

# SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

# Safety Data Sheet

Date Effective: June 14, 2012

[SPI #05003-AB Dotite® Silver Paint D-550](#)

## Section 1: Identification

Chemical Name/Synonyms.....Silver Paint

Chemical family.....mixture

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-527-3887

Worldwide FAX: 1-(703)-741-6090

Toll-free phone: 1-(800)-424-9300 USA only

Product or Trade Name.....Dotite D-550 Silver Paint

Chemical Formula.....mixture

GHS Classification

Flammable liquid (Category 2) Highly flammable liquid and vapor

Acute toxicity, inhalation, vapor (Category 5) May be harmful if inhaled

Skin irritation (Category 2) Causes skin irritation

Eye irritation (Category 2) Causes serious eye irritation

Skin sensitization (Category 1) May cause allergic skin reaction

Reproductive toxicity (Category 1A) May damage fertility or the unborn child

Specific Target Organ

Central Nervous System, Respiratory System (Category 1) Causes damage to organs

Kidney (Category 2) May cause damage to organs

Respiratory System (Category 3) May cause respiratory irritation

Hazard to the aquatic environment, Acute (Category 3) Harmful to aquatic life

GHS Label Elements, including precautionary statements

Pictograms



Signal word: Danger

Hazard Statements

H 225 Highly flammable liquid and vapor

H 315 Causes skin irritation

H 317 May cause an allergic skin reaction

H 319 Causes serious eye irritation

- H 332 Harmful if inhaled
- H 360 May damage fertility or the unborn child
- H 371 May cause damage to organs
- H 372 Causes damage to organs through prolonged or repeated exposure (Central nervous system, Peripheral nervous system, Kidney, Liver, Respiratory system)
- H 411 Toxic to aquatic life with long lasting effects

**Precautionary Statements**

- P 102 Keep out of reach of children
- P 103 Read label before use (use only for intended purpose)
- P 210 Keep away from heat/sparks/open flames/ hot surface – No smoking
- P 262 Do not get in eyes, on skin, or on clothing
- P 270 Do not eat, drink or smoke when using this product
- P 280 Wear protective gloves/protective clothing/eye protection/face protection
- P 301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- P 302+352 IF ON SKIN: Wash with soap and water
- P 304+341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
- P 305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
- P 306+360: IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
- P370+278: In case of fire: Use CO2 gas/foam/dry chemical for extinguishing
- P 402 Store in a dry place
- P 403 Store in a well ventilated place
- P 404 Store in a closed container
- P 410 Protect from sunlight
- P 510 Dispose of contents/container in accordance with all local, regional and national regulations

**Hazardous Material Information System USA**

- Health.....2
- Fire Hazard.....3
- Reactivity.....0
- Personal Protection.....D

**NFPA Rating (estimated)**

- Health.....2
- Flammability.....3
- Reactivity.....0

**Section 2: Composition**

**Hazardous ingredients:**

Chemical Name	CAS#	EC#	Content (%)
2-Butanone	78-93-3	201-159-0	20~30
Toluene	108-88-3	203-625-9	8.2
Silver	7440-22-4	231-131-3	60

**Section 3: Hazard Identification**

**Emergency overview:**

This product contains hazardous material. This product causes eye, skin, and respiratory tract irritation. Exposure to this material's vapors may produce central nervous system effect.

**Target Organs:**

Eyes, Skin, Respiratory tract, Central nervous system.

**Potential Health Effects****Eye:**

May cause eye irritation.

**Skin:**

May cause skin irritation

**Ingestion:**

May cause irritation of the digestive tract. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

**Inhalation:**

Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache dizziness, unconsciousness and coma. Causes respiratory tract irritation. Irritation may lead to chemical pneumonitis and pulmonary edema. May produce numbness in the extremities.

**Chronic:**

Prolonged or repeated skin contact may cause defatting or dermatitis. Chronic overexposure to vapors may cause lung damage.

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## Section 4: First Aid Measures

**Emergency and first aid procedures:**

Get medical assistance for all cases of over-exposure.

**Skin:** Immediately wash skin thoroughly with soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Seek immediate medical attention.

**Eyes:** Immediately flush eyes and inside of eyelids thoroughly with water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Do not allow victim to rub or keep eyes closed. Seek immediate medical attention.

**Inhalation:** Get medical aid immediately. Remove to fresh air immediately. Artificial respiration if breathing has stopped. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased, apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Ingestion:** Do NOT induce vomiting. If conscious and alert, give 2-4 cupfuls of water to drink. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Notes to Physician:** Treat symptomatically and supportively.

**Chronic:** Concentrated, prolonged or deliberate inhalation of this product may cause central nervous system damage.

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## Section 5: Fire Fighting Measures

**Flash Point**..... -6.6°C

**Autoignition Temperature**..... 395°C

**Explosion Limits:**

Lower 1.1 vol %

Upper 11.5 vol %

**Firefighting Procedure:**

Wear self-contained breathing apparatus in pressure-demand full protective gear. Keep all flammable substances away from the heat and flame. Closed container may explode when exposed to extreme heat. Begin firefighting from windward direction.

**Extinguishing Media:**

CO<sub>2</sub>, Foam, Dry Chemical, Dry Sand. Do not use water as the extinguishing medium.

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## Section 6: Accidental Release Measures

Evacuate the area of all unnecessary personnel.

Eliminate all ignition sources such as heat, sparks, open flames and combustible materials.

**Action to take for spills:**

For small spills:

Absorb on to rags, sand, or other absorbent material.

**Disposal considerations:**

Components of this product may be considered hazardous, waste product may be refined to recover precious metal content.

Dispose of in accordance with all federal, state and local regulations.

Note that SPI Supplies sells this item only in 20 gram containers, so large spill will not occur.

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## Section 7: Handling and Storage

**Handling:**

Wash hand thoroughly after using. Wear chemical splash goggles and solvent resistant gloves. Avoid contact with eyes, skin and clothing. Avoid inhalation and ingestion. If the TLV of the product is exceeded, a mechanical exhaust system or self-contained breathing apparatus is advised. No special equipment is deemed necessary under normal usage.

**Storage:**

Store in tightly sealed container. Ground all metal containers during storage and handling to avoid buildup of electrostatic charges. Store at room temperature. Avoid direct sunshine, heat. Keep out of reach of children.

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## Section 8: Exposure Controls and Personal Protection

**Engineering Controls:**

Use explosion proof local exhaust ventilation. An eyewash fountain and a safety shower should be readily available in areas of use or handling.

**Exposure Limits:**

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Silver (metallic)	0.1mg/m <sup>3</sup> TWA	0.01mg/m <sup>3</sup>	0.01 mg/m <sup>3</sup> TWA
Methyl Ethyl Ketone	200 ppm TWA 300 ppm STEL 3000 ppm IDHL	200 ppm TWA 590 mg/m <sup>3</sup> TWA	200ppm TWA 590 mg/m <sup>3</sup> TWA
Toluene	50 ppm TWA	100 ppm TWA 375 mg/m <sup>3</sup> TWA 500 ppm IDHL	200 ppm TWA 300 ppm Ceiling

**OSHA Vacated PELs:****Silver (metallic):** 0.01 mg/m<sup>3</sup> TWA**Methyl Ethyl Ketone:** 200 ppm TWA; 590 mg/m<sup>3</sup> TWA; 300 ppm STEL;  
885 mg/m<sup>3</sup> = STEL**Toluene:** 100 ppm TWA; 375 mg/m<sup>3</sup> TWA

Personal Protective Equipment

**Eyes:** Wear chemical splash goggles**Skin:** Wear solvent resistant gloves to prevent skin contact.**Clothing:** Wear appropriate protective clothing to prevent skin exposure.**Respirators:** If the TLV of the product is exceeded, a mechanical exhaust system or appropriate NIOSH approved self-contained breathing apparatus is advised. Follow OSHA regulations in 29 CFR 1910.134 or European Standard EN 149.

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**Section 9: Physical and Chemical Properties****Physical State:** Liquid**Appearance:** Silver Color**Odor:** Sweetish odor**pH:** Not applicable**Vapor Pressure:** 10500 Pa/20°C**Vapor Density:** Not available**Evaporation Rate:** Not available**Viscosity:** Not available**Boiling Point:** 80°C**Freezing/Melting Point:** Not available**Autoignition Temperature:** 395°C**Flash Point:** -6.6°C**Decomposition Temperature:** Not available**Explosion Limits,**    **Lower:** 1.1 vol.%    **Upper:** 11.5 vol.%**Solubility in water:** Not available**Specific Gravity/Density:** 1.8~2.0**Molecular Formula:** Not available**Molecular Weight:** Not applicable

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## Section 10: Stability and Reactivity

### Chemical Stability:

Stable

### Conditions to Avoid:

Heat; direct sunlight.

### Incompatibility with Other Materials:

Strong oxidizing agents.

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## Section 11: Toxicological Information

### RTECS#:

CAS# 7440-22-4: VW3500000

CAS# 108-88-3: XS5250000

CAS# 78-93-3: EL6475000

### Toxicity data:

CAS# 7440-22-4: not available

CAS# 108-88-3

Draize test, Rabbit, skin: 435 mg - mild

Inhalation, Mouse LC50 400 ppm/24H

Inhalation, Rat LC50 49 gm/m<sup>3</sup>/4H

Oral, Rat 636 mg/kg

CAS# 78-93-3

Draize test, Rabbit, skin: 500mg/24H Moderate

Inhalation, Mouse LC50 32 gm/m<sup>3</sup>/4H

Inhalation, rat LC50 23500 mg/m<sup>3</sup>/8H

Oral, Mouse LD50 3000 mg/kg

Oral, rat LD50 2737 mg/kg

### Carcinogenicity:

CAS# 7440-22-4: Not listed by ACGIH, IARC, NIOSH, NTP or OSHA

CAS# 78-93-3: Not listed by ACGIH, IARC, NIOSH, NTP or OSHA

CAS# 108-88-3: Not listed by ACGIH, IARC, NIOSH, NTP or OSHA

**Epidemiology:** No information available

**Teratogenicity:** CAS# 78-93-3 Embryo or Fetus: death ihl-rat

TCLo=1000ppm Developmental Abnormalities: ihl-rat TCLo=3000ppm/6H

Musculoskeletal abnormalities ihl-rat TCLo+ 1000ppm

CAS# 108-88-3: Occupational exposures to toluene have been reported to be associated with an increased incidence of renal, urinary, gastrointestinal, and cardiac anomalies.

### Reproductive effects:

CAS# 7440-22-4: No information available

CAS# 778-93-3: No information available

CAS# 108-88-3: Women exposed to toluene in the work place exhibit a 4.7 fold increase in the occurrence of spontaneous abortion.

**Neurotoxicity:**

No information available

**Mutagenicity:**

CAS# 78-93-3: Sex chromosome loss: *S.cerevisiae* 33800 = ppm. See entry in RTECS for complete information.

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## Section 12: Ecological Information

**Ecotoxicity:**

CAS# 7440-22-4: No data available

CAS# 78-93-3

Fish: Fathead Minnow LC50 3220 mg/L; 96H; Unspecified ria: *Phytobacterium phosphoreum*: EC50=51.9 mg/L; 25min; Microtox test ria: *Phytobacterium phosphoreum*: EC50=3373 mg/L; 30 min; Microtox test Fathead minnow LC50=3220 mg/L/96H.

CAS# 108-88-3

Bluegil: LC50=17 mg/L/24H; Shrimp LC50=4.3 ppm/96H; Fathead minnow LC50=36.2 mg/L/96H; Sunfish (fresh water) TLM=1180 mg/L/96H.

**Environmental:**

CAS# 7440-22-4: Is more concentrated in bed sediments than in overlying waters due to precipitation and sorption processes.

CAS# 78-93-3: Evaporates in water with half life of 3 days for rivers to 12 days for lakes; is not expected to bioconcentrate in aquatic organisms. Photodegrades in air with half life of 2.3 days.

CAS# 108-88-3

Evaporates from soil and volatilizes from water and is biodegraded.

**Aqueous Milieu Hazard Information**

CAS# 108-88-3

Acute Hazardous to Aquatic Environment – Category 2

Chronic Hazardous to Aquatic Environment – Not Categorized

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## Section 13: Disposal Considerations

Content should be used up before disposal of container.

Recycling is most recommended as this product contains precious metals.

Use only licensed transporters and permitted disposal facilities and conform to all laws.

Care must be taken to prevent environmental contamination from the use of this material.

The user of this material has the responsibility to dispose of unused materials, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

RCRA P-Series: None listed

RCRA U-Series:

CAS# 78-93-3: waste number U159

CAS# 108-88-3: waste number U220

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## Section 14: Transport Information

### US DOT Hazard Class:

UN No. 1263 Packing Group II Hazard Class 3

### IATA (for international shipments)

Packaging Group II

IMCO No. 3.2

Flammable liquid

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## Section 15: Regulatory Information

### United States:

#### TSCA

CAS# 7440-22-4 is listed on the TSCA inventory.

CAS# 78-93-3 is listed on TSCA inventory.

CAS# 108-88-3 is listed on the TSCA Inventory.

#### Health & Safety Reporting List:

CAS# 78-93-3: Effective Date Oct. 4, 1982; Sunset Date Oct. 4, 1992

CAS# 108-88-3: Effective Date Oct. 4, 1982; Sunset Date Oct. 4, 1992

**Chemical Test Rules:** None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b:** None of the chemicals in this product are listed under TSCA Section 12b

**TSCA Significant New Use Rule:** None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous RQ's:

CAS# 7440-22-4: 1000 lb final RQ (no reporting of releases of this hazardous substance is required.)

CAS# 78-93-3: final RQ =3D 5000 pounds (2270 kg)

CAS# 108-88-3: 1000 lb final RQ; 454 kg final RQ

**Section 302 (TPQ):** None of the chemicals in this product have a TPQ.

#### SARA Codes:

CAS # 7440-22-4: delayed, fire

CAS# 78-93-3: acute, flammable

CAS# 108-88-3: immediate, fire

#### Section 313:

This material contains Silver (CAS# 7440-22-4, 60%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Methyl ethyl ketone (CAS# 78-93-3, 20-30%) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Toluene (CAS# 108-88-3, >8.2%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

#### Clean Air Act:

CAS# 78-93-3 is listed as a hazardous air pollutant (HAP).

CAS# 108-88-3 is listed as a hazardous air pollutant (HAP).



This material does not contain any Class 1 Ozone depleters, nor any Class 2 Ozone depleters.

**Clean Water ACT.**

CAS# 108-88-3 is listed as a Hazardous Substance under the CWA.

CAS# 7440-22-4 is listed as a Priority Pollutant under the Clean Water Act.

CAS# 108-88-3 is listed as a Priority Pollutant under the Clean Water Act.

CAS# 7440-22-4 is listed as a Toxic Pollutant under the Clean Water Act.

CAS# 108-88-3 is listed as a Toxic Pollutant under the Clean Water Act.

**OSHA:** None of the chemicals in this product are considered highly hazardous by OSHA.

**State Right to Know Lists:**

CAS# 7440-22-4 is listed with California, Massachusetts, Minnesota, New Jersey, and Pennsylvania.

CAS# 108-93-3 is listed with California, Florida, Massachusetts, Minnesota, New Jersey, and Pennsylvania.

CAS# 108-88-3 is listed with California, Massachusetts, Minnesota, New Jersey, and Pennsylvania.

**California Prop 65**

WARNING: This product contains Toluene, a chemical known to the state of California to cause developmental reproductive toxicity.

**California Prop 65**

WARNING: This product contains Toluene, a chemical known to the state of California to cause developmental reproductive toxicity.

**California No Significant Risk Level:** None of the chemicals in this product are listed.

**European/International Regulations:**

European Labeling in Accordance with EC Directives

Hazard Symbols: +F Highly Flammable; Xn Harmful; Xi Irritant

Risk Phrases:

R11 Highly Flammable

R36 Irritating to the eyes

R38 Irritating to skin

R48/20 Harmful: danger of serious damage to health by prolonged inhalation

R63 Possible risk of harm to the unborn child

R65 Harmful: May cause lung damage if swallowed

R66 Repeated exposure may cause skin cracking or dryness

R67 Vapor may cause drowsiness or dizziness

Safety Phrases:

S2 Keep out of the reach of children

S9 Keep container in a well-ventilated area

S16 Keep away from sources of ignition – No Smoking

S 28A After contact with skin, wash immediately with plenty of water

S36/37 Wear suitable protective clothing and shoes

S46 If swallowed seek medical attention immediately and show this container or label

S62 If swallowed, do not induce vomiting: seek medical attention immediately and show this container

or label

**WGK (Water Danger/Protection):**

CAS# 7440-22-4: 0

CAS# 78-93-3: 1  
CAS# 108-88-3: 0

#### CANADA LISTS:

##### **DSL List**

CAS# 7440-22-4 is listed on Canada's DSL List.  
CAS# 78-93-3 is listed on Canada's DSL List.  
CAS# 108-88-3 is on Canada's DSL List.

##### **Canada's Ingredient Disclosure List**

CAS# 7440-22-4 is listed on Canada's Ingredient Disclosure List.  
CAS# 78-93-3 is on Canada's Ingredient Disclosure List.  
CAS# 108-88-3 is on Canada's Ingredient Disclosure List.

##### **WHMIS**

CAS# 7440-22-4 has a WHMIS classification of D2A.  
CAS# 78-93-3 has a WHMIS classification of B2, D2A.  
CAS# 108-88-3 has a WHMIS classification of D2A.

##### **CHINA**

IECSC: All components utilized in this product are registered in IECSC inventory.

##### **JAPAN**

Industrial Safety and Health Law: Contains indicative/notifieable substance, Dangerous goods (Inflammable Liquid)

Ordinance on Prevention of Organic Solvent Poisoning: Contains Category II organic solvent

Pollutant Release and Transfer Register: Contains Category I Chemical Substance

Fire Service Law: 1st Petroleum Group in Class 4 Hazardous Materials, Hazard Class II

Ship Safety Law: Inflammable Liquid, Intermediate Flash Point Group

Aviation Law: Inflammable Liquid

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## 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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