

SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: May 31, 2018

SPI Catalog # 02591-AB
SPI-Chem™ Karnovsky's Fixative
Glutaraldehyde Component

Section 1.1: Identification

Chemical Name/Synonyms Glutaraldehyde

Product or Trade Name: SPI-Chem™ Karnovsky's Fixative – 50% Glutaraldehyde Solution

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

Chemical Formula..... Mixture

Section 1.2: Relevant Uses/Restrictions

Component of Karnovsky's Fixative.

Section 1.3: Supplier of the Safety Data Sheet

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Section 1.4: Emergency telephone number

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-741-5970

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

Section 2: Hazard Identification

2.1 Classification of the substance

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

Acute toxicity, Oral (3)

Acute toxicity, Inhalation (2)

Acute toxicity, Dermal (5)

Skin irritation (2)

Serious eye damage (1)
Respiratory sensitization (1)
Skin sensitization (1)
Acute aquatic toxicity (1)

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

2.2 Label elements

Pictogram



Signal Word: Danger

Hazard Statements:

H301 Toxic if swallowed
H314 Causes severe skin burns and eye damage.
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

Precautionary statements:

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
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P361 Remove/Take off immediately all contaminated clothing.
P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 + P310 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

2.3 Other Hazards: None known.

Hazardous Material Information System USA

Health 3
Fire Hazard 1
Reactivity 0
Personal Protection

NFPA Rating (estimated)

Health 3
Flammability..... 1
Reactivity 0

Section 3: Composition

3.1 Substances: Mixture

3.2 Mixtures:

Component Name	CAS #	Percent	EINECS/ELINCS
Glutaraldehyde	111-30-8	50%	203-856-5
Water	7732-18-5	>49%	231-791-2

Section 4: First Aid Measures

4.1 Description of 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.

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

No further relevant information available.

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

Notes to Physician: Treat symptomatically and supportively.

Section 5: Fire Fighting Measures

5.1 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.

General Information:

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

Flammable limits: Not determined (aqueous system).

5.2 Advice for firefighters: Use self-contained breathing apparatus and protective clothing.

Section 6: Accidental Release Measures

6.1 Personal precautions:

General Information: Use proper personal protective equipment as indicated in Section 8. Clean up spills immediately, observing precautions listed in the Protective Equipment section.

6.2 Environmental precautions:

Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways.

6.3 Methods and material for containment and cleaning up:

Absorb spill using absorbent, non-combustible material such as sand, earth, or vermiculite. Provide ventilation.

Section 7: Handling and Storage

7.1 Precautions for safe handling:

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.

7.2 Conditions for safe storage, including any incompatibilities:

Store at 4 °C.

Keep container tightly closed when not in use.

Store in cool, dry, well-ventilated area away from incompatible substances.

Refrigeration recommended.

7.3 Specific end uses:

Component of Karnovsky's Fixative.

This material is not being offered for clinical or diagnostic applications, agricultural uses or for human or animal consumption.

Section 8: Exposure Controls and Personal Protection

8.1 Control parameter and Personal Protection:

Workplace exposure limits:

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Glutaraldehyde	0.05 ppm Ceiling	none listed	0.2 ppm
Water	none listed	none listed	none listed
OSHA Vacated PELs:			
None listed			

Biological limit values: No data available.

8.2 Exposure controls:

8.2.1 Appropriate 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.

8.2.2 Individual protection measures:

Eyes: Wear chemical splash goggles and face shield.

Skin: Wear chemical resistant gloves to prevent skin exposure. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water.

All glove recommendations presume that the risk of exposure is through splash, and NOT intentional immersion of the hands into the product.

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 if symptoms are experienced.

8.2.3 Environmental exposure controls: No further relevant information available.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

Appearance: Clear, colorless to slightly yellow

Odor: Sharp odor

pH: n/a

Vapor Pressure: 15 mm Hg (20 hPa) @ 20°C

Vapor Density: 1.1 (air=1)

Evaporation Rate: 0.93 (Butyl acetate =1)

Viscosity: n/a

Boiling Point: 101 °C (213 °F)

Freezing/Melting Point: -21 °C (-6 °F)

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: 1.129 g/ml

Molecular Formula: C₅H₈O₂

Molecular Weight: 100.5

9.2 Other information: No further relevant information available.

Section 10: Stability and Reactivity

10.1 Reactivity: No data available.

10.2 Chemical Stability: Stable.

10.3 Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4 Conditions to avoid: High heat and evaporation of water.

10.5 Incompatible materials: Strong alkalis; Strong acids.

10.6 Hazardous decomposition products: No data available.

Section 11: Toxicological Information

Information on the likely routes of exposure:

RTECS#:

111-30-8: MA2450000

7732-18-5: ZC0110000

11.1 Information on toxicological effects:

A. Acute toxicity:

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

B. Skin corrosion/irritation:

Skin irritant – category 2.

C. Serious eye damage/irritation:

Serious eye damage – category 1.

D. Respiratory or skin sensitization:

Respiratory sensitizer – category 1.

Skin sensitizer – category 1.

Subchronic data: Intradermal injection of 0.1% glutaraldehyde solution and topical administration of a 5% solution in guinea pig maximization test showed evidence of delayed contact sensitivity in 68% of test animals.

E. Germ cell mutagenicity: No data available.

F. 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

G. Reproductive toxicity: No data available.

H. STOT-single exposure: No data available.

I.. STOT-repeated exposure: No data available.

J. Aspiration hazard: No data available.

Section 12: Ecological Information

12.1 Toxicity: Very toxic to aquatic life.

12.2 Persistence and degradability: No further information available.

12.3 Bio-accumulative potential: No further information available.

12.4 Mobility in soil: No further information available.

12.5 Results of PBT and vPvB assessment: No further information available.

12.6 Other adverse effects: No further information available.

Section 13: Disposal Considerations

13.1 Waste treatment methods:

Use a licensed, professional waste disposal service. 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

US DOT:

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

DOT Hazard Class: 8 (Corrosive)

Packing Group: II

UN ID Number: UN 3265

IATA (for international shipments)

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

DOT Hazard Class: 8 (Corrosive)

Packing Group: II

UN ID Number: UN 3265

Section 15: Regulatory Information

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

U.S. Government Regulations:

United States:

TSCA

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

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

TSCA Health & Safety Reporting List

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

TSCA Chemical Test Rules

None of the chemicals in this product is under a Chemical Test Rule.

TSCA 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 311/312 Hazards:

Acute Health Hazard, Chronic Health Hazard

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:

Respiratory sensitizer, Skin sensitizer, Target Organ Effect. Toxic by inhalation, Toxic by ingestion, Corrosive

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 present on the Pennsylvania and New Jersey right to know list.

California Prop. 65:

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

WGK (Water Danger/Protection):

CAS#111-30-8: 2

CAS#7732-18-5: n/a

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.

15.2 Chemical Safety Assessment: Has not been carried out.

Date of Preparation: 31 May 2018.

Abbreviations and acronyms

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

CMRG: Chemical Manufacturer's Recommended Guidelines

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent
PBT: Persistent, Bio-accumulative and Toxicological
vPvB: very Persistent and very Bio-accumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety Health
ATE: Acute Toxicity Estimates
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
STEL: Short Term Exposure Limit
CEIL: Ceiling

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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