

## SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

## Safety Data Sheet

Date Effective: February 6, 2019

SPI Catalog # 04976-AB

Thinner for SafeShip™ Nonflammable Silver  
Conductive Paint

### Section 1.1: Identification

Chemical Name/Synonyms ..... Thinner for SafeShip™ Nonflammable Silver Conductive Paint.

Product or Trade Name ..... Thinner for SafeShip™ Nonflammable Silver Conductive Paint.

CAS #'s ..... 7732-18-5; 111-76-2; 1336-21-6

Chemical Formula ..... Mixture

### Section 1.2: Relevant Uses/Restrictions

Thinner for SafeShip™ Nonflammable Silver Conductive Paint.

### 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 (Category 4)

Acute toxicity, Inhalation (Category 4)

Eye irritation (Category 2a)

Skin irritation (Category 2)

## 2.2 Label elements

### Pictogram



**Signal Word:** Warning

### Hazard statements:

H302 Harmful if swallowed  
H332 May be harmful if inhaled  
H313 May be harmful in contact with skin  
H320 Causes eye irritation  
H315 Causes skin irritation

### Precautionary statements:

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

## 2.3 Other Hazards:

### Hazardous Material Information System USA (estimated)

Health ..... 1  
Fire Hazard ..... 0  
Reactivity ..... 0  
Personal Protection .....

### NFPA Rating (estimated)

Health ..... 1  
Flammability ..... 0  
Reactivity ..... 0

## **Section 3: Composition**

**3.1 Substances:** Product is a mixture.

### 3.2 Mixtures:

Component Name	CAS #	Percent	EINECS/ELINCS
Water	7732-18-5	90-95	231-971-2
Butyl Cellosolve	111-76-2	5-10	203-905-0
Ammonium Hydroxide	1336-21-6	<1	215-647-6

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

**4.1 Description of first aid measures:**

**Eyes:** In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes. Seek medical attention immediately.

**Skin:** In case of contact, wash with soap and flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Seek medical attention if irritation develops and persists.

**Ingestion:** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.

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

See Section 2.1 for information on symptoms and effects.

**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:**

Use extinguishing media most appropriate for the surrounding fire.

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

No information available.

**5.3 Hazardous combustion products:**

No information available.

**5.4 Advice for firefighters:**

As in any fire, prevent human exposure to fire, smoke, fumes, or products of combustion. Evacuate non-essential personnel from the fire area.

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

Wear protective equipment appropriate for the surrounding fire.

Fire fighters should wear full-face, self-contained breathing apparatus in pressure demand, MSHA/NIOSH approved or equivalent and impervious protective clothing.

## **Section 6: Accidental Release Measures**

**6.1 Personal precautions:**

Use proper protective equipment:

**Eyes:** Wear chemical splash goggles.

**Skin:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**6.2 Environmental precautions:**

Avoid run-off into storm sewers and ditches which lead to waterways.

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

Provide ventilation.

Absorb spill with inert material such as vermiculite, sand or earth, and place in suitable container for disposal.

Clean up spills immediately.

Remove all sources of ignition; use a spark-proof tool.

**6.4 Reference to other sections:**

See Section 8 for personal protection information.

See Section 13 for disposal information.

## **Section 7: Handling and Storage**

**7.1 Precautions for safe handling:****Protective measures:**

Use adequate ventilation.

**Advice on general hygiene conditions:**

Wash thoroughly after handling.

Remove contaminated clothing and wash before reuse.

Avoid contact with eyes, skin, and clothing.

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

Keep away from sources of ignition.

Store in tightly closed container.

Store in cool, dry, well-ventilated area.

**7.3 Specific end uses:**

Thinner for SafeShip™ Nonflammable Silver Conductive Paint.

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
2-Butoxyethanol	20 ppm TWA	5 ppm TWA 24 mg/m <sup>3</sup> TWA 700 ppm IDHL	50 ppm TWA 240 mg/m <sup>3</sup> TWA
Ammonia	25 ppm TWA 35 ppm STEL	25 ppm TWA 18 mg/m <sup>3</sup> TWA 300 ppm IDHL	50 ppm TWA 35 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:**

2-Butoxyethanol: 25 ppm TWA; 120 mg/m<sup>3</sup> /TWA

**Biological limit values:** No data available.

## 8.2 Exposure controls:

### 8.2.1 Appropriate engineering controls:

Eyewash and safety shower should be readily available.

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### 8.2.2 Individual protection measures:

#### Personal Protective Equipment:

**Eyes:** Wear chemical splash goggles.

**Skin:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### 8.2.3 Environmental exposure controls:

Avoid run-off into drains, storm sewers and ditches which lead to waterways.

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

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

**Appearance:** colorless

**Odor:** mild ammonia-like

**pH:** n/a

**Vapor Pressure:** n/a

**Vapor Density:** n/a

**Evaporation Rate:** n/a

**Viscosity:** n/a

**Boiling Point:** n/a

**Freezing/Melting Point:** n/a

**Auto-ignition Temperature:** n/a

**Flash Point:** n/a

**Decomposition Temperature:** n/a

**Explosion Limits,**

**Lower:** n/a

**Upper:** n/a

**Solubility in water:** soluble

**Specific Gravity/Density:** ~1

**Molecular Formula:** n/a

**Molecular Weight:** n/a

### 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 storage conditions.

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

**10.4 Conditions to avoid:** Ignition sources, excess heat.

**10.5 Incompatible materials:** Strong oxidizing agents, strong bases.

**10.6 Hazardous decomposition products:** Carbon monoxide, carbon dioxide, irritating and toxic fumes and gases.

## **Section 11: Toxicological Information**

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

**RTECS#:**

CAS# 7732-18-5: ZC0110000

CAS# 111-76-2: KJ8575000

CAS# 1336-21-6: BQ9625000

**11.1 Information on toxicological effects:**

**A. Acute toxicity:**

**LD<sub>50</sub>/LC<sub>50</sub> Information:**

CAS #:	111-76-2	1336-21-6
Inhalation, mouse, LC50	700 ppm/7H	n/a
Inhalation, rat, LC50	450 ppm/4H	n/a
Inhalation, rat, LC50	2900 mg/m	
Draize test, rabbit, eye	100 mg Severe	250 µg Severe
Draize test, rabbit, eye	100 mg/24H Moderate	44 µg Severe
Mouse, LD50	1230 mg/kg (oral)	91 mg/kg (intravenous)
Oral, cat LD <sub>Lo</sub>	n/a	750 mg/kg
Oral, rabbit, LD50	300 mg/kg	n/a
Oral, rat, LD50	470 mg/kg	350 mg/kg

**B. Skin corrosion/irritation:**

CAS # 111-76-2: Open irritation test/ administration on skin/ rabbit/ 500 mg/ mild reaction.

**C. Serious eye damage/irritation:**

CAS # 111-76-2: Draize test / rabbit / eye: 100 mg / severe reaction

CAS # 1336-21-6: Draize test / rabbit / eye: 250 µg / severe reaction

**D. Respiratory or skin sensitization:**

No data available.

**E. Germ cell mutagenicity:**

No data available.

**F. 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.

ACGIH: CAS # 111-76-2 is listed as category A3 – Confirmed animal carcinogen.

NTP: No component 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 identified as a carcinogen or potential carcinogen by OSHA.

**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 Exotoxicity:**

CAS# 111-76-2 (Butyl cellosolve): LC50, goldfish, 1650 mg/L/96H  
LC50, Bluegill sunfish, 1490 mg/L/96H

CAS# 7664-41-4 (anhydrous NH<sub>3</sub>): LC50, Rainbow trout, 0.008 mg/L/24H  
LC50, Bluegill sunfish, 0.024-0.093 mg/L/48H

**12.2 Persistence and degradability:**

CAS # 111-76-2: Biodegradability: aerobic – Exposure time 28 d  
Result: 90.4% - Readily biodegradable (OECD Test Guideline 301B)  
Ratio BOD/ThBOD: 88%

**12.3 Bio-accumulative potential:**

CAS# 111-76-2: An estimated BCF value of 2.5 suggests that bio-concentration in aquatic organisms will be low.  
CAS# 1336-21-6: No information found.

**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 Other adverse effects:**

No further relevant information available.

## **Section 13: Disposal Considerations**

**13.1 Waste treatment methods:**

RCRA P-Series: None listed.  
RCRA U-Series: None listed.

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification. Consult a licensed profession to dispose of this material. Dissolve or mix with a combustible

solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

## **Section 14: Transport Information**

### **US DOT Hazard Class:** None

This substance is considered to be non-hazardous for transport.

### **IATA (for international shipments):** None

This substance is considered to be non-hazardous for air transport.

## **Section 15: Regulatory Information**

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

#### **United States:**

#### **TSCA**

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

CAS# 111-76-2 is listed on the TSCA Active Inventory List.

CAS# 1336-21-6 is listed on the TSCA Active Inventory List.

#### **Health & Safety Reporting List**

CAS# 111-76-2 is listed on the Health & Safety Reporting List. Effective 4-13-89, Sunset 6-30-98.

#### **Chemical Test Rules**

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

#### **Section 12b:**

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

#### **TSCA Significant New Use Rule:**

None of the chemicals in this product have a SNUR under TSCA.

#### **CERCLA Hazardous Substances and RQs:**

CAS# 1336-21-6: 1000 lb final RQ; 454 kg final RQ.

#### **SARA Section 302 (TPQ)**

None of the chemicals in this product have a TPQ.

#### **SARA Codes**

CAS# 111-76-2: Immediate, delayed, fire

CAS# 1336-21-6: Immediate, delayed

#### **Section 313**

This material contains 2-Butoxyethanol (<10%) (CAS# 111-76-2) which is subject to the reporting requirements of Section 313 of SARA Title III and 49 CFR Part 373.

#### **Clean Air Act:**

CAS# 111-76-2 (<10%) is listed as a hazardous air pollutant (HAP)

This product does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

#### **Clean Water Act:**

CAS# 1336-21-6 (< 1%) is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.



**OSHA:**

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

**State (Individual states in the USA)**

CAS# 111-76-2 can be found on the following state right to know lists: California, Massachusetts, Minnesota, New Jersey, Pennsylvania.

CAS# 1336-21-6 can be found on the following state right to know lists: California, Massachusetts, New Jersey, Pennsylvania.

**California Prop. 65: California No Significant Risk Level:**

None of the chemicals in this product are listed under California Prop 65

**WGK (Water Danger/Protection):**

CAS# 111-76-2:1

CAS# 1336-21-6: 2

**Canada**

CAS# 111-76-2 has a WHMIS classification of B3, D2B.

CAS# 111-76-2 is listed on the Canadian DSL.

CAS# 1336-21-6 is listed on the Canadian DSL.

**15.2 Chemical Safety Assessment:**

Date of Preparation: 06 February 2019

**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

TSCA: Toxic Substances Control Act (USA)

DSL: Domestic Substances List (Canada)

PICCS: Philippine Inventory of Chemicals and Chemical Substances

ENCS: Existing and New Chemical Substances (Japan)

AICS: Australian Inventory of Chemical Substances

## **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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