

## SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

## Safety Data Sheet

Date Effective: June 5, 2018

SPI Catalog # 02591-AB

SPI-Chem™ Karnovsky's Fixative Kit

16% Formaldehyde Component

### Section 1.1: Identification

Chemical Name/Synonyms ..... Formaldehyde

Product or Trade Name ..... SPI-Chem™ Karnovsky's Fixative Kit – 16% Formaldehyde Component

CAS #'s ..... 50-00-0; 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)

Carcinogen (category 2)

Serious Eye Damage (category 1C)  
Skin Irritant (category 2)  
Eye Irritation (category 2B)  
Acute Inhalation (category 4)  
Acute Oral Toxicity (category 4)

## 2.2 Label elements

### Pictogram



**Signal Word: DANGER**

### Hazard statements:

H302 + H312 Harmful if swallowed, or in contact with skin, or if inhaled.  
H318 Causes serious eye damage.  
H351 Suspected of causing cancer.

### Precautionary statements:

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P285 In case of inadequate ventilation 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 IF IN EYES: Rinse cautiously with water for several minutes, separating eyelids with fingertips. Remove contact lenses if present and easy to do. Continue rinsing.  
P315 Get immediate medical advice/attention.  
P501 Dispose of contents/ container in accordance with local, regional, national and/or international regulations.

**Unknown percentage statements (if needed):**

**2.3 Other Hazards:** No further data available.

### Hazardous Material Information System USA (estimated)

Health ..... 3  
Fire Hazard ..... 0  
Reactivity ..... 0  
Personal Protection .....

### NFPA Rating (estimated)

Health ..... 2  
Flammability..... 0  
Reactivity ..... 0

## **Section 3: Composition**

### 3.1 Substances:

<b>Component</b>	<b>CAS #</b>	<b>EINECS</b>	<b>Percentage</b>
Formaldehyde	50-00-0	200-001-8	11-20
Water	7732-18-5	231-791-2	81-90

## **Section 4: First Aid Measures**

### **4.1 Description of first aid measures:**

#### **General Advice**

Contact medical personnel immediately

#### **Inhalation**

Remove to fresh air.  
If breathing is difficult, contact emergency personnel.

#### **Skin Contact**

Wash skin with deluge of water for at least 15 minutes  
Remove contaminated clothing.

#### **Eye Contact**

Flush eyes with flowing water for at least 15 minutes.  
Separate eyelids with finger tips.

#### **Ingestion**

DO NOT INDUCE VOMITING.  
Never give anything by mouth to an unconscious person.  
Rinse mouth with water.  
Consult a physician.

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

The most important symptoms and effects are listed in labelling (Section 2.2) or Section 11.

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

No further relevant information available.

## **Section 5: Fire Fighting Measures**

Flash Point: 144 °F (Closed Cup)

Autoignition temperature: 572 °F

Flammability Limits:

Upper: 7  
Lower: 73

### **5.1 Extinguishing media:**

Water spray, Alcohol resistant foam, Dry chemical, Carbon dioxide

**Unsuitable extinguishing media:** DO NOT USE Water Jet.

### **5.2 Special hazards arising from the substance or mixture:**

No data available.

**5.3 Hazardous combustion products:**

No data available.

**5.4 Advice for firefighters:**

Use water spray to cool unopened containers.

**5.5 Special protective equipment and precautions for firefighters:**

Use self-contained breathing apparatus if necessary.

**Section 6: Accidental Release Measures**

**6.1 Personal precautions:**

Protect personnel from exposure.

Ventilate the area.

Remove ignition sources.

Wear protective gloves/protective clothing/eye protection/face protection.

**6.2 Environmental precautions:**

No further relevant information available.

**6.3 Methods and material for containment and cleaning up:**

Contain spilled liquids.

Absorb liquids on absorbent material.

**6.4 Reference to other sections:**

See Section 13 for disposal information.

**Section 7: Handling and Storage**

**7.1 Precautions for safe handling:**

No special handling advice is required.

**7.2 Conditions for safe storage, including any incompatibilities:**

Store at room temperature.

Keep in properly labeled containers.

**7.3 Specific end uses:**

Component for 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:**

ACGIH TLV: 0.30000 ppm

NIOSH TWA: 0.016000 ppm

OSHA PEL: 0.750000 ppm

OSHA STEL: 2.000000 ppm

**Biological limit values:** No additional information available.

**8.2 Exposure controls:**

**8.2.1 Appropriate engineering controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls.

**8.2.2 Individual protection measures:**

Use chemical splash goggles and face shield.

Use chemical resistant gloves – latex or equivalent .material must be impermeable and resistant to the product. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediate 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.

Use lightweight protective clothing for skin and body protection.

**8.2.3 Environmental exposure controls:**

No special environmental precautions required.

## **Section 9: Physical and Chemical Properties**

**9.1 Information on basic physical and chemical properties:**

**Appearance:** clear, colorless liquid

**Odor:** pungent

**Odor threshold:** No information available

**pH:** 2.8 for a 31% solution

**Melting point/Freezing point:** 5 °F

**Boiling point/Boiling point range:** >93 °C (>200 °F)

**Flash Point:** 144 °F

**Evaporation rate:** No data available

**Flammability (solid, gas):** No data available

**Upper/lower flammability or explosive limits:**

Upper: 7

Lower: 73

**Vapor Pressure:** 1.3 @ 20 °C

**Vapor density:** 1.04

**Specific gravity:** 1.02

**Solubility:** Completely

**Partition coefficient (n-octanol/water):** No information available

**Auto-ignition temperature:** 572 °F

**Decomposition temperature:** No data available

**Viscosity:** No data available

**Explosive properties:** No data available

**Oxidizing Properties:** No data available

**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 under normal conditions of use.

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

**10.4 Conditions to avoid:** Heat, flames, ignition sources.

**10.5 Incompatible materials:** Oxidizing agents, alkalis, nitrogen dioxide, perchloric acid, nitromethane, hydrochloric acid.

**10.6 Hazardous decomposition products:** No data available

## **Section 11: Toxicological Information**

**Information on the likely routes of exposure:**

**11.1 Information on toxicological effects:**

**A. Acute toxicity:**

Formaldehyde:

LD50	Oral, Rat	100 mg/kg
LD50	Skin, Rabbit	270 uL/kg
LC50	Inhalation, Rat	203 mg/m <sup>3</sup>
Irritation data:	Eye, Rabbit	750 ug: severe
Investigated as a tumorigen, mutagen, and reproductive effector		

**B. Skin corrosion/irritation:** Irritating to skin.

**C. Serious eye damage/irritation:** Risk of serious damage to eyes.

**D. Respiratory or skin sensitization:** May cause an allergic skin reaction.

**E. Germ cell mutagenicity:** May cause heritable genetic damage.

**F. Carcinogenicity:** May cause cancer.

OSHA: Specifically regulated carcinogen.

NIOSH: Potential occupational carcinogen.

EPA: Carcinogen category B1.

Calif. Prop. 65: Chemical known to cause cancer.

**G. Reproductive toxicity:** None.

**H. STOT-single exposure:** No information available.

**I. STOT-repeated exposure:** No information available.

**J. Aspiration hazard:** No information available.

## **Section 12: Ecological Information**

### **12.1 Toxicity:**

LC50/96h                      fish      Between 10 and 100 mg/L

**12.2 Persistence and degradability:** Readily bio-degradable in water.

**12.3 Bio-accumulative potential:** Not expected to evaporate. Not expected to significantly bio-accumulate; will readily degrade by reaction with water.

**12.4 Mobility in soil:** Formaldehyde is expected to leach into groundwater.

**12.5 Results of PBT and vPvB assessment:** No data available.

**12.6 Other adverse effects:** No additional information available.

## **Section 13: Disposal Considerations**

### **13.1 Waste treatment methods:**

Must not be disposed of together with household garbage.

Do not allow to reach sewage system.

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

CAS# 50-00-0: Waste Code: U122

## **Section 14: Transport Information**

**Proper Shipping Name:** NOT REGULATED

## **Section 15: Regulatory Information**

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

### **U.S. Government Regulations:**

#### **TSCA:**

All components of this product are on the TSCA public inventory.

#### **SARA Title III Section 313 Chemicals:**

CAS # 50-00-0, Formaldehyde, has a de minimis concentration of 0.1%.

#### **SARA Title III Section 355 Extremely Hazardous Substances and TPQs:**

CAS # 50-00-0, Formaldehyde, has TPQ of 500 pounds and an EHS-RQ of 100 pounds.

#### **CERCLA Hazardous Substances Releases:**

CAS # 50-00-0, Formaldehyde, has a CERCLA RQ of 100 pounds. Any release in an amount equal to or greater than 100 pounds in any 24 hour period must be reported to the National Response Center at (800)-424-8802.

### **US State Regulations:**

#### **California Prop. 65:**

CAS # 50-00-0, Formaldehyde, is known by the State of California to cause cancer.

#### **Right-to-Know Lists:**

CAS # 50-00-0, Formaldehyde, is on the Massachusetts, New Jersey, and Pennsylvania State Right-to-Know Lists.

## **Canada:**

### **WHMIS Hazard Class:**

D1B – Toxic materials

D2A – Very toxic materials

**15.2 Chemical Safety Assessment:** Has not been carried out.

Date of Preparation: June 05, 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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