

## Safety Data Sheet

### 29 CFR 1910.1200

#### Section 1: Company and Product Identification

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**Product Name:** Silver (I) Oxide

**Product Code:** 9008

**Company:** Colonial Metals, Inc.  
 Building 20  
 505 Blue Ball Road  
 Elkton, MD 21921 United States  
 Company Contact: EHS Director  
 Telephone Number: 410-398-7200  
 FAX Number: 410-398-2918  
 E-Mail : info@colonialmetals.com  
 Web Site: www.colonialmetals.com



www.colonialmetals.com

**Emergency Response:** Supplier Emergency Contacts & Phone Number  
 Chemtrec: 800-424-9300  
 World Wide - Call COLLECT to U.S: 703-527-3887

#### Section 2: Hazards Identification

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GHS07

GHS03

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**Hazard Pictograms:**



**Signal Word:** Danger

**Hazard Category:** Specific target organ tox, single exp. Cat 3 (resp irrit)  
 Skin corrosion/irritation Cat 2  
 Serious eye damage/eye irritation Cat 2  
 Acute tox, oral Cat 4  
 Oxidizer Cat 2

**Hazard Statements:** H335: May cause respiratory irritation  
 H315: Causes skin irritation  
 H319: Causes serious eye irritation  
 H302: Harmful if swallowed  
 H272: May intensify fire; oxidizer

**Precautionary Statements:** P260: Do not breathe dust/fume/gas/mist/vapors/spray  
 P264: Wash thoroughly after handling  
 P270: Do not eat, drink or smoke when using this product  
 P271: Use only outdoors or in a well-ventilated area  
 P272: Contaminated work clothing should not be allowed out of the workplace  
 P280: Wear protective gloves/protective clothing/eye protection/face protection  
 P284: Wear respiratory protection

**Hazards not otherwise classified:** **Chronic/Carcinogenicity Effects:**  
 Long term exposure to silver and silver salts can lead to the condition known as argyria-a general gray pigmentation of the skin and mucous membranes.

**Conditions Aggravated By Exposure:**

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

**Conditions Aggravated By Overexposure:**

Prolonged or repeated inhalation, application or ingestion of silver compounds may cause a permanent bluish discoloration of the skin and mucous membranes.

**Section 3: Composition / Information on Ingredients**

Hazardous substance (name)	Hazard Category	CAS#	Weight %
Silver Oxide	Irritant/Oxidizer	20667-12-3	99.9
Chemical Family: Group 1B Metal Salts Chemical Formula: Ag <sub>2</sub> O			
Synonyms Argentous Oxide			
Avoid contact and inhalation.			

**Section 4: First Aid Measures**

**General Info:** Consult a Physician. Show this safety data sheet to the doctor in attendance.

**Notable Exposure:** Irritation to skin, eyes and areas of contact.

**symptoms:**

**If ingested:** Rinse mouth. Seek immediate medical attention immediately. Clear the airway and administer artificial respiration if not breathing.

If swallowed, do not induce vomiting unless directed to do so by medical personnel.

**If inhaled:** Remove the victim from the contaminated area while protecting yourself from exposure by wearing an appropriate respirator. Put a similar respirator on the victim if possible. Get medical attention immediately.

**Eye contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Get immediate medical attention.

**Skin contact:** Flush area for 15 minutes with water and wash with soap and water. Contact a physician immediately. Remove contaminated clothing and shoes and wash before reuse.

**Section 5: Fire Fighting Measures**

**General Info:** Strong oxidizer. Contact with other material may cause fire. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products

**Extinguishing:** Use water spray, carbon dioxide, dry chemical powder, or appropriate foam.

**Method / Equipment:**

**Hazardous:** Can decompose to emit toxic fumes under fire conditions (Sulphur Oxides, Silver Oxides)

**Decomposition Info:**

**Section 6: Accidental Release Measures**

**Personal precautions, protective equipment and procedures:** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate respiratory protective equipment and clothing during clean-up. Avoid breathing dust. Ventilate area if easy to do so, Contact local authorities if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Containment Equipment and Procedures:** Large Spills: Contain actively spilling material if safe and easy to do so. Do not let product enter drains. Sweep up and placed in a proper vessel for recovery or disposal. Avoid raising dust. Ventilate and wash spill site after cleanup is complete..

Small Spills: Sweep or soak up and place in sealed container. Taking care to avoid dusting.

**Cleanup Procedures:** Contain spillage and then collect with an electrically protected vacuum cleaner or by wet brushing and place in container for disposal according to local regulations.

**Section 7: Handling and Storage**

**Safe Handling Precautions:** Do not handle until all safety precautions have been read and understood. Keep containers tightly closed Ensure adequate ventilation. Avoid creating and breathing dust/vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment and wash thoroughly after handling. Keep away from ignition sources.

**Recommendations for Storage:** Store in cool, dry area in a tightly closed product container under inert gas away from sources of ignition or flame. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

**Incompatibilities:** Light Sensitive, Strong oxidizing agents

## Section 8: Exposure Control / Personal Protection

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**General / Engineering Ventilation:** Local Exhaust: Required in handling area

**Controls:** Mechanical: Desirable to insure concentration of material below TLV/TWA levels  
Other: Closed Ventilation system - Dust (Laboratory Fume Hood)

**Work Clothing:** Protective work clothing which covers skin and prevents exposures.

**Eye/face protection:** Wear safety glasses with side shields or goggles or face shield.

**Skin Protection:** Wear chemical resistant gloves.

**Respiratory Protection:** NIOSH approved chemical cartridge respirator for particulates and dust or self-contained breathing apparatus with full face shield.

**Additional Information:** Observe good chemical hygiene practices. Do not smoke or eat while using this product. Wash hands or exposed skin after using the product.

## Section 9: Physical and Chemical Properties

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<b>State:</b> Solid	<b>Melting Point:</b> 392 deg F	<b>Freezing Point:</b> N/A
<b>Color:</b> Brown or Black	<b>Boiling Point/Range:</b> N/A	<b>pH:</b> N/A
<b>Molecular Wt.</b> 231.74 g/mol	<b>Odor:</b> None	<b>Water Solubility:</b> Negligible in water
<b>Specific Gravity:</b> 7.14	<b>Flash Point:</b> N/A	<b>Part. Coeff (n-octanol/water):</b> N/A
<b>Upper Flam Limits:</b> N/A	<b>Lower Flam Limits:</b> N/A	<b>Vapor Density:</b> N/A
<b>VOC Content (lbs/gal):</b> N/A	<b>Viscosity:</b> N/A	<b>Autoignition Temp:</b> N/A

## Section 10: Stability and Reactivity

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**General:** This product is stable and non-reactive under normal conditions of use. Product is not subject to hazardous polymerization. Avoid open flame and ignition sources.

**Stability:** Stable, Absorbs carbon dioxide from the air

**Conditions to Avoid:** Elevated temperatures and exposure to light

**Incompatible materials:** Reacts dangerously with ammonia. Grinding silver oxide with metal sulfides, selenium, sulfur, or phosphorus can cause ignition. Hydrogen sulfide may ignite when in contact with silver oxide. Incompatible with hydrazines, amines, sulfur, metal sulfides, and carbon monoxide.

**Decomposition products:** Strong oxidizing agents, strong acids, ammonia, amines

## Section 11: Toxicological Information

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**General Information:** To the best of our knowledge the chemical, physical, and toxicological effects of this compound have not been thoroughly investigated.

**Toxicological Information (product):** No Data Available

**Likely Routes of Exposure:** Eye Contact  
Skin Contact  
Inhalation  
Ingestion - possible, but considered unlikely.

**Toxicological Information (contained substances)**

**Carcinogenicity or mutagenicity:** CAS# 20667-12-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65. To the best of our knowledge the chemical, physical, and toxicological effects of this compound have not been thoroughly

**Sensitization:** Product is not expected to be a sensitizer.

**Other Notes:** Acute Studies

Oral  
Rat  
2,820 mg/kg  
LD50

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

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

**Section 12: Ecological Information**

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**General information:** No data available

**Aquatic toxicity:** No data available

**Degradation / Mobility info:** No specific data available.

**Bioaccumulative potential:** No specific data available.

**Section 13: Disposal Information**

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**Product disposal:** Place in a 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.

**Container disposal:** Treat empty containers with extra care. Consult waste contractor.

**Section 14: Transport Information**

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**DOT:** Proper Shipping Name:  
Oxidizing Solid, N.O.S (Silver Oxide)  
Hazard Class:  
5.1  
DOT Identification Number:  
1479  
DOT Shipping Label:  
OXIDIZER (Contains Silver Oxide) N.O.S.  
Packaging Requirements:  
Packaging Group II

**IMO/IMDG:** No data available

**IATA:** Always consult IATA manual before shipping.

**Comments:** None

**Section 15: Regulatory Information**

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**TSCA:** This product is TSCA Listed

**SARA:** SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 20667-12-3: immediate, delayed, fire.

Section 313

This material contains Silver oxide (Ag<sub>2</sub>O) (listed as Silver compounds), 100%, (CAS# 20667-12-3) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part

**Canadian DSL:** 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.

**European Union (EU)** Symbol of Danger: Xi-O

**Regulatory** Indication of Danger: Irritant. Oxidizing.

**Information:** 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.

**State Right to Know:** CAS# 20667-12-3 can be found on the following state right to know lists: California, (listed as Silver compounds), Pennsylvania, (listed as Silver compounds).

**Section 16: Other Information**

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**NFPA Rating**

Health: 2

Fire: 3

Reactivity: 1

Oxidizer

**HMIS Rating**

Health: 2

Fire: 3

Reactivity: 1

Personal

Protection: J

**Precautionary Label**

Irritant Oxidizer

**Disclaimer:** In compliance with the OSHA Hazard communication Standard, 2.9 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 believe to be correct; however, you (the customer), should preform 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.

**SDS Author:** John Kerchner

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