

## SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

## Safety Data Sheet

Date Effective: April 3, 2019

SPI Catalog # 05055-AB

LEIT-C™ Conductive Carbon Cement

### Section 1.1: Identification

Chemical Name/Synonyms ..... Conductive Carbon Cement

Product or Trade Name ..... LEIT-C™ Conductive Carbon Cement

CAS #'s ..... 108-38-3; 67-64-1; 7782-42-5; 108-65-6; 78-93-3 141-78-6

Chemical Formula..... Chemical mixture

### Section 1.2: Relevant Uses/Restrictions

Conducting carbon cement for use in microscopy.

### 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

**Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS):**

Flammable Liquid (Category 2)

Acute Toxicity (Category 4)

Skin Irritant (Category 2)

Eye Irritant (Category 2)

STOT SE (Category 3)

## 2.2 Label elements

### Pictogram



GHS02



GHS07

**Signal Word:** Danger

### Hazard statements:

- H225 Highly flammable liquid and vapor.
- H302 harmful if swallowed.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

### Precautionary statements:

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children
- P103 Read label before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.  
No smoking.
- P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.  
Rinse skin with water/ shower.
- P305 P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove  
contact lenses, if present and easy to do. Continue rinsing.
- P405 Store locked up.
- P501 Dispose of contents/ container in accordance with local/ regional/ national/ international  
regulations.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC:**



**Xn; Harmful**

**R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.**



**Xi; Irritant**

**R36/38: Irritating to eyes and skin.**



**F; Highly flammable**  
**R11: Highly flammable.**  
**R67: Vapors may cause drowsiness and dizziness**

### 2.3 Other Hazards:

#### Results of PBT and vPvB assessment:

**PBT:** Not applicable  
**vPvB:** Not applicable

#### Hazardous Material Information System USA

Health ..... 1  
Fire Hazard ..... 3  
Reactivity ..... 0  
Personal Protection .....

#### NFPA Rating (estimated)

Health ..... 1  
Flammability..... 3  
Reactivity ..... 0

## Section 3: Composition

### 3.2 Mixtures:

**Description:** Mixture of substances listed below with nonhazardous additions.

#### Dangerous Components:

m-Xylene	CAS # 108-38-3	EINECS: 203-576-3	20.0%
Xn: R20/21; Xi: R38, R10 Flammable Liquid 3, H226; Acute Toxicity 4, H312; Acute Toxicity. 4, H332; Skin Irritation 2, H315			
Acetone	CAS # 67-64-1	EINECS: 200-662-2	20.0%
Xi: R36; F: R11 Flammable Liquid 2, H225; Eye Irritant 2, H319; STOT SE 3, H336			
Graphite	CAS # 7782-42-5	EINECS: 231-955-3	20.0%
Xn: R20/21/22; Xi: R38 Acute Toxicity 4, H302; Acute Toxicity 4, H312; Acute toxicity 4, H332; Skin Irritant 2, H315			
2-Methoxy-1-methylethyl acetate	CAS # 108-65-6	EINECS: 203-603-9	10.0%
R10 Flammable Liquid 3, H226			
Methyl ethyl ketone	CAS # 78-93-3	EINECS: 201-159-0	10.0%
Xi: R36; F: R11, R66-67 Flammable. Liquid 2, H225; Eye Irritant 2, H319; STOT SE 3, H336			
Ethyl acetate	CAS # 141-78-6	EINECS: 205-500-4	10.0%
Xi: R36; F:R11, R66-67 Flammable Liquid 2, H225; Eye Irritant 2, H319; STOT SE 3, H336			

**Relevant Phrases:**

- H225 Highly flammable liquid and vapor.
- H226 Flammable liquid and vapor.
- H302: Harmful if swallowed.
- H312 harmful in contact with skin.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H336 May cause drowsiness or dizziness

\*\*\*\*\*

- R10 Flammable.
- R11 Highly flammable.
- R20/21 Harmful by inhalation and in contact with skin.
- R22 Harmful if swallowed.
- R36 Irritating to eyes.
- R38 Irritating to skin.
- R66 Repeated exposure may cause skin dryness or cracking.
- R67 Vapors may cause drowsiness and dizziness.

**Section 4: First Aid Measures**

**4.1 Description of first aid measures:**

**General Information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**After Inhalation:** No adverse effects are anticipated from inhalation.

**After Skin Contact:** Wash with water and soap and rinse thoroughly.

**After Eye Contact:** Rinse opened eye under running water. If symptoms persist, consult a doctor.

**After Ingestion:** Seek immediate medical attention.

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

No further relevant information available.

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

No further relevant information available.

**Section 5: Fire Fighting Measures**

**5.1 Extinguishing media:**

Suitable extinguishing agents: Water spray, alcohol resistant foam, dry chemical, or carbon dioxide.  
For safety reasons, unsuitable extinguishing agents: Water with full jet.

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

No further relevant information available.

**5.3 Hazardous combustion products:**

Carbon monoxide and Carbon dioxide.

**5.4 Advice for firefighters:**

No further relevant information available.

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

Special protective equipment and precautions for firefighters – No special measures required.

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

### **6.1 Personal precautions:**

Wear protective gloves and glasses.

### **6.2 Environmental precautions:**

Do not allow to enter sewers/ surface or ground water.

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

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

### **6.4 Reference to other sections:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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

### **7.1 Precautions for safe handling:**

**Protective measures:** No special precautions are necessary if used correctly.

#### **Information about fire – and explosion protection:**

The dried resin is combustible, similar to wood. Burning dry resin emits dense, black smoke.

As latex, material is not combustible.

Protect against electrostatic charges.

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

Store in a cool location.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Information about storage in one common storage facility: Not required.

### **7.3 Specific end uses:**

Conducting carbon cement for use in microscopy.

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:**

#### **Ingredients with limit values that require monitoring at the workplace:**

**CAS # 108-38-3**

**m-Xylene**

WEL: Short-term value: 441 mg/m<sup>3</sup>, 100 ppm

Long-term value: 220 mg/m<sup>3</sup>, 50 ppm  
SK; BMGV

**CAS # 67-64-1 Acetone**

WEL: Short-term value: 3620 mg/m<sup>3</sup>, 1500 ppm  
Long-term value: 2200 mg/m<sup>3</sup>, 500 ppm

**CAS # 108-65-6 2-Methoxy-1-methylethyl acetate**

WEL: Short-term value: 548 mg/m<sup>3</sup>, 100 ppm  
Long-term value: 274 mg/m<sup>3</sup>, 50 ppm  
SK

**CAS # 78-93-3 Methyl ethyl ketone**

WEL: Short-term value: 899 mg/m<sup>3</sup>, 300 ppm  
Long-term value: 274 mg/m<sup>3</sup>, 200 ppm  
SK, BMGV

**CAS # 141-78-6 Ethyl acetate**

WEL: Short-term value: 400 ppm  
Long-term value: 200 ppm

**Ingredients with biological limit values:**

**CAS # 108-38-3 m-Xylene**

BMGV: 650 mmol/mol creatinine  
Medium: urine  
Sampling time: post shift  
Parameter: methyl hippuric acid

**CAS # 78-93-3 Methyl ethyl ketone**

BMGV: 70 µmol/L  
Medium: urine  
Sampling time: post shift  
Parameter: butan-2-one

**8.2 Exposure controls:**

**8.2.1 General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.  
Remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.

**8.2.2 Individual protection measures:**

**Respiratory protection:** Not required.

**Protection of hands:** Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be

checked prior to the application.  
**Penetration time of glove material:**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye protection:** Tightly sealed goggles.

**8.2.3 Environmental exposure controls:** Do not allow to enter sewers/ surface or ground water.

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

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

**Appearance:**

**Form:** Fluid

**Color:** According to product specification

**Odor:** Solvent-like

**Odor threshold:** Not determined

**pH:** Not determined

**Melting point/Freezing point:** Undetermined

**Initial Boiling point/Boiling point range:** 55 °C

**Flash Point:** < 0 °C

**Evaporation rate:** Not determined

**Flammability (solid, gas):** Not applicable

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

**Lower:** 1.5 Vol %

**Upper:** 13.0 Vol %

**Vapor Pressure at 20 °C:** 233 hPa

**Vapor density:** Not determined

**Relative density:** Not determined

**Solubility in/ Miscibility with water:** Not miscible or difficult to mix

**Partition coefficient (n-octanol/water):** Not determined

**Auto-ignition temperature:** Product is not self-igniting

**Decomposition temperature:** Not determined

**Viscosity:** Not determined

**Explosive properties:** Product is not explosive.

However, formation of explosive air/vapor mixtures are possible.

**Solvent Content:**

**Organic solvents:** 70.0 %

**VOC (EC):** 70.00 %

**Solids content:** 30.0 %

**9.2 Other information:** No further relevant information available.

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

**10.1 Reactivity:** No further relevant information available.

**10.2 Chemical Stability:**

**Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

**10.3 Possibility of Hazardous Reactions:** No dangerous reactions known.

**10.4 Conditions to avoid:** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## **Section 11: Toxicological Information**

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

**11.1 Information on toxicological effects:**

**A. Acute toxicity:** Harmful if swallowed.

**LD/LC50 values relevant for classification:**

CAS # 108-38-3	m-Xylene
Oral: LD50	5000 mg/kg (rat)
Dermal LD50	14100 mg/kg (rabbit)

**B. Skin corrosion/irritation:** Causes skin irritation.

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

**D. Respiratory or skin sensitization:** Based on available data, the classification criteria are not met.

**E. Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

**F. Carcinogenicity:** Based on available data, the classification criteria are not met.

**G. Reproductive toxicity:** Based on available data, the classification criteria are not met.

**H. STOT-single exposure:** May cause drowsiness or dizziness.

**I. STOT-repeated exposure:** Based on available data, the classification criteria are not met.

**J. Aspiration hazard:** Based on available data, the classification criteria are not met.

## **Section 12: Ecological Information**

**12.1 Toxicity:**

Aquatic toxicity: No further relevant information available.

**12.2 Persistence and degradability:** No further relevant information available.



**12.3 Bio-accumulative potential:** No further relevant information available.

**12.4 Mobility in soil:** No further relevant information available.

**12.5 Results of PBT and vPvB assessment:** Not applicable.

**12.6 Other adverse effects:** No further relevant information available.

## **Section 13: Disposal Considerations**

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

#### **Recommendation:**

Must not be disposed together with household garbage.

Do not allow product to reach sewage system.

Disposal must be made according to local, state, federal, international regulations.

## **Section 14: Transport Information**

### **DOT:**

UN Number:	UN1263
Proper shipping name:	Paint related material
Class:	3 Flammable liquids
Packing group:	II

### **IATA:**

UN Number:	UN1263
Proper shipping name:	PAINT RELATED MATERIAL
Class:	3 Flammable liquids
Packing group:	II

### **IMDG:**

UN Number:	UN1263
Proper shipping name:	PAINT RELATED MATERIAL
Class:	3 Flammable liquids
Packing group:	II
Limited quantities (LQ)	5L
Excepted quantities (EQ)	Code: E2

Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

<b>Environmental hazards:</b>	Not applicable.
<b>Special precautions for user:</b>	Warning: Flammable liquids
<b>Danger code (Kemler):</b>	<b>33</b>
<b>EMS Number:</b>	F-E,S-E
<b>Stowage Category</b>	B

**Transport in bulk according to Annex II of Marpol and the IBC Code:** Not applicable

## **Section 15: Regulatory Information**

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

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

#### **TSCA Inventory:**

CAS # 108-38-3 is on the TSCA Active Inventory List.

CAS # 67-64-1 is on the TSCA Active Inventory List.  
CAS # 7782-42-5 is on the TSCA Active Inventory List.  
CAS # 108-65-6 is on the TSCA Active Inventory List.  
CAS # 78-93-3 is on the TSCA Active Inventory List.  
CAS # 141-78-6 is on the TSCA Active Inventory List.

**SARA (Superfund Amendments and Reauthorization Act)**

SARA 313 (Specific toxic chemical listings):

1330-20-7 Xylene  
78-93-3 Methyl ethyl ketone

SARA 355 (Extremely hazardous substances):  
none listed

SARA 311/312 Hazards

1330-20-7: Fire hazard, Acute health hazard, Chronic health hazard  
78-93-3: Fire hazard, Acute health hazard, Chronic health hazard  
67-64-1: Fire hazard, Acute health hazard, Chronic health hazard  
141-78-6: Fire hazard, Acute health hazard, Chronic health hazard

CERCLA Reporting Quantities:

67-64-1: 5,000 pounds  
78-93-3: 5,000 pounds  
1330-20-7: 100 pounds  
141-78-6: 5,000 pounds

RCRA Codes:

67-64-1: U002  
78-93-3: U159  
1330-20-7: U239  
141-78-6: U112

EPA (Environmental Protection Agency) – Carcinogenic Categories

141-78-6: Category B2 – probable carcinogen, sufficient evidence in animals  
1330-20-7: Category I – inadequate information to assess carcinogenic potential  
78-93-3: Category D – not classifiable based on lack of data

NIOSH-Ca (National Institute for Occupational Safety and Health):

None of the ingredients is listed.

**State Right-to-Know lists:**

7782-42-5 is listed on the Massachusetts, Pennsylvania, and New Jersey lists.  
1330-20-7 is listed on the Massachusetts, Pennsylvania, and New Jersey lists  
78-93-3 is listed on the Massachusetts, Pennsylvania, and New Jersey lists  
67-64-1 is listed on the Massachusetts, Pennsylvania, and New Jersey lists  
108-65-6 is listed on the Massachusetts, Pennsylvania, and New Jersey lists  
141-78-6 is listed on the Massachusetts, Pennsylvania, and New Jersey lists

**Directive 2012/18/EU**

**Named dangerous substances – ANNEX I:** None of the ingredients is listed.

**Seveso category:** P5c FLAMMABLE LIQUIDS

**Qualifying quantity (tonnes) for the application of lower-tier requirements:** 5,000 t

**Qualifying quantity (tonnes) for the application of upper-tier requirements:** 50,000 t

**REGULATION (EC) No 1907/2006 ANNEX XVII:** Conditions of restriction: 3

**15.2 Chemical Safety Assessment:** A Chemical Safety Assessment has not been carried out.

Date of Preparation: 03 April 2019.

**Abbreviations and acronyms**

SK: Can be absorbed through the skin

BMGV: Biological Monitoring Guidance Values  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
CMRG: Chemical Manufacturer's Recommended Guidelines  
IATA: International Air Transport Association  
IMDG: International Maritime Code for Dangerous Goods  
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road  
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  
STOT SE: Specific target organ toxicity (single exposure)  
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  
IECSC: Inventory of Existing Chemical Substances in China  
KECL: Korea Existing Chemicals List

## **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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