

## SPI Supplies Division

### Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

## Safety Data Sheet

Date Effective: March 28, 2017

SPI # 01307-AB, 01308-AB, 01309-AB, 01310-AB, 01311-AB,  
01312-AB, 01313-AB, 01314-AB, 01315-AB, 01316-AB,  
01317-AB, 01318-AB, 01319-AB, 01320-AB  
SPI Supplies® Brand Virgin Diamond Compound

SPI # 01322-AB, 01323-AB, 01325-AB, 01326-AB, 01327-AB,  
01328-AB, 01329-AB  
SPI Supplies® Brand Virgin Diamond Slurry

### Section 1.1: Identification

Chemical Name/Synonyms ..... Diamond Compound, Diamond Slurry

Product or Trade Name ..... SPI Supplies® Brand Virgin Diamond Compound,  
..... SPI Supplies® Brand Virgin Diamond Slurry

Chemical Formula..... Mixture

### Section 1.2: Relevant Uses/Restrictions

Abrasive polishing mixture.

### 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)

Carcinogenicity: Category 2

## 2.2 Label elements

### Pictogram



**Signal Word:** Warning

### Hazard statements:

H351: Suspected of causing cancer

### Precautionary statements:

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P280: Wear protective gloves

P308+313: IF exposed or concerned: Get medical advice/attention

P405: Store locked up.

P501: Dispose of contents/container in accordance with local/regional/national/international regulations

### Unknown percentage statements (if needed):

32% of the mixture consists of ingredients of unknown acute oral toxicity.

## 2.3 Other Hazards: None

### Hazardous Material Information System USA (estimated)

Health ..... 1

Fire Hazard ..... 1

Reactivity ..... 0

Personal Protection .....

### NFPA Rating

Health ..... 1

Flammability..... 1

Reactivity ..... 0

Special Hazards..... None

## **Section 3: Composition**

3.1 Substances: Not applicable

3.2 Mixtures:

<b><u>Ingredient</u></b>	<b><u>CAS #</u></b>	<b><u>% by Weight</u></b>
Polyglycol Oleate	9005-07-6	>50
Diamond	7782-40-3	<30
Emulsifier	Trade Secret*	<30
Lubricant	61791-08-0	<10
Diethanolamine	111-42-2	<0.3 Trade Secret*

\*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

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

### **4.1 Description of first aid measures:**

**Inhalation:** Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:** Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/ symptoms develop, get medical attention.

**Eye Contact:** Flush with large amounts of water. Remove contact lenses if easy to so. Continue rinsing. If signs/ symptoms persist, get medical attention.

**Ingestion:** If swallowed, rinse mouth. If you feel unwell, get medical attention.

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

**4.2 Most important symptoms and effects, both acute and delayed:** For toxicological effects, see Section 11.1.

**4.3 Indication of any immediate medical attention and special treatment needed:** Not applicable.

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

**5.1 Extinguishing media:** In case of fire, use a fire fighting agent suitable for ordinary combustible materials such as water or foam to extinguish.

**5.2 Special hazards arising from the substance or mixture:** None inherent in this product.

**Hazardous combustion products:** Carbon monoxide; carbon dioxide.

**5.3 Advice for firefighters:** No special protective actions for fire-fighters are anticipated.

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

### **6.1 Personal precautions:**

Ventilate the area with fresh air.

For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice.

Warning! A motor could be an ignition source and cause flammable gases or vapors in the spill area to burn or explode.

Observe precautions from other sections.

### **6.2 Environmental precautions:**

Avoid release to the environment.

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

Contain spill.

Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material.

Mix in sufficient absorbent until it appears dry.

Remember, adding an absorbent material does not remove a physical, health or environmental hazard.  
Collect as much of the spilled material as possible using non-sparking tools.  
Place in a closed container approved for transportation by appropriate authorities.  
Clean up residue with appropriate solvent selected by a qualified and authorized person.  
Ventilate the area with fresh air.  
Read and follow safety precautions on the solvent label and SDS.  
Seal the container.  
Dispose of collected material as soon as possible.

#### 6.4 Reference to other sections:

No additional information available.

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

### 7.1 Precautions for safe handling

For industrial or professional use only.  
Avoid breathing of dust created by sanding, grinding or machining.  
Do not handle until all safety precautions have been read and understood.  
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
Do not get in eyes, on skin, or on clothing.  
Do not eat, drink or smoke when using this product.  
Wash thoroughly after handling.  
Avoid contact with oxidizing agents (eg. Chlorine, chromic acid, etc.)  
Use personal protective equipment (gloves, respirators, etc.) as required.  
Combustible dust may form by action of this product on another material (substrate).  
Dust generated from the substrate during use of this product may be explosive if in sufficient concentration with an ignition source.  
Dust deposits should not be allowed to accumulate on surfaces because of the potential for secondary explosions.

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

No special storage requirements.

### 7.3 Specific end uses

Abrasive polishing mixture.  
For industrial or professional use only.  
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

<b>Ingredient</b>	<b>CAS#</b>	<b>Agency/Limit</b>
Diethanolamine	111-42-2	ACGIH/TWA (inhalable fraction and vapor): 1 mg/m <sup>3</sup>
Additional Comments: A3: Confirmed animal carcinogen, Skin Notation		

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

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

Provide appropriate local exhaust ventilation for sanding, grinding or machining.  
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/ fume/ gas/ mist/ vapors/ spray.  
If ventilation is not adequate, use respiratory protection equipment.  
Provide local exhaust at process emission sources to control exposure near the source and to prevent the escape of dust into the work area.  
Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment.)

### **8.2.2 Individual protection measures**

#### **Eye/face protection:**

To minimize the risk of injury to face and eyes, always wear eye and face protection when working at sanding or grinding operations or when near such operations.  
Select and use eye/face protection to prevent contact base on the results of an exposure assessment.  
The following eye/face protection(s) are recommended:  
Indirect Vented Goggles

#### **Skin/hand protection:**

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/ protective clothing.  
Gloves made from the following material(s) are recommended:  
Butyl Rubber, Neoprene, Nitrile Rubber

#### **Respiratory protection:**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:  
Half face-piece or full face-piece air-purifying respirator suitable for organic vapors and particulates.  
For questions about suitability for a specific application, consult with your respirator manufacturer.

**8.2.3 Environmental exposure controls:** No further information available.

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

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

Appearance: Liquid or paste (Color varies with diamond size)

Odor: Mild fatty acid odor

Odor threshold: No data available

pH: Not applicable

Melting point: No data available

Boiling point/Boiling point range:  $\geq 300$  °F

Flash Point:  $\geq 300$  °F  
Evaporation rate: No data available  
Flammability (solid, gas): Not applicable  
Upper/lower flammability or explosive limits: No data available  
Vapor Pressure:  $\geq 0.1$  mm Hg @ 68 °F  
Vapor density: No data available  
Specific Gravity: 0.98 (Water=1)  
Solubility in water: Nil  
Partition coefficient (n-octanol/water): No data available  
auto-ignition temperature: No data available  
Viscosity: No data available  
Volatile Organic Compounds: 0 g/l  
Percent volatile: 0 %  
VOC Less H<sub>2</sub>O & Exempt Solvents: 0 g/l  
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

This material may be reactive with certain agents under certain conditions – see the remaining headings  
In this section.

### 10.2 Chemical Stability

Stable.

### 10.3 Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

### 10.4 Conditions to avoid

None known.

### 10.5 Incompatible materials

Strong oxidizing agents.  
Strong acids.  
Strong bases.

### 10.6 Hazardous decomposition products

None known.  
Refer to Section 5.2 for hazardous decomposition products during combustion.

## Section 11: Toxicological Information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/ or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

### 11.1 Information on toxicological effects

#### Signs and Symptoms of Exposure:

Based on test data and/or information on the components, this material may produce the following health effects:

#### Inhalation:

Dust from grinding, sanding, or machining may cause irritation of the respiratory system. Signs/ symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

#### Skin Contact:

Mild Skin Irritation: Signs/ symptoms may include localized redness, swelling, itching, and dryness.

Mechanical Skin Irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

#### Eye Contact:

Moderate Eye Irritation: Signs/ symptoms may include pain, redness, tearing, and corneal abrasion.

Dust created by grinding, sanding, or machining may cause eye irritation. Signs/ symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

#### Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/ symptoms may include abdominal pain, stomach upset, nausea, vomiting, and diarrhea.

May cause target organ effects after ingestion.

#### Additional Health Effects:

This document covers only the diamond product. For complete assessment, when determining the degree of hazard, the material being abraded must also be considered.

If a component is disclosed in Section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

#### A. Acute toxicity

##### Toxicological Data:

If a component is disclosed in Section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

<u>Name</u>	<u>Route</u>	<u>Species</u>	<u>Value</u>
Overall product	Ingestion		No data available, calculated ATE >5,000 mg/kg kg
Diethanolamine	dermal	Rabbit	LD50: 8,180 mg/kg
Diethanolamine	Ingestion	Rat	LD50: 1,410 mg/kg

ATE = Acute toxicity estimate

#### B. Skin corrosion/irritation

<u>Name</u>	<u>Species</u>	<u>Value</u>
Diethanolamine	Rabbit	Mild irritant

C. Serious eye damage/irritation

Name	Species	Value
Diethanolamine	Rabbit	Severe irritant

D. Skin sensitization

Name	Species	Value
Diethanolamine	Human and animal	Not sensitizing

Respiratory sensitization: For the component/components, either no data are currently available or the data are not sufficient for classification.

E. Germ cell mutagenicity

Name	Route	Value
Diethanolamine	in Vitro	Not mutagenic

F. Carcinogenicity

Nam	CAS No.	Class Description	Regulation
Diethanolamine	111-42-2	Group 2B: Possible human carcinogen	IARC

G. Reproductive toxicity

Name	Route	Value	Species	Test Result	Exp. Duration
Diethanolamine	Ingestion	Not toxic to female reproduction	RAT	NOAEL 436 mg/kg/day	13 weeks
Diethanolamine	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	RAT	NOAEL 97 mg/kg/day	13 weeks
Diethanolamine	Dermal	Some positive developmental data exist, but the data are not sufficient for classification	Rabbit	NOAEL 100 mg/kg/day	during organogenesis
Diethanolamine	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 50 mg/kg/day	during organogenesis

H. STOT-single exposure

Name	Route	Target Organ	Value	Species	Test Result	Exp. Duration
Diethanolamine	Inhalation	respiratory Irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL not available	
Diethanolamine	Ingestion	kidney and/or bladder	May cause damage to organs	Rat	NOAEL 200 mg/kg	not applicable
Diethanolamine	Ingestion	central nervous system depression	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 200 mg/kg	not applicable
Diethanolamine	Ingestion	liver	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 1,600 mg/kg	not applicable

I. STOT-repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exp. Duration
Diethanolamine	Dermal	Hematopoietic	May cause damage to organs through prolonged or repeated exposure	Rat	LOAEL 32 mg/kg/day	13 weeks
Diethanolamine	Dermal	Kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 8 mg/kg/day	2 years
Diethanolamine	Dermal	Liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 500 mg/kg/day	13 weeks



Diethanolamine	Inhalation	Liver, Kidney and/or Bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.03 mg/l	13 weeks
Diethanolamine	Ingestion	Hematopoietic system	May cause damage to organs through prolonged or repeated exposure	Rat	NOAEL 14 mg/kg/day	13 weeks
Diethanolamine	Ingestion	Nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 57 mg/kg/day	13 weeks
Diethanolamine	Ingestion	Kidney and/or Bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL not available	13 weeks
Diethanolamine	Ingestion	Liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 436 mg/kg/day	13 weeks

NOAEL=no-observed-adverse-effect-level  
LOAEL = lowest-observed-adverse-effect-level

- J. Aspiration hazard – For the component/components, either no data are currently available or the data are not sufficient for classification.

## **Section 12: Ecological Information**

### 12.1 Toxicity

When used and disposed of as indicated no adverse environmental effects are foreseen.

### 12.2 Persistence and degradability

No data available.

### 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 further data available.

## **Section 13: Disposal Considerations**

### 13.1 Waste treatment methods

Dispose of contents / container in accordance with the local/ regional/ national/ international regulations.

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/ barrels/ containers used for transporting and handling hazardous chemicals (chemical substance/ mixtures/ preparations classified as Hazardous as per applicable regulations)

shall be considered, stored, treated and disposed of as hazardous wastes unless otherwise defined by applicable waste regulation. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA): Not regulated.**

### **Section 14: Transport Information**

DOT: Not regulated

IATA: Not regulated

### **Section 15: Regulatory Information**

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

TSCA: The components of this product are in compliance with the chemical notification requirements of TSCA.

SARA 302 Extremely Hazardous Substances:

None

SARA 311/312 Hazard Categories:

Fire hazard: No

Pressure Hazard: No

Reactivity Hazard: No

Immediate Hazard: Yes

Delayed Hazard: Yes

SARA 313 Toxic Chemicals

Diethanolamine CAS# 111-42-2 <0.3%

State Right-to-Know Lists: Pennsylvania, Massachusetts, and New Jersey:

Diethanolamine CAS# 111-42-2 <0.3%

California Prop. 65:

Diethanolamine CAS# 111-42-2 <0.3%

15.2 Other information:

Date of Preparation: 28 March 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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