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

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

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/m³ TWA 0.01mg/m³ 0.01 mg/m³ TWA
(dust) 0.01mg/m³ TWA 10 mg/m³ IDHL (dust)
Methyl isobutyl ketone 50ppm TWA 50ppm TWA 100ppm TWA
75ppm STEL 205 mg/m³ 410 mg/m³ 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,
volutilization, 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

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 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
Section 16: Other Information

Disclaimer of Liability:

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