

Material Safety Data Sheet

(12640)

Section 1: Chemical Product and Company Identification

Product Name: Colloidal Silver Paste

Catalog Number: 12640

CAS#: See Section 2 below.

Contact Information:

Electron Microscopy Sciences

1560 Industry Road

Hatfield, PA 19440

1-215-412-8400 (phone)

1-800-523-5874 (toll-free)

1-215-412-8450 (fax)

Order Online: emsdiasum.com

CHEMTREC (24-Hour Emergency

Telephone), call: 1-800-424-9300

Section 2: Composition and Information on Ingredients

Principle Hazardous Component(s) (chemical and common name(s)) (CAS No.)	%	OSHA PEL mg/m3	ACGIH TLV mg/m3	NTP	IARC	OSHA Regulated
Silver (7440-22-4)*	~60	0.01	0.01	No	No	No
Arcosolve PM (107-98-2)		100 ppm	100 ppm	No	No	No
Toluene (108-88-3)**	≤	200 ppm	20 ppm	No	3	No
d-Limonene (5989-27-5)		NE	ND	No	No	No
Ethanol (64-17-5)		1000 ppm	1000 ppm	No	No	No
Ethyl Acetate (141-78-6)	≤	400 ppm	400 ppm	No	No	No

*NIOSH IDLH: 10 mg/m3 (as Ag)

** OSHA Reference Toluene: 200 ppm TWA; Also, exposures shall not exceed 300 ppm (ceiling) with the following exception: exposures may exceed 300 ppm, but not more than 500 ppm (peak), for a single time period up to 10 minutes for any 8-hour shift.

Section 3: Hazards Identification

Emergency Overview

Appearance: gray paste

Immediate effects: Flammable material. Caution! May cause skin irritation.

Potential Health Effects:

Primary Routes of Entry: Inhalation, ingestion, skin, and eye contact.

Signs and Symptoms of Overexposure: ND

Skin: May cause skin irritation.

Inhalation: NIF

Chemical Listed as Carcinogen or Potential Carcinogen: No

Eyes: May cause eye irritation.

Ingestion: NIF

Chronic Exposure: NIF

See Toxicological Information (Section 11)

Section 4: First Aid Measures

If accidental overexposure is suspected:

Eye(s) Contact: Flush immediately with large amounts of water for at least 15 minutes.

Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

Skin Contact: Wash area thoroughly with soap and water. Get medical aid if irritation develops or persists.

Inhalation: Remove from exposure to fresh air immediately. Get medical aid if cough or other symptoms appear.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. If victim is conscious and alert, give 2-4 cups full of milk or water. Get medical aid.

Note to physician:

Treatment: ND

Medical Conditions generally aggravated by exposure: ND

Section 5: Fire and Explosion Data

Flash Point: 24°F (Ethyl Acetate)

Flammable Limits: ND

Auto-ignition point: ND

Fire Extinguishing Media: Carbon dioxide, foam, dry chemical, water

Special Fire Fighting Procedures: As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

Unusual Fire and Explosion Hazards: Can burn in fire, releasing toxic vapors. Vaporized easily at normal temperatures.

Hazardous Combustion products: Forms carbon dioxide and carbon monoxide.

DOT Class: Flammable

Section 6: Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Wear protective equipment. For an uncontrolled release of this product to the environment, take immediate steps to stop and contain release. Notify local authorities, if required.

Clean up with rags or paper and place in container for refining.

Waste Disposal Methods: Dispose of waste according to Federal, State, and Local Regulations.

Section 7 : Handling and Storage

Precautions to be Taken in Handling and Storage: Used with adequate ventilation. Avoid contact with skin and eyes.

Wash thoroughly after handling. Keep container closed when not in use.

Storage temperature: Store at ambient or lower temperature.

Storage Pressure: NA

Section 8: Exposure Controls/Personal Protection

Engineering Controls: Ventilation required: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protection Equipment: Respiratory protection: Good general ventilation should be sufficient to control airborne levels. A NIOSH approved dust/mist respirator is recommended when TLV levels are exceeded.

Protective gloves: Use appropriate chemical gloves when handling.

Skin protection: Use appropriate protective clothing, gloves and shoes.

Eye protection: Wear chemical safety glasses with side shields or face shield.

Additional clothing and/or equipment: Eye wash facilities available where eye contact can occur.

Exposure Guidelines: See Composition/Information on Ingredients (Section 2).

Section 9: Physical and Chemical Properties

Appearance and Physical State: grey paste liquid	Odor (threshold): Strong odor
Specific Gravity (H₂O=1): ND	Vapor Pressure (mm Hg): ND
Vapor Density (air=1): ND	Percent Volatile by volume: ND
Evaporation Rate (butyl acetate=1): ND	Boiling Point: 167°F
Freezing point/melting point: ND	pH: NA
Solubility in water: ND	Molecular Weight: NA

Section 10: Stability and Reactivity Data

Stability: Stable under normal conditions of use. Keep cap tight.
Conditions to Avoid: Incompatible materials
Materials to Avoid (Incompatibility): Strong oxidizers, acids, and alkali.
Hazardous Decomposition Products: Carbon dioxide and carbon monoxide.
Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

Results of component toxicity test performed: ND **Human experience:** ND
This product **does not** contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

Section 12: Ecological Information

Ecological Information: Ecological data are not available. Material should be treated as harmful to aquatic organisms.
Chemical Fate Information: ND

Section 13: Disposal Considerations

RCRA 40 CFR 261 Classification: Can be recycled to recover precious metal.
Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14: Transport Information

US DOT Information: Proper shipping name: Flammable liquid, n.o.s. (1-Methoxy-2-Propanol, Toluene)
Hazard Class: 3 Packaging Group: III UN Number: UN1993
IATA: Proper shipping name: Flammable liquid, (1-Methoxy-2-Propanol, Toluene)
Hazard Class: 3 Packing group: III UN Number: UN1993
IMO: Proper shipping name: Flammable liquid, (1-Methoxy-2-Propanol, Toluene)
Class: 3 UN Number: UN1993 Packing group: III
Marine Pollutant: No Canadian TDG: Flammable liquid; n.o.s. (1-Methoxy-2-Propanol, Toluene)

Section 15: Other Regulatory Information

United States Federal Regulations

MSDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.

SARA:

SARA Title III: Following ingredients of this product are listed in SARA 313: Silver: CAS# 7440-224-4, 60% Maximum. Toluene: CAS# 108-88-3, 10%

Maximum. Ethyl Acetate: CAS# 141-78-6, 4% Maximum. Silver: CAS# 7440-22-4, 60% Maximum.

RCRA: ND

TSCA: All components of this product are listed on the TSCA Inventory.

CERCLA: Toluene: RQ = 1000 lbs (45.4 Kg), Silver: RQ = 1000 lbs (45.4 Kg), Ethyl Acetate: RQ=5000 lbs (2270 Kg)

State Regulations:

California Proposition 65: Contains Toluene and Ethanol. These chemicals are known to the State of California to cause birth defects or other reproductive harm.

International Regulations

Canada WHMIS: ND

Europe EINECS Numbers: ND

Section 16: Other Information:

Label Information: ND

European symbols needed: ND

Hazard Rating HMIS®: Health: 2

NFPA Ratings: Health: 2

(0=least, 1=slight, 2=moderate, 3=high, 4=extreme)

Abbreviations used in this document

NE – not established

NA – not applicable

NIF – no information found

ND – no data

European Risk and Safety Phrases: ND

Canadian WHMIS Symbols: ND

Flammability: 3

Physical Hazard: 0

Flammability: 3

Instability: 0

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