

# Material Safety Data Sheet

1-8-10 Rev: 5

**Product Name:** Silver Oxide / CAS#20667-12-3  
Synonyms: argentous oxide, disilver oxide, silver (I) oxide  
Molecular formula: Ag<sub>2</sub>O

## 1. Product and Company Description

Ames Goldsmith Corp.  
21 Roger Street  
Glens Falls, NY 12801  
U.S.A

**For Product Information/Emergency Phone Number:**  
518-792-5808

**Chemical Name or Synonym:**  
N/A

## 2. Chemical Composition

Component/CAS #	Symbol	Risk Phrases	EINECS #	%
Silver Oxide type II/ CAS#20667-12-3	None	R8 R36 R37 R38 R44	243-957-1	93.1

## 3. Hazards Identification

### A. Emergency Overview:

**DANGER! OXIDIZER CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. HARMFUL IF SWALLOWED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.**

#### **Information Pertaining To Particular Dangers for Man and Environment:**

Classification: This preparation is not classified as hazardous according to the latest adaptations of European Union Directives 67/548/EEC and 1999/45/EC.

#### **Physical Appearance:**

Brown-black powder with no odor.

### B. Potential Health Effects:

#### **Acute Eye:**

Dusts may cause irritation.

#### **Acute Skin:**

May cause irritation.

#### **Acute Inhalation:**

May be irritating to respiratory tract. Argyria, a blue-gray discoloration of the skin, mucus membranes and eyes may result from inhalation of silver.

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**Acute ingestion:**

Not considered a route of exposure under anticipated use conditions. May cause irritation if ingested.

**Medical Conditions Generally Aggravated by Exposure:**

Not Determined.

## 4. First Aid Measures

**First Aid Measures for Accidental:****Eye Exposure:**

Immediately flush eyes with copious amounts of water. If irritation develops, SEEK MEDICAL ATTENTION.

**Skin Exposure:**

Wash affected area with water for extended period. If irritation develops, seek medical attention.

**Inhalation:**

Move to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen. SEEK MEDICAL ATTENTION.

**Ingestion:**

Give large quantities of water. Never give anything by mouth to an unconscious person. Seek medical attention.

## 5. Fire Fighting Measures

**Fire Hazard Data:**

**Autoignition:** N/A

**Flash Point:** N/A

**Flammability Limits (vol/vol %):**

**Lower:**  
N/A

**Upper:**  
N/A

**Extinguishing Media:**

Use extinguishing media appropriate for surrounding fire.

**Special Fire Fighting Procedures:**

Use self contained breathing apparatus with full face mask.

**Unusual Fire and Explosion Hazards:**

Decomposes at 230°C emitting oxygen

## 6. Accidental Release Measures

**Cleanup and Disposal of Spill:**

Vacuum or sweep up material using HEPA vacuum and or appropriate respiratory protection and place in a suitable container for reclamation or disposal. Do not discharge into drains or sewers. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations.

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## 7. Handling and Storage

### Handling/Storage:

Avoid contact with skin and eyes. Keep in a tightly closed container, stored in a cool, dry, well ventilated area away from organics.

## 8. Exposure Controls / Personal Protection

### Exposure Guidelines:

Silver	Occupational Exposure Limit
US ACGIH	0.1 mg/m <sup>3</sup> TWA
US OSHA	0.01 mg/m <sup>3</sup> TWA
Austria	0.01 mg/m <sup>3</sup> MAK (inhalable fraction) 0.1 mg/m <sup>3</sup> STEL (inhalable fraction, 1 X 30 min)
Belgium	0.1 mg/m <sup>3</sup> VLE
Bulgaria	0.1 mg/m <sup>3</sup> TWA
Cyprus	0.1 mg/m <sup>3</sup> TWA
Czech Republic	0.3 mg/m <sup>3</sup> Ceiling 0.1 mg/m <sup>3</sup> TWA
Denmark	0.01 mg/m <sup>3</sup> TWA (dust and powder)
Estonia	0.1 mg/m <sup>3</sup> TWA
Finland	0.1 mg/m <sup>3</sup> TWA
France	0.1 mg/m <sup>3</sup> VME
Germany	0.8 mg/m <sup>3</sup> Peak (inhalable fraction) 0.1 mg/m <sup>3</sup> MAK (inhalable fraction)
Greece	0.1 mg/m <sup>3</sup> TWA
Hungary	0.4 mg/m <sup>3</sup> STEL 0.1 mg/m <sup>3</sup> TWA
Ireland	0.1 mg/m <sup>3</sup> TWA
Italy	0.1 mg/m <sup>3</sup> TWA
Latvia	1 mg/m <sup>3</sup> TWA
Lithuania	0.1 mg/m <sup>3</sup> IPRV (as Ag)
Luxembourg	0.1 mg/m <sup>3</sup> TWA
Malta	0.1 mg/m <sup>3</sup> TWA
Netherlands	0.1 mg/m <sup>3</sup> MAC (as Ag)
Poland	0.05 mg/m <sup>3</sup> NDS (dust and fume)
Portugal	0.1 mg/m <sup>3</sup> TWA
Romania	0.1 mg/m <sup>3</sup> TWA
Slovak Republic	0.1 mg/m <sup>3</sup> TWA
Slovenia	0.1 mg/m <sup>3</sup> TWA (inhalable fraction)
Spain	0.1 mg/m <sup>3</sup> VLA-ED
Sweden	0.1 mg/m <sup>3</sup> LLV (total dust)

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Silver	Occupational Exposure Limit
United Kingdom	0.3 mg/m <sup>3</sup> STEL 0.1 mg/m <sup>3</sup> TWA

## Engineering Controls:

Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the MSDS. General room ventilation is satisfactory under anticipated use conditions.

## Respiratory Protection:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or EN approved respirator when necessary.

## Eye / Face Protection:

If eye contact while using product may be anticipated, wear appropriate safety glasses with side shields or chemical goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

## Skin Protection:

Wear chemical resistant gloves (such as latex or neoprene) and protective clothing to minimize skin contact.

## 9. Physical and Chemical Properties

<b>Physical State:</b>	Brown-black powder
<b>Odor:</b>	None
<b>pH:</b>	N/A
<b>Specific Gravity:</b>	7.22
<b>Water Solubility:</b>	0.0017 GR/100 ML @ 20°C
<b>Melting Point:</b>	Decomposes at 230°C
<b>Freezing Point</b>	NA
<b>Boiling Point:</b>	ND
<b>Vapor Pressure:</b>	ND
<b>Vapor Density:</b>	N/A
<b>Percent Volatiles by Volume:</b>	ND
<b>Viscosity:</b>	ND
<b>Molecular Weight:</b>	ND

## 10. Stability and Reactivity

### Chemical Stability:

Stable, Oxidizer. Incompatible with most common metals, ammonia, magnesium, many organic materials

### Conditions to Avoid:

Stable at normal temperatures and pressures

### Materials / Chemicals to Be Avoided:

Ammonia, organic vapors, reducing agents, avoid contact with combustible materials

### Hazardous Decomposition Products:

Oxides of silver

### Hazardous Polymerization:

Will not occur.

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## 11. Toxicological Information

### Carcinogenicity:

NTP: NO  
IARC: NO  
OSHA: NO

### Toxicity data:

Oral LD50 Rat: >2000 mg/kg

## 12. Ecological Information

### Ecotoxicological Information:

Not Determined

## 13. Disposal Considerations

### Waste Disposal Method:

Discard any product, residue, disposable container or liner in full compliance with national regulations.

### Container Handling and Disposal:

Dispose of container and unused contents in accordance with national regulations. Return to manufacturer for recycling.

## 14. Transportation Information

### Shipping Name:

US DOT	Proper Shipping Name	Oxidizing Solid, N.O.S.
	Hazard Class	5.1
	ID Number	UN1479
	Packaging Group	II

## 15. Regulatory Information

### U.S. Federal Regulations:

#### SARA Title III Hazard Classes:

Fire Hazard: No  
Reactive Hazard: No  
Release of Pressure: No  
Acute Health Hazard: No  
Chronic Health Hazard: No

#### TSCA

All components of this product are on the TSCA inventory.

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## Other Regulations:

### U.S. State

None

### European/International Regulations

#### EU Marking and Labeling

Symbol:

None

Risk Phrases:

R8 R36 R37 R38 R44.

### Inventory Information

**EU** The substances in this preparation have been checked against the European Inventory of Existing Commercial Chemical Substances (EINECS), the European List of Notified Chemical Substances (ELINCS), and the no Longer Polymer (NLP) list. Substances not identified on these inventories are exempt.

## 16. Other Information

### National Paint & Coating Hazardous Materials Identification System (HMIS):

Health Hazard: 2  
Flammability: 0  
Reactivity: 0

### National Fire Protection Association (NFPA):

Health Hazard: 1  
Flammability: 1  
Reactivity: 2

### Key Legend Information:

N/A – Not Applicable

ND – Not Determined

ACGIH – American Conference of Governmental Industrial Hygienists

OSHA – Occupational Safety and Health Administration

TLV – Threshold Limit Value

PEL – Permissible Exposure Limit

TWA – Time Weighted Average

STEL – Short Term Exposure Limit

NTP – National Toxicology Program

IARC – International Agency for Research on Cancer

RTECS - Registry of Toxic Effects of Chemical Substances