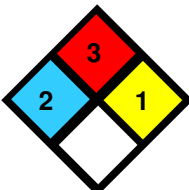


# MATERIAL SAFETY DATA SHEET

## Silver (I) Oxide

<b>NFPA</b> 	<b>HMIS</b> <table border="1"><tr><td>HEALTH</td><td style="text-align: center;">2</td></tr><tr><td>FLAMMABILITY</td><td style="text-align: center;">3</td></tr><tr><td>REACTIVITY</td><td style="text-align: center;">1</td></tr><tr><td>PERSONAL PROTECTION</td><td style="text-align: center;">J</td></tr></table>	HEALTH	2	FLAMMABILITY	3	REACTIVITY	1	PERSONAL PROTECTION	J
HEALTH	2								
FLAMMABILITY	3								
REACTIVITY	1								
PERSONAL PROTECTION	J								

### 1. Product And Company Identification

<b>Supplier</b> Colonial Metals, Inc. Building 20 505 Blue Ball Road Elkton, MD 21921 United States  Company Contact: Joseph Fittos III Telephone Number: 410-398-7200 FAX Number: 410-398-2918 E-Mail: jfittos@colonialmetals.com Web Site: colonialmetals.com	<b>Manufacturer</b> Colonial Metals, Inc. Building 20 505 Blue Ball Road Elkton, MD 21921 United States  Company Contact: Joseph Fittos III Telephone Number: 410-398-7200 FAX Number: 410-398-2918 E-Mail: jfittos@colonialmetals.com Web Site: colonialmetals.com
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<b>Supplier Emergency Contacts &amp; Phone Number</b> Chemtrac: 800-424-9300 World Wide - Call COLLECT to U.S: 703-527-3887	<b>Manufacturer Emergency Contacts &amp; Phone Number</b> Chemtrac: 800-424-9300 World Wide - Call COLLECT to U.S: 703-527-3887
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**Issue Date:** 08/21/2008

**Product Name:** Silver (I) Oxide  
**Chemical Name:** Silver (I) Oxide; Argentous Oxide  
**CAS Number:** 20667-12-3  
**Chemical Family:** Group 1B Metal Salts  
**Chemical Formula:** Ag<sub>2</sub>O  
**MSDS Number:** 9008  
**Product Code:** 9008

**Synonyms**  
Silver (I) Oxide; Argentous Oxide

### 2. Composition/Information On Ingredients

Ingredient Name	CAS Number	Percent Of Total Weight
Silver (I) Oxide	20667-12-3	99.9

### EMERGENCY OVERVIEW

**Irritant**  
**Oxidizing**

Contact with combustible material may cause a fire.

To the best of our knowledge the chemical, physical, and toxicological properties of this compound have not been thoroughly investigated.

# MATERIAL SAFETY DATA SHEET

## Silver (I) Oxide

### Hazards Identification (Pictograms)



### 3. Hazards Identification

#### Primary Routes(s) Of Entry

Eye: Likely  
Inhalation: Likely  
Skin: Likely  
Ingestion: Likely

#### Eye Hazards

Contact with eyes may cause severe irritation, and possible eye burns.

#### Skin Hazards

Causes skin burns and irritation. May be harmful if absorbed through the skin.

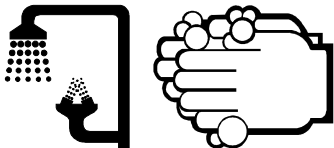
#### Ingestion Hazards

May be harmful if swallowed.

#### Inhalation Hazards

Material is irritating to the upper respiratory tract and mucous membranes. May be harmful if inhaled.

### First Aid (Pictograms)



### 4. First Aid Measures

#### Eye

Flush for 15 minutes with plenty of water. If discomfort occurs or persists, contact a physician immediately.

#### Skin

Flush area for 15 minutes with copious amounts of water. If discomfort occurs or persists, contact a physician immediately. Remove contaminated clothing and shoes and wash before reuse.

#### Ingestion

Wash out mouth with water provided victim is conscious. Never give anything by mouth to an unconscious person. Contact a physician immediately.

#### Inhalation

Remove to fresh air immediately. If victim is not breathing perform artificial respiration. Contact a physician immediately.

# MATERIAL SAFETY DATA SHEET

## Silver (I) Oxide

### Fire Fighting (Pictograms)



### 5. Fire Fighting Measures

**Flash Point:** NA °C

**Autoignition Point:** NA °C

**Flammability Class:** NA

#### Fire And Explosion Hazards

Use proper safety equipment. Emits toxic fumes under fire conditions. Contact with other material may cause fire. May accelerate combustion.

#### Extinguishing Media

Use dry chemical powder, carbon dioxide or appropriate foam.

#### Fire Fighting Instructions

Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

### 6. Accidental Release Measures

Sweep or soak up and place in sealed container, taking care to avoid dusting. Person protected with full face shield and proper respirator for dust. Ventilate area and wash spill site after material pickup is complete.

### Handling & Storage (Pictograms)



### 7. Handling And Storage

#### Handling Precautions

Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

#### Storage Precautions

Keep in a tightly sealed container away from combustible materials, heat, spark, and open flames.

#### Work/Hygienic Practices

Use good personal hygiene. Wash thoroughly with soap and water after handling.

Light Sensitive

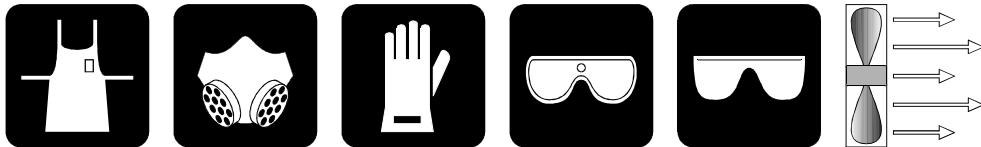
Other Precautions

0.01 ppm high efficiency particular respirator/supplied air respirator/self-contained breathing apparatus; 0.2 ppm same as above with full face piece; 1 ppm powdered air purifying respirator with high efficiency filter/type C supplied air respirator operated in pressure demand mode. Store in a sealed container, plastic or plastic liner, in a cool, well ventilated, dry area away from oxidizers.

# MATERIAL SAFETY DATA SHEET

## Silver (I) Oxide

### Protective Clothing (Pictograms)



### 8. Exposure Controls/Personal Protection

#### Engineering Controls

Ventilation: Local Exhaust: Required in handling area  
Mechanical: Desirable to insure concentration of material below TLV/TWA levels  
Other: Closed Ventilation system (Laboratory Fume Hood)

Safety shower and eyewash

#### Eye/Face Protection

ANSI approved safety glasses/goggles

#### Skin Protection

Rubber/Neoprene (use compatible chemical-resistant gloves).

#### Respiratory Protection

NIOSH approved chemical cartridge respirator for dust/mist/fume/radionuclide or self-contained breathing apparatus with full face shield.

#### Other/General Protection

Lab coat/apron, flame and chemical resistant protective clothing, eye wash, safety shower, and hygiene facilities for washing.

### 9. Physical And Chemical Properties

#### Appearance

Brownish black powder

#### Odor

Odorless

**Chemical Type:** Mixture

**Physical State:** Solid

**Melting Point:** NA °C

**Specific Gravity:** 7.143

**Molecular Weight:** 231.74

**Vapor Pressure:** NA

**Vapor Density:** NA

**pH Factor:** NA

**Solubility:** insoluble

**Evaporation Rate:** NA

This product will decompose at 230 degree C.

### 10. Stability And Reactivity

**Stability:** Stable

**Hazardous Polymerization:** Will not occur

#### Conditions To Avoid (Stability)

Elevated temperature, exposure to light.

# MATERIAL SAFETY DATA SHEET

## Silver (I) Oxide

### 10. Stability And Reactivity - Continued

#### Incompatible Materials

Strong oxidizing agents, strong acids, ammonia, amines.

#### Hazardous Decomposition Products

NA

### 11. Toxicological Information

#### Acute Studies

Oral

Rat

2,820 mg/kg

LD50

Intraperitoneal Intraperitoneal

Rat

70 MG/KG

LD50

Oral

Mouse

1027 mg/kg

LD50

Remarks: Lungs, Thorax, or Respiration:Cyanosis.

Behavioral:Tetany. Gastrointestinal:Hypermotility, diarrhea.

Behavioral:Tetany. Lungs, Thorax, or Respiration:Cyanosis.

Gastrointestinal:Hypermotility, diarrhea.

Intraperitoneal

Mouse

37 MG/KG

LD50

To the best of our knowledge, the chemical, physical, and toxicological properties of this compound have not been thoroughly investigated.

May cause argyria (a slate-gray or bluish discoloration of the skin and deep tissues due to the deposit of insoluble albuminate of silver).

### 12. Ecological Information

No Data Available...

### 13. Disposal Considerations

Place in sealed container. Consult Federal EPA, State and local regulations for proper disposal/recycle/reclamation

NOTE: Chemical additions, processing, or otherwise altering this material may make the waste management information presented above incomplete, inaccurate, or otherwise inappropriate.

#### RCRA Information

EPA HW NO: D011 (Ag CAS NO.: 7440-22-4)

### 14. Transport Information

#### Proper Shipping Name

Oxidizing Solid, N.O.S (Silver Oxide)

# MATERIAL SAFETY DATA SHEET

## Silver (I) Oxide

### 14. Transport Information - Continued

**Hazard Class**

5.1

**Secondary Hazard Class**

NA

**DOT Identification Number**

1479

**DOT Shipping Label**

Oxidizer

**Freight Class**

See 49 CFR

**Packaging Exceptions**

See 49 CFR

**Packaging Requirements**

PG - II

**Additional Shipping Paper Description**

IATA: Same as DOT regulations. Always consult IATA manual before shipping.

**DOT (Pictograms)**

### 15. Regulatory Information

**U.S. Regulatory Information**

This product is TSCA Listed.

**SARA Section 313 Notification**

This product is subject to SARA section 313 reporting requirements.

**Canadian Regulatory Information**

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

**European Union (EU) Regulatory Information**

Symbol of Danger: Xi-O

Indication of Danger: Irritant. Oxidizing.

R: 36/37/38

Risk Statements: Irritating to eyes, respiratory system and skin.

S: 17-26-36

Safety Statements: Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

# MATERIAL SAFETY DATA SHEET

## Silver (I) Oxide

### DSCL - Europe (Pictograms)



### 16. Other Information

#### NFPA Rating

Health: 2

Fire: 3

Reactivity: 1

#### HMIS Rating

Health: 2

Fire: 3

Reactivity: 1

Personal Protection: J

#### Revision/Preparer Information

MSDS Preparer: Joseph J. Fittos III

MSDS Preparer Phone Number: 410-398-7200

This MSDS Supercedes A Previous MSDS Dated: 08/09/2001

### Disclaimer

In compliance with the OSHA Hazard Communication Standard, 29 C.F.R 1910.1200, we are providing you with a Materials Safety Data Sheet (MSDS) for the hazardous material you are purchasing.

It is your responsibility to educate your employees on the safe use of the hazardous material. With this in mind, a copy should be forwarded to the supervisor of the user or to the user themselves, and copy should be retained in your files for future reference.

Colonial Metals, Inc. makes no presentation as to the accuracy of the information in the MSDS. The information is believed to be correct; however, you (the customer), should perform your own investigation and independent verification. If you resell the product, you are responsible to forward the information in the MSDS to your customer.

Colonial Metals, Inc.