

40 S. Linden Street, Duquesne, PA 15110 USA

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MATERIAL SAFETY DATA SHEET COMPLIES WITH 29 CFR 1910.1200. OSHA HAZARD COMMUNICATION RULE

DATE OF LAST REVISION: 4-11-07

CHEMICAL IDENTITY

LABEL IDENTITY	SILVER		
CHEMICAL NAME/SYNONYMS	SILVER		
FORMULA	Ag		
CHEMICAL FAMILY	METAL		
HAZARDOUS INGREDIENTS	SILVER		
%: 100 TLV: 0.1mg/m3	CAS: 7440-2-4	OSHA/PEL:	10mg/m3

#### PHYSICAL AND CHEMICAL PROPERTIES

COLOR, FORM AND ODOR

BOILING POINT DENSITY (gm/cc) VAPOR PRESSURE @ 20° % VOLATILE BY VOLUME (%) REACTION WITH WATER EVAPORATION RATE (H20=1) SOLUBILITY IN WATER MELTING POINT Soft, ductile, malleable, lustrous, white Metal, odorless. 2212 19,50 at 20° NA NA NA None NA Insoluble 961.93

#### FIRE AND EXPLOSION HAZARD DATA

FLASH POINT AUTOIGNITION TEMPERATURE (°C) FLAMMABILITY EXTINGUISHING MEDIA	NA ND Flammable hazard as a fine powder or dust Do not use water on metal fires! Use dry chemical, Co2, sand, graphite.
SPECIAL FIRE FIGHTING PROCEDURES	Wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.
UNUSUAL FIRE & EXPLOSION HAZARDS	Material may emit toxic fumes if involved in a fire. Moderate fire and explosion hazard as a fine powder or dust when exposed to heat or flame, or by chemical reaction with Cf2H2, NH3, bromazide, C1F3, ethylene imine, H202, oxalic acid, H2So4, tartaric acid. Material is blackened by ozone, H2S, S. (powder - 200, 1325 mesh).





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#### HEALTH HAZARD INFORMATION

TOXICITY DATA mul-rat TDLO: 330 mg/kg ihl-hmn TCLO: 1 mg/m3 imp-rat TDLO: 2400 mg/kg imp-mus TDLO: 11 gm/kg imp-rat TD: 2570 mg/kg

HMIS RATING:

HEALTH: 3\* FLAMMABILITY: 2 REACTIVITY: 1 PERSONAL PROTECTION: J

ROUTES OF ENTRY	INHALATION:	Yes
	SKIN:	No
	INGESTION:	Yes

EFFECTS OF OVEREXPOSURE (acute and chronic):

INHALATION: May be irritating to respiratory tract and mucous membranes. Sneezing, coughing, difficulty breathing and pulmonary edema may occur. DERMAL/EYE: Irritation. Redness, inflammation possible. May cause dermatitis. The absorption of silver compounds into the circulation and the OTHER: subsequent deposition of the reduced silver in various tissues of the body may result in the production of a generalized gravish pigmentation of the skin and mucous membranes - a condition known as argyria. The introduction of fine particles of silver through breaks in the skin produces a local pigmentation at the site of the injury. 1 mg/m2 of Ag dust causes skin effects. Generalized argyria, rarely seen at the present time, was not infrequent in the past. The condition developed slowly, usually after some 2-25 years of exposure. Pigmentation was noticeable first in conjunctivae, and later in the mucous membranes of the mouth and gums and in the skin. There were no constitutional symptoms, and no physical disability. Persons exhibiting the condition and who subsequently died from deposition of silver in the blood vessel walls, kidney, testes, pituitose, choroid plexus, and mucous membranes of the nose, maxillary antra, silver can be eliminated; the pigmentation is permanent. Silver is an experimental equivocal tumorigenic.

CARCINOGENICITY: None NTP: No IARC MONOGRAPHS: NO OSHA REGULATE: No

EMERGENCY FIRST AID PROCEDURES:

INGESTION: Administer 1 to 2 glasses of milk or water and induce vomiting, seek medical attention immediately.

INHALATION: Remove to fresh air, Administer oxygen if breathing is difficult. Seek medical attention

SKIN CONTACT: Wash affected area with soap and water, seek medical attention EYE CONTACT: Flush eyes for at least 15 minutes with lukewarm water, seek medical.



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# REACTIVITY DATA

Stable

None

STABILITY CONDITIONS CONTRIBUTING TO UNSTABILITY INCOMPATIBILITY (MATERIALS TO AVOID) Bromine azide 3-Bromopropyne Carboxy

INCOMPATIBILITY (MATERIALS TO AVOID) Bromine azide, 3-Bromopropyne, Carboxylic acids, C1F3, (Cu, Ethylene glycol), electrolytes, (ethanol, HNO3), Ethylene oxide, ethyl hydroperoxide, H202, lodoform, ozonides, peroxo-monosulfuric acid, Peroxyformic acid. HAZARDOUS DECOMPOSITION PRODUCTS Acetylenic compounds, Aziridine, Bromine azide, 3-Bromopropyne, Carboxylic acids, C1F3, (Cu, Ethylene glycol), electrolytes, (ethanol, HNO3), Ethylene oxide, ethyl hydroperoxide, H202, lodoform, ozonides, peroxo-monosulfuric acid, Peroxyformic acid. HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS DECOMPOSITION FRO HAZARDOUD POLYMERZATION CONDITIONS TO AVOID Ag20 Will Not Occur Heat, flames, sparks, incompatible materials.

# SAFE HANDLING AND USE

#### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Wear self-contained breathing apparatus and full protective clothing. Isolate the area where the spill occurred and insure that proper ventilation is available. Vacuum up the spill using a high efficiency unit and place in a container for proper disposal. Take care not to raise dust.

#### WASTE DISPOSAL METHOD:

Dispose of in accordance with applicable federal, state, and local regulation.

### SPECIAL PROTECTIVE INFORMATION

#### **RESPIRATORY PROTECTION**

LOCAL EXHAUST MECHANICAL (general) SPECIAL OTHER PROTECTIVE GLOVES EYE PROTECTION OTHER PROTECTIVE EQUIPMENT Wear NIOSH-approved dust-mist-fume cartridge respirator. Maintain exposure below TLV. Recommended Handle in a controlled atmosphere. NA Neoprene Safety glasses Wear protective clothing to prevent contamination of skin and clothes

## SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:

Store in tightly closed container in a cool dry place, wash hands and face thoroughly after handling and before meals.



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TRANSPORTATION REQUIREMENTS

DOT CLASS: **UN NUMBER:** IMCO CLASS: OTHER:

Not Classified NC NC

PRECAUTIONARY LABELING

NONE

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