

SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

Material Safety Data Sheet

Date Effective: March 19, 2013

02608-BA, 02612-AA, 02612-AB
Glutaraldehyde, Aqueous Solution, 50%

Section 1: Identification

Chemical Name/Synonyms.....Glutaraldehyde; 1,5-Pentanedial; Glutaral; Glutaric Dialdehyde

Chemical family.....Aldehydes

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-527-3887

Worldwide FAX: 1-(703)-741-6090

Toll-free phone: 1-(800)-424-9300 USA only

Product or Trade Name.....SPI #02608-BA, 02612-AA, 02612-AB Glutaraldehyde, Aqueous Solution, 50%

CAS #'s.....111-30-8
7732-18-5

Chemical Formula.....C₅H₈O₂

Hazardous Material Information System USA

Health.....3

Fire Hazard.....0

Reactivity.....1

Personal Protection.....

NFPA Rating (estimated)

Health.....3

Flammability.....0

Reactivity.....1

GHS Classification(s):

Acute Oral toxicity: Category 4

Acute Inhalation toxicity: Category 2

Skin irritation: Category 2

Serious eye damage: Category 1

Respiratory sensitization: Category 1

Skin sensitization: Category 1

Acute aquatic toxicity: Category 1

GHS Hazard Symbol(s)



Signal Word: Danger

Hazard Statement(s):

H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H400 Very toxic to aquatic life.

Hazard Symbol(s)

[C] corrosive
[N] dangerous for environment
[T] toxic
[Xn] harmful

Precautionary Statement(s):

P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P284 Wear respiratory protection.
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 or doctor/ physician.

Risk Phrase(s):

R23/25 Toxic by inhalation and if swallowed. [T]
R37/38 Irritating to respiratory system and skin. [Xn]
R41 Risk of serious damage to eyes. [C]
R42 May cause sensitization by inhalation. [C]
R50 Very toxic to aquatic organisms. [N]

Safety Phrase(s):

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.

WGK CAS# 111-30-8:3

Section 2: Composition

Component	CAS#	EC#	Percent
Glutaraldehyde	111-30-8	203-856-5	50
Water	7732-18-5	231-791-2	50

Section 3: Hazard Identification**Emergency overview**

Appearance: Clear, colorless liquid.

Flash Point: None, Tag Closed Cup (ASTM D56)

Warning! Causes burns of eye, skin, digestive tract, respiratory tract. May cause sensitization. Harmful if swallowed, inhaled, or absorbed through skin. Aspiration hazard if swallowed - can enter lungs and cause damage.

Target Organs: Central nervous system, lungs, respiratory system, eyes, skin

Potential Health Effects Eye: Liquid will cause severe and persistent conjunctivitis, including excess redness and swelling of the conjunctiva with profuse discharge. May develop severe corneal injury; permanent impairment of vision possible. Vapor will cause stinging sensations with excess tear production, blinking and redness of the conjunctiva. Seek medical attention immediately.

Skin: May cause skin sensitization May cause hives. Brief contact will cause itching with mild to moderate local redness and possible swelling. Prolonged contact may result in pain, severe redness and swelling, with ulceration, tissue destruction and possible bleeding into inflamed area. Contact with glutaraldehyde solutions may result in a harmless yellow or brownish discoloration of the skin.

Ingestion: Moderately toxic. May cause moderate to marked irritation and chemical burns of the mouth, throat, esophagus and stomach. May cause discomfort or pain in the chest and abdomen, nausea, vomiting, diarrhea, dizziness, faintness, drowsiness, thirst. Advanced cases may cause weakness, circulatory shock, collapse, coma, or death due to respiratory failure.

Aspiration hazard: May cause damage to the lungs.

Inhalation: Harmful if inhaled. Causes chemical burns to the respiratory tract. May cause bleeding from the nose, coughing, chest discomfort and tightness, difficulty breathing, and headache. May cause asthma and shortness of breath.

Chronic: Effects may be delayed. May aggravate an existing dermatitis. May cause skin sensitization and allergic reaction.

Section 4: First Aid Measures

Eyes: Immediately flush eyes with copious amounts of water for at least 15 minutes, lifting the upper and lower eyelids. Seek immediate medical attention - ophthalmologist recommended.

Skin: Immediately flush skin with copious amounts of water for at least 15 minutes. Seek medical attention immediately. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion: DO NOT INDUCE VOMITING. Urgently seek immediate medical attention. Do NOT give anything to drink. Call a poison control center. Oral toxicity of Glutaraldehyde increases with dilution - drinking water can enhance the toxicity.

Inhalation: Seek medical attention immediately. Remove to fresh air. If breathing is difficult, administer oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration by use of oxygen and suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

Section 5: Fire Fighting Measures

General Information: Flash Point: None, Tag Closed Cup (ASTM D56).

Flammable limits: Not determined (aqueous system).

Extinguishing Media: Non-flammable. After the water evaporates, the remaining material will burn. Use alcohol-type or all-purpose-type foam applied by manufacturer's recommended technique for large fires. Use CO² or dry chemical media for small fires. Use self-contained breathing apparatus and protective clothing.

Section 6: Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions listed in the Protective Equipment section. Absorb spill using absorbent, non-combustible material such as sand, earth, or vermiculite. Provide ventilation.

Section 7: Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin or clothing. Use only with adequate ventilation. Avoid breathing vapor.

Storage: Keep container tightly closed when not in use. Store in cool, dry, well-ventilated area away from incompatible substances. Refrigeration recommended.

Section 8: Exposure Controls and Personal Protection

Engineering Controls: Use local exhaust ventilation or other engineering controls to maintain airborne levels below recommended exposure limits. An eyewash facility and a safety shower should be readily available.

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Glutaraldehyde	0.05 ppm	Ceiling none listed	none listed
Water	none listed	none listed	none listed

OSHA Vacated PELs: None listed

Personal Protective Equipment Eyes: Wear chemical splash goggles and face shield.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or there symptoms are experienced.

Section 9: Physical and Chemical Properties

Physical State: Liquid

Appearance: Clear, colorless

Odor: Sharp odor

pH: n/a

Vapor Pressure: 15 mm Hg @ 20°C

Vapor Density: 1.05 (air=1)

Evaporation Rate: 0.93 (Butyl acetate =1)

Viscosity: n/a

Boiling Point: 101 °C

Freezing/Melting Point: -21 °C

Autoignition Temperature: n/a

Flash Point: none

Decomposition Temperature: n/a

Explosion

Limits Lower: n/a

Upper: n/a

Solubility in water: soluble

Specific Gravity/Density: 1.131 g/ml

Molecular Formula: C₅H₈O₂

Molecular Weight: 100.5

Section 10: Stability and Reactivity

Chemical Stability: Stable

Conditions to Avoid: High Temperatures

Incompatibility with Other Materials: Strong oxidizing agents, contamination with acids or bases

Hazardous Decomposition of Products: carbon monoxide or carbon dioxide

Hazardous Polymerization: Non-hazardous polymerization may occur. Avoid initiators, accelerators, heat, pressure, and contamination.

Section 11: Toxicological Information

RTECS#:

111-30-8: MA2450000

7732-18-5: ZC0110000

LD50/LC50 Information:

CAS # 111-30-8

Draize test, rabbit, eye: 1 mg Severe
Draize test, rabbit, eye: 250ug/24H Severe
Inhalation, rat: LC50=480 mg/m3/4h
Oral, mouse: LD50= 100 mg/kg
Oral, rat: LD50=2231 mg/kg

Carcinogenicity: CAS# 111-30-8 is not listed by ACGIH, IARC, NTP, OR CA Prop 65. CAS# 7732-18-5 is not listed by ACGIH, IARC, NTP OR CA Prop 65

Teratogenicity: See RTECS entry for complete information

Reproductive Effects: n/a

Neurotoxicity: n/a

Mutagenicity: n/a

Other Studies: n/a

Section 12: Ecological Information

N/A

Section 13: Disposal Considerations

Dispose of in accordance with all federal, state and local regulations.

RCRA P-Series: none listed

RCRA U-Series: none listed

Section 14: Transport Information

DOT

Proper DOT Shipping Name: Corrosive Liquid, acidic, organic, N.O.S. (contains glutaraldehyde)

UN Number: 3265

Hazard Class: 8

Packaging Group: II



TDG, IATA, IMDG/IMO

Proper Shipping Name: Corrosive Liquid, acidic, organic, N.O.S. (glutaral)

UN Number: 3265

Hazard Class: 8

Packaging Group: II

Section 15: Regulatory Information

United States:

TSCA

CAS# 111-30-8 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

Health & Safety Reporting List

None of the chemicals in this product is on the Health & Safety Reporting list.

Chemical Test Rules None of the chemicals in this product is under a Chemical Test Rule. **Section 12b:**

None of the chemicals in this product is listed under TSCA Section 12b.

TSCA Significant New Use Rule: None of the chemicals in this product has a SNUR under TSCA.

CERCLA Hazardous Substances: None of the chemicals in this product has an RQ.

SARA Section 302 (TPQ): None of the chemicals in this product has a TPQ.

SARA Codes

CAS# 111-30-8: Immediate

Section 313: None of the chemicals in this product is reportable under Section 313.

Clean Air Act: This product does not contain any hazardous air pollutants, any Class 1 Ozone depleters, or and Class 2 Ozone depleters.

Clean Water Act: None of the chemicals in this product is listed as a Hazardous Substance, as a Priority Pollutant, or as a Toxic

Pollutant under the CWA.

OSHA: None of the chemicals in this product is considered highly hazardous by OSHA.

State (Individual states in the USA): CAS# 111-30-8 can be found on the California, Massachusetts, Minnesota, New Jersey, and Pennsylvania right to know list. CAS# 7732-18-5 is not present on any state list.

California Prop. 65: California No Significant Risk Level: None of the chemicals in this product is listed.

Canada DSL/NDSL:

Cas# 111-30-8 is listed on Canada's DSL List.

CAS# 7732-18-5 is listed on Canada's DSL List.

Canada WHMIS: This product has a WHMIS Classification of D1B, E, D2A, D2B

Canadian Ingredient Disclosure List: CAS# 111-30-8 is listed on the Canadian Ingredient Disclosure List.

Section 16: Other Information

Disclaimer of Liability:

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues of fluids.

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