

SPI Supplies Division

Structure Probe, Inc.

206 Garfield Ave., West Chester, PA 19380-4512 USA

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Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: October 16, 2017

SPI Catalog #'s 01362-AB, 01362-AF

SPI Conductive Copper Filled Diallyl Phthalate for
Metallography

Section 1.1: Identification

Chemical Name/Synonyms Copper Filled Diallyl Phthalate

Product or Trade Name SPI Conductive Copper Fill Diallyl Phthalate for Metallography

CAS #'s 7440-50-8; 64425-89-4; mineral fillers; catalysts

Chemical Formula..... Mixture

Section 1.2: Relevant Uses/Restrictions

Thermoset mounting material

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, dermal (Category 4)

Skin corrosion / irritation (Category 2)

Serious eye damage / eye irritation (Category 2A)

Specific target organ toxicity, single exposure (Category 3 – respiratory tract irritation)
Environmental hazards: Not classified.
OSHA defined hazards: Not classified.

2.2 Label elements

Pictogram



Signal Word: Warning

Hazard statements:

- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

Precautionary statements:

- P261 Avoid breathing dust / fume / gas / mist / vapors / spray.
- P270 Do not eat, drink, or smoke when using this product.
- P280 Wear protective gloves / protective clothing / eye protection / face protection.
- P264 Wash thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor / physician if you feel unwell.
- P330 Rinse mouth.
- P302 + P352 IF ON SKIN: Wash with soap and water.
- P304 + P340 IF INHALED: 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. Remove contact lenses if present and easy to do – continue rinsing.
- P312 Call a POISON CENTER or doctor / physician if you feel unwell.
- P402 Store in a dry place.
- P403 Store in a well ventilated place.
- P404 Store in a tightly closed container.
- P501 Dispose of contents / container in accordance with local / regional / national / international regulations.

Supplemental information:

- 98.16% of the mixture consists of component(s) of unknown acute oral toxicity.
- 98.16% of the mixture consists of component(s) of unknown acute dermal toxicity.

2.3 Hazards not otherwise classified (HNOC): None known.

Hazardous Material Information System USA

Health 1
Fire Hazard 1
Reactivity 0
Personal Protection

NFPA Rating (estimated)

Health 1

Flammability..... 1
Reactivity 0

Section 3: Composition

3.1 Substances: Not applicable.

3.2 Mixtures:

Chemical name	CAS number	Percentage
Copper powder	7440-50-8	70-80 %
Epoxy Resin	64425-89-4	10-20 %
Mineral fillers	Mixture	<7
Catalysts	Mixture	<2

Section 4: First Aid Measures

4.1 Description of first aid measures:

Inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a POISON CENTER or doctor / physician if you feel unwell.

Skin Contact:

Remove contaminated clothing. Wash with plenty of soap and water. Get medical advice / attention if you feel unwell. If skin irritation occurs: Get medical advice / attention. Wash contaminated clothing before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion:

Rinse mouth. Call a physician or poison control center immediately. Do not induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Self-protection of the first aider:

No information available.

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

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

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

Treat symptomatically.

Section 5: Fire Fighting Measures

5.1 Extinguishing media

Dry chemicals. Water spray. Carbon dioxide (CO₂), Foam

Unsuitable media

Not available.

5.2 Specific hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

Hazardous combustion products: No additional information available.

5.3 Advice for firefighters

Use water spray to cool unopened containers.

Use standard fire-fighting procedures and consider the hazards of other involved materials.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Section 6: Accidental Release Measures

6.1 Personal precautions

Avoid dust formation. Ensure adequate ventilation. Wear appropriate protective equipment and clothing during clean-up.

6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4 Reference to other sections

See Section 13 for disposal information.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Protective measures

Provide adequate ventilation.

Provide appropriate exhaust ventilation at places where dust is formed.

Do not taste or swallow.

Avoid breathing dust / fume / gas / mist / vapors / spray.

Avoid contact with eyes, skin, and clothing.

Avoid prolonged exposure.

Advice on general hygiene conditions

When using, do not eat, drink, or smoke.

Observe good industrial hygiene practices.

Wash contaminated clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Store in closed original container in a dry place.

Keep at temperature not exceeding 7 °C.

Store away from incompatible materials (see Section 10).

7.3 Specific end uses

Thermoset mounting material

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

US. OSHA Table Z-1: Limits for Air Contaminants (29 CFR 1910.1000)

Copper Powder (CAS# 7440-50-8)	PEL	1 mg/m ³	Dust and mist
		0.1 mg/m ³	Fume

US. ACGIH Threshold Limit Values

Copper Powder (CAS# 7440-50-8)	TWA	1 mg/m ³	Dust and mist
		0.2 mg/m ³	Fume

US. NIOSH: Pocket Guide to Chemical Hazards

Copper Powder (CAS# 7440-50-5-8)	TWA	1 mg/m ³	Dust and mist
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Biological limit values

No biological exposure limits noted for the ingredient(s).

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used.

Ventilation rates should be matched to conditions.

If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye wash facilities and emergency shower must be available when handling this product.

8.2.2 Individual protection measures

Eye/face protection: Wear safety glasses with side shields or goggles.

Skin protection:

Hand protection: Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other: Wear suitable protective clothing.

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

Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

8.2.3 Environmental exposure controls

General hygiene considerations:

Keep away from food and drink.

Always observe good personal hygiene measures, such as washing after handling the material, and before eating, drinking, and/or smoking.

Routinely wash work clothing and protective equipment to remove contaminants.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:

Physical state: Solid

Form: Granules

Color: Not available

Odor: Mild

Odor threshold: Not available

pH: Not available

Specific gravity: 4.98 at 15 °C (59 °F)

Melting point/Freezing point: Not available

Boiling point/Boiling point range: Not available

Flash Point: Not available

Evaporation rate: Not available

Flammability (solid, gas): Not available

Upper/lower flammability or explosive limits: Not available

Vapor Pressure: Not available

Vapor density: Not available

Relative density: Not available

Solubility in water: Insoluble

Partition coefficient (n-octanol/water): Not available

Auto-ignition temperature: Not available

Decomposition temperature: Not available

Viscosity: Not available

Explosive properties: Not available

Oxidizing Properties: Not available

9.2 Other information

No further relevant information available.

Section 10: Stability and Reactivity

10.1 Reactivity:

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

10.2 Chemical Stability:

Material is stable under normal conditions.

10.3 Possibility of Hazardous Reactions:

Hazardous polymerization does not occur.

10.4 Conditions to avoid:

Contact with incompatible materials.

10.5 Incompatible materials:

Strong oxidizing agents. Nitrates.

10.6 Hazardous decomposition products:

No hazardous decomposition products are known.

Section 11: Toxicological Information

Information on the likely routes of exposure

Inhalation:

May cause irritation to the respiratory system. Prolonged inhalation may be harmful.

Skin contact:

Harmful in contact with skin. Causes skin irritation.

Eye contact:

Causes serious eye irritation.

Ingestion:

Harmful if swallowed.

Symptoms:

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

11.1 Information on toxicological effects

A. Acute toxicity

Harmful in contact with skin. Harmful if swallowed. May cause respiratory irritation.

B. Skin corrosion/irritation

Causes skin irritation.

C. Serious eye damage/irritation

Causes serious eye irritation.

D. Respiratory or skin sensitization

No information available.

E. Germ cell mutagenicity

No information available.

F. Carcinogenicity

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation or Carcinogenicity: Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not regulated.

US. National Toxicology Program (NTP) on Carcinogens: Not listed.

G. Reproductive toxicity

No information available.

H. STOT-single exposure
May cause respiratory irritation.

I. STOT-repeated exposure
Not classified.

J. Aspiration hazard
No information available.

Section 12: Ecological Information

12.1 Toxicity:

Component(s)	Species	Test Results
Copper Powder (CAS# 7440-50-8)		
Aquatic		
Crustacea	EC50 Water flea (<i>Daphnia magna</i>)	0.036 mg/l, 48 hours
Fish	LC50 Fathead minnow (<i>Pimephales promelas</i>)	0.0319-0.0544 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

12.2 Persistence and degradability:

No data is available on the degradability of this product.

12.3 Bio-accumulative potential:

No data available.

12.4 Mobility in soil:

No data available.

12.5 Results of PBT and vPvB assessment:

No data available.

12.6 Other adverse effects:

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Section 13: Disposal Considerations

13.1 Waste treatment methods

Disposal instructions:

Dispose in accordance with all applicable regulations.

Hazardous waste code:

The waste code should be assigned in discussion between the user, the producer, and the waste disposal company.

Waste from residues / unused products:

Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging:

Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14: Transport Information

14.1 UN number: Not applicable.

14.2 UN proper shipping name: Not applicable.

14.3 Transport hazard class(es): Not classified as dangerous goods under Department of Transportation regulations.

14.4 Packing Group: Not applicable

14.5 Environmental hazards: Not classified.

14.6 OSHA defined hazards: Not classified.

Section 15: Regulatory Information

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

US Federal Regulations:

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4):

Copper Powder (CAS 7440-50-8)

SARA 304 Emergency Release Notification:

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

Not regulated

Superfund Amendments and Reauthorization Act of 1986 (SARA):

Hazard categories:

Immediate Hazard – yes

Delayed Hazard – yes

Fire Hazard – no

Pressure Hazard – no

Reactivity Hazard – no

SARA 302 Extremely Hazardous Substance:

Not listed.

SARA 311/312 Hazardous:

No chemical

SARA 313 (TRI Reporting):

Chemical name: Copper Powder

CAS number: 7440-50-8

Percent by Weight: 70 – 80 %

Other Federal Regulations:

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List:

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

Not regulated

Safe Drinking Water Act (SDWA):

Not regulated.

US State Regulations:

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100):

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs. Tit. 22, 69052.3, subd.(a)):

Copper Powder (CAS 7440-50-8)

US. Massachusetts RTK – Substance List:

Copper Powder (CAS 7440-50-8)

US. New Jersey Worker and Community Right-to-Know Act:

Copper Powder (CAS 7440-50-8)

US. Pennsylvania Worker and Community Right-to-Know Law:

Copper Powder (CAS 7440-50-8)

US. Rhode Island RTK:

Copper Powder (CAS 7440-50-8)

US. California Proposition 65:

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories:

<u>Country or Region</u>	<u>Inventory Name</u>	<u>On Inventory (yes or no)</u>
Australia	Australian Inventory of Chemical Substances (AICS)	no
Canada	Domestic Substances List (DSL)	no
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances in China (IECSC)	no
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	no
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Inventory of Existing and New Chemical Substances (ENCS)	no
Korea	Existing chemicals List (ECL)	no
New Zealand	New Zealand Inventory	no
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	no
U.S.A. & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	no

- A “yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s).
- A “no” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Date of Preparation: 16 October 2017.

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
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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