

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 B Hardener

Section 1.1: Identification

Chemical Name/Synonyms ConductoBed Hardener

Product or Trade Name ConductoBed Hardener

CAS #'s 68605-86-7; 7782-42-5; 133-86-4; 61789-98-8; 112-57-2;
..... Silicone Defoamer (no CAS#)

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 Sensitization (category 1)

Aquatic, Chronic (category 2)

Acute Toxicity, dermal (category 3)

Acute Toxicity, oral (category 4)

2.2 Label elements

Pictogram



Signal Word: Warning

Hazard statements:

- H302: Harmful if swallowed
- H311: Toxic in contact with skin
- H317: May cause an allergic skin reaction
- H411: Toxic to aquatic life with long lasting effects

Precautionary statements:

- P261: Avoid breathing vapors
- P270: Do not eat, drink or smoke when using this product
- P280: Wear eye protection, protective gloves
- P302 + P352: If on skin: Wash with plenty of soap and water
- P333 + P313: If skin irritation or rash occurs: Get medical advice / attention
- P305 + P351 + P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact Lenses, if present and easy to do. Continue rinsing.

Unknown percentage statements (if needed): No additional information available.

2.3 Other Hazards:

No additional information available.

Hazardous Material Information System USA

- Health 2
- Fire Hazard 1
- Reactivity 0
- Personal Protection B (Safety glasses, Gloves)

NFPA Rating (estimated)

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

Section 3: Composition

3.1 Substances: Not applicable

3.2 Mixtures:

Component	Product Identifier(s)	Percentage	GHS Classification
Polymers of tofa with linoleic acid dimers	CAS# 68605-86-7	67-69%	Not classified
Natural Graphite	CAS# 782-42-5/EC# 231-955-3	15-17%	Not classified
Carbon Black	CAS# 1333-86-4 / EC# 215-609-9	5-7%	Not classified
Tetraethylenepentamine	CAS# 112-57-2 / EC# 203-986-2	3-5%	Acute Tox., oral (4) Acute Tox., dermal (3)

Natural Cork	CAS# 61789-98-8	3-5%	Skin Sens. (1)
Silicone Defoamer	no CAS#	<1%	Aquatic Chronic (2)
			Not classified
			Not classified

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 to fresh air.

Skin Contact: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/ attention. Gently wash with plenty of soap and water.

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present And easy to do. Continue rinsing. Call a physician immediately.

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

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

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

Symptoms/injuries after inhalation: Irritation of the eye tissue. Irritation of the respiratory tract. May cause an allergic skin reaction. May cause respiratory irritation.

Symptoms/injuries after skin contact: Causes skin irritation. May cause an allergic skin reaction.

Symptom/injuries after eye contact: Causes serious eye irritation. Serious damage to eyes.

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

Treat symptomatically.

Section 5: Fire Fighting Measures

5.1 Extinguishing media – ABC powder. Water spray. Dry powder. Foam. Carbon dioxide.

5.2 Special hazards arising from the substance or mixture

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

5.3 Advice for firefighters – Exercise caution when fighting any chemical fire.

Special protective equipment and precautions for firefighters – Do not attempt to take action without suitable protective equipment: self-container breathing apparatus and complete protective clothing.

Section 6: Accidental Release Measures

6.1 Personal precautions

6.1.1 For non-emergency personnel:

Protective equipment – EN 1082 EN 166. Gloves

6.1.2 For emergency responders:

Do not attempt to take action without suitable protective equipment. EN 1073.
For further information refer to section 8: "Exposure controls/personal protection".

6.2 Environmental precautions

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. Avoid contact with skin and eyes. Wear personal protective equipment. Avoid breathing dust/fume/gas/mist/vapors/spray.

Advice on general hygiene conditions

Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. 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

Store in a well-ventilated place. Keep cool.

Store at 25 °C.

Maximum storage period: 12 months

7.3 Specific end uses

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

Not intended for clinical or medical 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/m³) 3 mg/m³ (Bronchitis)

OSHA: PEL (TWA) (mg/m³) 3.5 mg/m³

Natural Graphite (CAS# 7782-42-5)

ACGIH TWA (mg/m³)
OSHA (Table Z-3)

2 mg/m³
15 mppcf

Pneumoconiosis
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: There may be no odor warning properties; odor is subjective and inadequate to warn of overexposure.

Odor threshold: No data available

pH: No data available.

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

Boiling point/Boiling point range: No data available

Flash Point: > 93 °C

Evaporation rate: No data available

Flammability (solid, gas): No data available

Upper/lower flammability or explosive limits: No data available

Vapor Pressure: < 1 mm Hg

Vapor density: No data available

Relative density: 1.09

Solubility: Water: Solubility in water of component(s) of the mixture : • : • : < 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: 40000 – 100000 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

11.1 Information on toxicological effects

a. acute toxicity

Carbon Black (CAS# 1333-86-4)

LD50 Oral, rat >8000 mg/kg (Rat; OECD 401: Acute Oral Toxicity; (Experimental value)

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

Natural Graphite (CAS# 7782-42-5)

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

Tetraethylenepentamine (CAS# 112-57-2)

LD50 Oral, rat 3990 mg/kg (Rat; Literature study; 3250 mg/kg bodyweight; Rat; Literature study)

LD50 Dermal, rabbit 660 mg/kg (Rabbit; Literature study; 660-1260 mg/kg bodyweight; Rabbit; Literature study)

ATE US (oral) 500.000 mg/kg body weight

ATE US (dermal) 660.000 mg/kg body weight

- b. skin corrosion/irritation
Not classified
- c. serious eye damage/irritation
Not classified
- d. respiratory of skin sensitization
May cause an allergic skin reaction.
- e. germ cell mutagenicity
Not classified
- f. carcinogenicity
Not classified
- g. reproductive toxicity
Not classified
- h. STOT-single exposure
Not classified
- i. STOT-repeated exposure – Not classified
- j. aspiration hazard
Not classified
- k. Symptoms/injuries after inhalation
Irritation of the eye tissue. Irritation of the respiratory tract. May cause an allergic skin Reaction. May cause respiratory irritation.
- l. Symptoms/injuries after skin contact
Causes skin irritation. Irritation. May cause an allergic skin reaction.
- m. Symptoms/injuries after eye contact
Causes serious eye irritation. Serious damage to the eyes. 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.

Carbon Black (CAS# 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 (CAS# 7782-42-5)

LC50	fish1	> 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)

Tetraethylenepentamine (CAS# 112-57-2)

LC50	fish 1	100 – 1000 ppm (96 h; Pisces; Lethal)
LC50	other aquatic organisms 1	100 – 1000 ppm (Lethal)
EC50	Daphnia 1	24.1 mg/l (48 h; Daphnia magna; GLP)
LC50	fish 2	420 mg/l (Poecilia reticulata; GLP)
Threshold limit	other aquatic organisms 1	100 – 1000, Lethal
Threshold limit	algae 1	0.5 mg/l (72 h; Selenastrum capricornutum; Growth rate)
Threshold limit	algae 2	6.8 mg/l (72 h; Selenastrum capricornutum; Growth rate)

12.2 Persistence and degradability

Carbon Black (CAS# 1333-86-4)

Persistence and degradability:
Biodegradability: not 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 (CAS# 7782-42-5)

Persistence and degradability:
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

Tetraethylenepentamine (CAS# 112-57-2)

Persistence and degradability:
Not readily biodegradable in water.
Low potential for mobility in soil.
Adsorbs into the soil.

12.3 Bioaccumulative potential

Carbon Black (CAS# 1333-86-4): Not bioaccumulative.
Natural Graphite (CAS# 7782-42-5): No bioaccumulation data available.
Tetraethylenepentamine (CAS# 112-57-2):
BCF other aquatic organisms 1 4.2
Log Pow: -3.16 (Calculated; EPIWIN)
Bioaccumulative potential: Low potential for bioaccumulation (BCF < 500).

12.4 Mobility in soil

Carbon Black (CAS# 1333-86-4)
Ecology – soil Not toxic to plants. Not toxic to animals.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

Effect on the global warming: No known ecological damage caused by this product.

Section 13: Disposal Considerations

13.1 Waste treatment methods

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 of in a safe manner in accordance with local / national regulations.

Section 14: Transport Information

DOT: Not regulated for transport.
IATA: Not regulated for transport.
IMDG: Not regulated for transport.

Section 15: Regulatory Information

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

US Federal regulations:

TSCA Inventory:

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%

SARA Section 313 of Title III:

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.

Polymers of tofa with linoleic acid dimers (CAS# 68605-86-7)

EPA TSCA Regulatory Flag: 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©).

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)
Tetraethylenepentamine (CAS# 112-57-2)

National regulations

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

CANADA:

WHMIS: D2B

Other EU regulations

No further information available.

15.2 Chemical Safety Assessment

Date of preparation: June 07, 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)
cP: Centipoise
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:

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