

SPI Supplies Division

Structure Probe, Inc.

P.O. Box 656 West Chester, PA 19381-0656 USA

Phone: 1-(610)-436-5400 Fax: 1-(610)-436-5755

spi3spi@2spi.com

<http://www.2spi.com>

Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: December 5, 2014

SPI# 04998-AB, 04999-AB

SPI Flash-Dry™ Ag Colloidal Suspension

Section 1: Identification

Chemical Name/Synonyms..... Silver Colloidal Suspension / Silver Conductive Coating

Chemical family..... Silver in Vinyl Resin Solution

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..... Flash Dry Silver Paint

CAS #'s..... 7440-22-4; 108-10-1; N/A – proprietary vinyl resin

Chemical Formula..... mixture

OSHA Hazards

Flammable liquid, Target Organ Effect, Toxic by inhalation, Irritant

Target Organs: Central Nervous System

GHS Classification

Flammable liquids (Category 2)

Acute toxicity, Oral (Category 5)

Acute toxicity, Inhalation (Category 4)

Skin irritation (Category 3)

Eye irritation (Category 2A)

Specific target organ toxicity – single exposure (Category 3)

GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

H225 Highly flammable liquid and vapor.

H303 May be harmful if swallowed

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazardous Material Information System USA

Health..... 2
Fire Hazard..... 3
Reactivity..... 0
Personal Protection..... B

NFPA Rating (estimated)

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

Section 2: Composition

Component Name	CAS #	Wt Percent	EINECS/ELINCS
Silver (metallic)	7440-22-4	50	231-131-3
Methyl Isobutyl Ketone	108-10-1	20	203-550-1
Proprietary Vinyl Resin	n/a	30	n/s

Section 3: Hazard Identification

Emergency overview:

Appearance: Thin silver liquid

Flash Point: 64°F Tag closed cup method

Warning!

Flammable liquid and vapor.

Target Organs: Eyes, Skin, Respiratory System, Liver, Central Nervous System

Potential Health Effects:

Eye:

May cause severe irritation, burning sensation, blurred vision.

Skin:

Repeated or prolonged contact can cause irritation and dermatitis. May be harmful if absorbed through skin.

Ingestion:

May cause gastrointestinal irritation, nausea, vomiting and diarrhea. Effects may be cumulative.

Aspiration hazard: Aspiration of material into lungs may cause chemical pneumonitis, which may be fatal.

Inhalation:

May cause nasal and respiratory irritation, dizziness, nausea, headache. Exposure may cause central nervous system depression. May cause liver abnormalities.

Chronic:

Chronic inhalation or ingestion of silver salts may cause argyria characterized by a permanent blue-gray discoloration of the eyes, skin, mucous membranes and internal organs. Chronic skin exposure to methyl isobutyl ketone may cause defatting and dermatitis of the skin.

Section 4: First Aid Measures

Emergency and first aid procedures:

Get medical assistance for all cases of over-exposure.

Skin: Get medical aid. Immediately flush skin thoroughly with water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse.

Eyes: Get medical aid immediately. Immediately flush 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.

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 milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Notes to Physician: Treat symptomatically and supportively.

Section 5: Fire Fighting Measures

General Information:

Flash point: 64 °F, Tag Closed Cup

Extinguishing Media:

Foam, Carbon Dioxide, or Dry Chemical. Water may not be effective.

Flammable Limits in Air, % by volume:

LEL (Lower Explosive Limit): Not applicable

UEL (Upper Explosive Limit): Not applicable

Special Fire Fighting Procedure:

Self-contained breathing apparatus should be worn.

Unusual Fire and Explosion Hazards:

Keep away from sparks, open flames or other sources of ignition.

Section 6: Accidental Release Measures

General Information:

Use proper protective equipment. Remove all sources of ignition and ventilate area, apply absorbent material and transfer to suitable disposal container.

Spills/Leaks:

Because of its high intrinsic value, and also because it is a non-renewable resource, this material should be reclaimed when possible. When reclaiming is not feasible and disposal is the only alternative, then it should be done in accordance with all applicable federal, state and local regulations

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 a cool and well ventilated place away from incompatible materials. Keep away from heat, sparks and flame. Protect the material from direct sunlight. Ground and bond containers when transferring material from one container to another. Empty containers may retain some or all of the hazardous properties. Follow all MSDS label warnings even after container is emptied.

Section 8: Exposure Controls and Personal Protection

Engineering Controls:

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 ³ TWA	0.01mg/m ³	0.01 mg/m ³ TWA
(dust)	0.01mg/m ³ TWA	10 mg/m ³ IDHL(dust)	
Methyl isobutyl ketone	50ppm TWA	50ppm TWA	100ppm TWA
	75ppm STEL	205 mg/m ³	410 mg/m ³ TWA
Proprietary Vinyl Resin	n/a	n/a	n/a

OSHA Vacated PELs:

Silver (metallic): 0.01 mg/m³ TWA

Methyl isobutyl ketone: 50 ppm TWA; 205 mg/m³ 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:

advised. Follow OSHA regulations in 29 CFR 1910.134 or European Standard EN 149. If the TLV of the product is exceeded, a mechanical exhaust system or appropriate NIOSH approved self-contained breathing apparatus is

Section 9: Physical and Chemical Properties

Section 10

Physical State: Liquid

Appearance: Thin silver liquid

Odor: sharp ketone odor

pH: n/a

Vapor Pressure: 14.5

Vapor Density: n/a

Evaporation Rate: Greater than butyl acetate

Viscosity: n/a

Boiling Point: 237° F
Freezing/Melting Point: n/a
Autoignition Temperature: n/a
Flash Point: 64° F
Decomposition Temperature: n/a

Explosion Limits: Lower: n/a
Upper: n/a

Solubility in water: partial
Specific Gravity/Density: 1.71
Molecular Formula: n/a
Molecular Weight: n/a: Stability and Reactivity

Section 11: Toxicological Information

RTECS#:

CAS# 108-10-1: SA9275000
CAS# 7440-22-4: VW3500000

LD₅₀/LC₅₀ Information:

CAS# 7440-22-4: n/a
CAS#: 108-10-1:

Draize test, rabbit, eye: 40 mg Severe
Draize test, rabbit, skin: 500mg/24H Mild
Inhalation, mouse: LC50 = 23300 mg/m³
Inhalation, rat: LC50 = 100 gm/m³
Oral, mouse: LD50 = 1900 mg/kg
Oral, rat: LD50 = 2080 mg/kg

Carcinogenicity:

CAS# 108-10-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65

ACGIH:

California:

NIOSH:

NTP:

OSHA:

IARC:

CAS# 7440-22-4: IARC Group 4; nonclassified with regard to carcinogenicity.

Teratogenicity:

CAS# 7440-22-4: n/a
CAS# 108-10-1: n/a

Reproductive Effects:

CAS# 7440-22-4: n/a
CAS# 108-10-1: n/a

Neurotoxicity:

CAS# 7440-22-4: n/a
CAS# 108-10-1: Not considered to be a neurotoxin.

Mutagenicity:

CAS# 7440-22-4: n/a
CAS# 108/10/1: Not found

Section 12: Ecological Information

Exotoxicity:

CAS# 7440-22-4: n/a

CAS# 108-10-1:

Flathead Minnow: LC50 = 505 mg/L, 96 hours

Goldfish: LC50 = 460 mg/L, 24 hours

Daphnia: EC50 = 4280 mg/L, 24 hours

Algae: EC50 = 400 mg/L, 96 hours

Environmental Fate:

CAS# 7440-22-4: Use of manganese dioxide or precipitation with halides are the dominant controls for reducing the concentration of dissolved silver in aquatic environments, resulting in higher concentrations of silver in the bed sediments than in the waters above the sediments.

CAS# 108-10-1: In water will undergo direct photolysis and volatilization. In soil, will undergo direct photolysis, volatilization, or aerobic biodegradation. Is not predicted for bioaccumulation.

Physical:

CAS# 7440-22-4: May be accumulated by Flathead minnow, daphnia and algae, but no food chain magnification has been noted.

CAS# 108-10-1: n/a

Section 13: Disposal Considerations

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

RCRA P-Series:

CAS# 7440-22-4: Not listed

CAS# 108-10-1: Not listed

RCRA U-Series:

CAS# 7440-22-4: Not listed

CAS# 108-10-1: Waste number U161 – Ignitable waste

Section 14: Transport Information

Shipping information:

Shipping name: Paint Related Material

Hazard Class: 3

UN/NA Class: UN1263

Label: Flammable liquid

Packing Group: II

Section 15: Regulatory Information

United States:

TSCA

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

CAS# 108-10-1 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 7440-22-4: Not listed

CAS# 108-10-1: Effective 10/4/80, Sunset 10/4/92.

Chemical Test Rules

CAS# 7440-22-5: Not listed

CAS# 108-10-1: Test for Health Effects

Section 12b:

CAS# 7440-22-4: Not listed

CAS# 108-10-1: Section 4 (applies only to those companies that signed an Enforceable Consent Agreement)

TSCA Significant New Use Rule:

CAS# 7440-22-4: Does not have a SNUR under TSCA.

CAS# 108-10-1: Does not have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs:

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

CAS# 108-10-1: 5000 lb final RQ, 2270 kg final RQ.

SARA:**Section 302 (TPQ)**

CAS# 7440-22-4: does not have a TPQ.

CAS# 108-10-1: does not have a TPQ.

SARA Codes

CAS# 7440-22-4: chronic, flammable

CAS# 108-10-1: acute, chronic, flammable, reactive

Section 313

CAS# 7440-22-4: is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

CAS# 108-10-1: is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 7440-22-4 does not contain any hazardous air pollutants, and does not contain any Class 1 or Class 2

Ozone depletors.

CAS# 108-10-1 is listed as a hazardous air pollutant, but does not contain any Class 1 or Class 2 Ozone

depletors.

Clean Water Act:

CAS# 7440-22-4: is not listed as a Hazardous Substance under the CWA, is listed as a Priority Pollutant under the CWA, is listed as a Toxic Pollutant under the CWA.

CAS# 108-10-1: is not listed as a Hazardous Substance, a Priority Pollutant, or a Toxic Pollutant under the CWA.

OSHA:

None of the chemicals in this product is considered highly hazardous by OSHA.

State (Individual states in the USA)

CAS# 7440-22-4: can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 108-10-1: can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop. 65:

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:

CAS# 7440-22-4: n/a

CAS# 108-10-1: XN F

Risk Phrases:

CAS# 7440-22-4:

R33 Danger of Cumulative Effects

CAS# 108-10-1:

R11 Highly Flammable

R36/37 Irritating to eyes and respiratory system

R20 Harmful by inhalation

R66 Repeated exposure may cause skin dryness or cracking

Safety Phrases:

CAS# 7440-22-4:

S37 Wear suitable gloves

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S28A After contact with skin, wash immediately with plenty of water

CAS# 108-10-1:

S16 Keep away from sources of ignition – No smoking

S29 Do not empty into drains.

S9 Keep container in a well-ventilated place

WGK (Water Danger/Protection):

CAS#7440-22-4: 0

CAS# 108-10-1: 1

Canada DSL/NDSL:

CAS# 7440-22-4 is listed on Canada's DSL List.

CAS# 108-10-1 is listed on Canada's DSL List.

Canada WHMIS Classification:

CAS# 7440-22-4 has a WHMIS classification of D2A.

CAS# 108-10-1 has a WHMIS classification of B2.

Canadian Ingredient Disclosure List:

CAS# 7440-22-4 is listed on the Canadian Ingredient Disclosure List.

CAS# 108-10-1 is listed on the Canadian Ingredient Disclosure 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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