

## SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

## Safety Data Sheet

Date Effective: June 7, 2016

01400-AB, 01400-XM SPI ConductoBed™ Carbon  
Black Filled Conductive Epoxy Kit

Part A: Resin

### Section 1.1: Identification

Chemical Name/Synonyms ..... ConductoBed™ Carbon Black Filled Conductive Epoxy Resin

Product or Trade Name ..... ConductoBed™ Carbon Black Filled Conductive Epoxy Resin

CAS #'s ..... Mixture

Chemical Formula..... Mixture

### Section 1.2: Relevant Uses/Restrictions

Laboratory chemical for conductive mounting epoxy for use in SEM/EDS applications.

### 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)**

Skin Irritant (Category 2)

Eye Irritant (Category 2A)

Skin Sensitizer (Category 1)

## 2.2 Label elements

### Pictogram



Signal Word: Warning

### Hazard statements:

- H304: May be fatal if swallowed and enters airways
- H315: Causes skin irritation
- H317: May cause an allergic skin reaction
- H319: Causes serious eye irritation
- H411: Toxic to aquatic life with long lasting effects

### Precautionary statements:

- P273: Avoid release to the environment
- P270: Do not eat, drink or smoke when using this product
- P272: Contaminated work clothing must not be allowed out of the workplace
- P280: Wear eye protection, protective gloves
- P302 + P352: If on skin: Wash with plenty of soap and water
- P305 + P351 + P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P333 + P313: If skin irritation or rash occurs: Get medical advice / attention
- P337 + P313: If eye irritation persists: Get medical advice / attention.

### 2.3 Other Hazards:

No additional information available.

### Hazardous Material Information System USA

Health ..... 2  
Fire Hazard ..... 1  
Reactivity ..... 0  
Personal Protection ..... B

### NFPA Rating (estimated)

Health ..... 2  
Flammability ..... 1  
Reactivity ..... 0

## **Section 3: Composition**

### 3.1 Substances: Not applicable.

### 3.2 Mixtures:

Name	CAS #	EC #	Per Cent
Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-	25068-38-6	500-033-5	51-52 %
Natural Graphite	7782-42-5	231-955-3	15-17 %
Alkyl Glycidyl Ether	68609-96-1	271-845-2	9-11 %
Petroleum Distillates Aromatic Hydrocarbon	64742-94-5	not available	9-11 %
Carbon Black	1333-86-4	215-609-9	5-7 %
Natural Cork	61789-98-8	not available	5-7 %
Silicone Defoamer	none	not available	<1 %

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

### 4.1 Description of first aid measures:

General: Never give anything by mouth to an unconscious person.

Inhalation: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air.

Skin Contact: Gently wash with plenty of soap and water. Wash skin with plenty of water.

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse eyes with water as a precaution.

Ingestion: Call a poison cent / doctor / physician if you feel unwell.

Self-protection of the first aider: No additional information.

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

Not expected to present a significant hazard under anticipated conditions of normal use. Skin rash / inflammation.

Symptoms / injuries after skin contact: Causes skin irritation.

Symptoms / injuries after eye contact: Causes eye irritation.

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

Treat symptomatically.

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

### 5.1 Extinguishing media:

Suitable extinguishing media: ABC powder. Water spray. Dry powder. Foam. Carbon dioxide.

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

Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

Hazardous combustion products: No data available.

### 5.3 Advice for firefighters: No data available.

Special protective equipment and precautions for firefighters: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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

### 6.1 Personal precautions

#### 6.1.1. For non-emergency personnel

Protective equipment: EN 1073. EN 166. Gloves

Emergency procedures: Ventilate spillage area. Do not get in eyes, on skin, or on clothing.

#### 6.1.2 For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2 Environmental precautions

Notify authorities if liquid enters sewers or public waters. Prevent entry to sewers and public waters. Prevent soil and water pollution. Avoid release to the environment.

### 6.3 Methods and material for containment and cleaning up

For containment: Collect spillage.

Methods for cleaning up: Take up liquid spill into absorbent material. Absorb spillage to prevent material damage.

Other information: dispose of materials or solid residues at an authorized site.

### 6.4 Reference to other sections

For further information, refer to Section 13.

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

### 7.1 Precautions for safe handling

Protective measures: Ensure good ventilation of the work station.  
Wear personal protective equipment.  
Avoid contact with skin and eyes.

Advice on general hygiene conditions: Do not eat, drink or smoke when using this product.  
Always wash hands after handling the product.

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

Keep container tightly closed.  
Store in a well-ventilated place.  
Keep cool.  
Maximum storage period: 12 months.  
Storage temperature: 25 °C

### 7.3 Specific end uses

Laboratory chemical for conductive mounting epoxy for use in SEM/EDS applications.  
Not intended for clinical or diagnostic use.

## **Section 8: Exposure Controls and Personal Protection**

### 8.1 Control parameter and Personal Protection

#### Workplace exposure limits

Carbon Black (CAS# 1333-86-4)		
ACGIH TWA (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>	Bronchitis
OSHA PEL (TWA) (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>	
Natural Graphite (CAS# 7782-42-5)		
ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>	Pneumoconiosis
OSHA (Table Z-3)	15 mppcf	million particles per cubic foot of air

Biological limit values: No additional information available.

### 8.2 Exposure controls

8.2.1 Appropriate engineering controls: Ensure good ventilation of the work station.

#### 8.2.2 Individual protection measures:

Materials for protective clothing: Butyl rubber. Neoprene. Nitrile rubber.

Hand protection: Gloves

Eye protection: Safety glasses.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.

#### 8.2.3 Environmental exposure controls:

Avoid release to the environment.

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

### 9.1 Information on basic physical and chemical properties

Appearance: Black liquid

Odor: Mild odor

Odor threshold: No data available

pH: No data available

Melting point/Freezing point: Not applicable / No data available

Boiling point/Boiling point range: > 260 °C

Flash Point: > 483 °F

Evaporation rate: No data available

Flammability (solid, gas): No data available

Upper/lower flammability or explosive limits: No data available

Vapor Pressure: <0.03 mm Hg

Vapor density: No data available

Relative density: No data available

Solubility:

Water: Solubility in water of component(s) of the mixture: -: mg/l -: <0.01 g/100ml -:<0.45 mg/l

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

auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: 150000 – 300000 cP

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

Explosive properties: No data available

Oxidizing Properties: No data available

9.2 Other information: No additional information available.

## **Section 10: Stability and Reactivity**

### 10.1 Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2 Chemical Stability

Stable under normal conditions.

### 10.3 Possibility of Hazardous Reactions

No dangerous reactions known under normal conditions of use.

### 10.4 Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5 Incompatible materials

No additional information available.

### 10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## **Section 11: Toxicological Information**

Information on the likely routes of exposure

Inhalation

Skin contact

Eye contact

Ingestion

Symptoms

### 11.1 Information on toxicological effects

a. acute toxicity: Not classified

#### **Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]- (25068-38-6)**

LD50 Oral, rat >2000 mg/kg (Rat; OECD 420: Acute Oral toxicity – Acute Toxic Class Method; Experimental value)

LD50 Dermal, rat >2000 mg/kg (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)

#### **Alkyl Glycidyl Ether (68609-96-1)**

LD50 Oral, rat 9000 mg/kg (Rat)

ATE US (oral) 9000.000 mg/kg body weight

#### **Carbon Black (1333-86-4)**

LD50 Oral, rat >8000 mg/kg (Rat; OECD 4701: Acute Oral Toxicity; Experimental value)

LD50 Dermal, rabbit >3000 mg/kg (Rabbit)

#### **Natural Graphite (7782-42-5)**

LD50 Oral, rat >2000 mg/kg (Rat; OECD 423: Acute Oral Toxicity-Acute Toxic Class Method; Experimental value)

b. skin corrosion/irritation: Causes skin irritation.

c. serious eye damage/irritation: Causes serious eye irritation.

d. respiratory of skin sensitization: May cause an allergic skin reaction.

e. germ cell mutagenicity: Not classified.

f. carcinogenicity: Not classified.

Carbon Black (133-86-4): IARC group: 2B – Possibly carcinogenic to humans

g. reproductive toxicity: Not classified.

h. STOT-single exposure: Not classified.

i. STOT-repeated exposure: Not classified.

j. aspiration hazard: Not classified.

Symptoms/injuries after skin contact: Causes skin irritation.

Symptoms/injuries after eye contact: Causes eye irritation.

## **Section 12: Ecological Information**

### **12.1 Toxicity**

**Ecology – general:** The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

#### **Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]- (25068-38-6)**

LC50	fish 1	1.2 mg/l (96 h; Oncorhynchus mykiss; Lethal)
EC50	Daphnia 1	1.1 – 2.8 mg/l (48 h; Daphnia magna; Locomotor effect)
LC50	fish 2	2.3 mg/l (96 h; Oncorhynchus mykiss; Nominal concentration)
Threshold limit	algae 1	>11 mg/l (72 h; Scenedesmus sp.)
Threshold limit	algae 2	4.2 mg/l (72 h; Scenedesmus sp.)

#### **Carbon Black (1333-86-4)**

LC50	fish 1	> 1000 mg/l (96 h; Brachydanio rerio)
EC50	Daphnia 1	> 5600 mg/l (24 h; Daphnia magna)

#### **Natural Graphite (7782-42-5)**

LC50	fish 1	> 100 mg/l (96 h; Danio rerio; Lethal)
EC50	Daphnia 1	> 100 mg/l (48 h; Daphnia magna; Behavior)
Threshold limit	algae 1	> 100 mg/l (72 h; Pseudokirchneriella subcapitata; Growth rate)
Threshold limit	algae 2	> 100 mg/l (72 h; Pseudokirchneriella subcapitata; Cell numbers)

### **12.2 Persistence and degradability**

#### **Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]- (25068-38-6)**

Not readily biodegradable in water.

Hydrolysis in water.

Low potential for adsorption in soil.

**Alkyl Glycidyl Ether (68609-96-1)**

Biodegradability in soil: no data available.

**Carbon Black (1333-86-4)**

Biodegradability: no applicable.

Biodegradability in soil: not applicable.

Adsorbs into the soil.

Biochemical oxygen demand (BOD): Not applicable.

Chemical oxygen demand (COD): Not applicable.

Theoretical Oxygen Demand (ThOD): Not applicable

BOD (% of ThOD): Not applicable

**Natural Graphite (7782-42-5)**

Biodegradability: Not applicable

Biochemical oxygen demand (BOD): Not applicable

Chemical oxygen demand (COD): Not applicable

Theoretical Oxygen Demand (ThOD): Not applicable

BOD (% of ThOD): Not applicable

**12.3 Bioaccumulative potential**

**Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]- (25068-38-6)**

BCF other aquatic organisms 1 3 – 31

Log Pow  $\geq 2.918$  (Experimental value; EU Method A.8: Partition Coefficient; 25 °C)

Low potential for bioaccumulation (BCF < 500)

**Alkyl Glycidyl Ether (68609-96-1)**

No bioaccumulation data available.

**Carbon Black (1333-86-4)**

Not bioaccumulative.

**Natural Graphite (7782-42-5)**

No bioaccumulation data available.

**12.4 Mobility in soil**

**Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]- (25068-38-6)**

Surface tension: 0.0587 – 1.0589, 20 °C

**Carbon Black (1333-86-4)**

Ecology – soil: Not toxic to plants. Not toxic to animals.

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

**12.6 Other adverse effects:** No known ecological damage caused by this product.



## Section 13: Disposal Considerations

### 13.1 Waste treatment methods

- Dispose in a safe manner in accordance with local/national regulations.
- Dispose of contents/container in accordance with licensed collector's sorting instructions.

### Waste disposal recommendations:

- Dispose in a safe manner in accordance with local/national regulations.

## Section 14: Transport Information

### DOT-US:

- Transport document description: Not regulated
- UN-No (DOT): none
- Proper Shipping Name (DOT): none
- Transport hazard class(es): none
- Hazard labels: 9 – Class 9 (Miscellaneous dangerous materials)



- Packing group: III – Minor Danger
- Dangerous for the environment: Yes
- Marine pollutant: Yes



- DOT Packaging Non Bulk (49 CFR 173.xxx): none
- DOT Packaging Bulk (49 CFR 173.xxx): none
- DOT Symbols: none
- DOT Special Provisions (49 CFR 172.102): none
- DOT Packaging Exceptions (49 CFR 173.xxx): none
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): No limit
- DOT Quantity Limitations Cargo aircraft only (49 CFR 173.75): No limit
- DOT Vessel Stowage Location: A – The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.
- Emergency Response Guide (ERG) Number: 171
- Other Information: No supplementary information available.

### IATA – Air Transport:

- UN-No.: UN 3082
- Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Epoxy Resins)
- Class: 9 – Miscellaneous Dangerous Goods
- Packing Group: III – Minor Danger

### IMDG- Transport by Sea:

- UN-No.: UN 3082
- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resins)

Class: 9 – Miscellaneous dangerous compounds  
Packing Group: III – substances presenting low danger.

## **Section 15: Regulatory Information**

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

#### **US Federal Regulations:**

All components of this product are listed, or excluded from listing, on the united States Environmental protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Silicone Defoamer      No CAS Number      <1%

EPA TSCA Regulatory Flags:

Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]- (CAS# 25068-38-6)      XU – indicating a substance exempt  
From reporting under the Inventory Update Reporting Rule, i.e., Partial Updating of the TSCA Inventory  
Data Base Production and Site Reports (40 CFR 710(C))

Alkyl Glycidyl Ether (CAS# 68609-96-1)      T – indicating a substance that is the subject of a Section 4  
test rule under TSCA.

SARA 313:

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR 372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

#### **US State regulations**

**California Proposition 65:** This product contains, or may contain, trace quantities of a substance(S) known to the state of California to cause cancer and/or reproductive toxicity.

Carbon Black (CAS# 1333-86-4)

Carcinogens List: Yes

Developmental Toxicity: No

Reproductive Toxicity – Female: No

Reproductive Toxicity – Male: No

No significant risk level (NSRL):

#### **US New Jersey Right to Know Hazardous Substance List:**

Carbon Black (CAS# 1333-86-4)

Natural Graphite (CAS# 7782-42-5)

#### **National regulations**

Carbon Black (CAS# 1333-86-4): Listed on IARC (International Agency for Research on Cancer)

**Canada:**

**WHMIS:** D2B

#### **EU Regulations:**

No additional information available.

### **15.2 Chemical Safety Assessment**

Date of Preparation: June 7, 2016

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
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, Bioaccumulative and Toxicological  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
STEL: Short Term Exposure Limit

## **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 or fluids.

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