalation - Rat - male and female - 4 h - 0.28 mg/l - dust/mist

(OECD Test Guideline 403)

LD50 Dermal - Rabbit - male and female - > 1,000 mg/kg

(US-EPA)

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Corrosive - 4 h (OECD Test Guideline 404) Remarks: (50% solution)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irreversible effects on the eye

(Draize Test)

Remarks: (50% solution)

Remarks: Causes serious eye damage.

Respiratory or skin sensitization

May cause allergic respiratory and skin reactions Chronic exposure may cause dermatitis. largely based on human evidence

Germ cell mutagenicity

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster lung cells

Result: positive

Remarks: (50% solution)

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Method: OECD Test Guideline 486 Species: Rat - male - Liver cells

Result: negative

Remarks: (50% solution)

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation. - Respiratory system

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information

12.1 Toxicity

Mixture

No data available

12.2 Persistence and degradability

Biodegradability Result: 83 % - Readily biodegradable.

(OECD Test Guideline 301A)

Result: 73 % - Readily biodegradable.

(OECD Test Guideline 306)

12.3 Bioaccumulative potential

No bioaccumulation is to be expected (log Pow \leq 4).

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

Components

Glutaraldehyde

Toxicity to fish static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0.8

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mg/l - 96 h (US-EPA)

Toxicity to algae static test ErC50 - Desmodesmus subspicatus (green algae) -

0.6 mg/l - 72 h

(OECD Test Guideline 201)

Toxicity to bacteria

SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information

DOT (US)

UN number: 2922 Class: 8 (6.1) Packing group: II

Proper shipping name: Corrosive liquids, toxic, n.o.s. (Glutaraldehyde)

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG

UN number: 2922 Class: 8 (6.1) Packing group: II EMS-No: F-A, S-B

Proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (Glutaraldehyde)

Marine pollutant : yes

IATA

UN number: 2922 Class: 8 (6.1) Packing group: II

Proper shipping name: Corrosive liquid, toxic, n.o.s. (Glutaraldehyde)

SECTION 15: Regulatory information

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 : Acute Health Hazard Hazards : Chronic Health Hazard

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SARA 313 : This material does not contain any chemical

components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by

SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

water 7732-18-5 Glutaraldehyde 111-30-8

Pennsylvania Right To Know

Glutaraldehyde 111-30-8

Maine Chemicals of High Concern

water 7732-18-5

Vermont Chemicals of High Concern

water 7732-18-5

Washington Chemicals of High Concern

water 7732-18-5

The ingredients of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16: Other information

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

Version: 6.9 Revision Date: 08/07/2024 Print Date: 08/08/2024

