

MSDS Cover Sheet



INSTRUMENT CORPORATION
 ONE MICROMERITICS DR.
 NORCROSS, GA 30093-1877 U.S.A.

**REF. MAT'L
 SILVER OXIDE**

REV	REVISION DESCRIPTION	BY	DATE	CHK	REL. NO.		
						DWN BY	J. Pittman
						ENGR	J. Mocny
						ENGR SIG	P. Hendrix
B	Revision	JP	08/02/04		040301	HR SIG	J. Mocny
A	Revision	MD	4/30/03	JM	030275	QA SIG	A. Dovin
-	Formal Release	C.Bills	10/30/97	JP	970743	ES SIG	K. Massengill

SIZE
A

NUMBER
004/16836/00MSDS

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Micromeritics Material Safety Data Sheet

Title : Ref. Material, Silver Oxide
Date of Preparation : 08/02/04

MSDS No. : 004/16836/00MSDS
Revision : B

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Silver Oxide

Chemical Formula: Ag₂O

CAS Number: 20667-12-3

Other Designations: Not Applicable

General Use: Not Applicable

Supplier: Micromeritics Instrument Corp.
1 Micromeritics Dr.
Norcross, GA 30093-1877 USA

Contact: Human Resources
Phone: (770) 662-3620
Fax: (770) 662-3696

Manufacturer:

Fisher Scientific, 1 Reagent Lane, Fairlawn, NJ 07410; Phone: (201) 796-7100

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% wt or % vol
Silver Oxide EINECS # 243-957-1	20667-12-3	100.0

Trace Impurities:

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH
	TWA	STEL	TWA	STEL	TWA	STEL	IDLH
Silver Oxide	0.01 mg/m ³ (listed under "no name")	none estab.	none estab.	none estab.	as Ag: 0.01 mg/m ³ (listed under "no name")	none estab.	none estab.

OSHA Vacated PELs: Silver Oxide (Ag₂O): No OSHA vacated PELs are listed for this chemical.

Section 3 - Hazards Identification

☆☆☆☆☆ **Emergency Overview** ☆☆☆☆☆

HMIS
H 2
F 0
R 1
PPE†
†Sec. 8

Potential Health Effects

Primary Entry Routes: Not Applicable

Target Organs: Not Applicable

Acute Effects

Inhalation: May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath, and pulmonary edema.

Eye: Contact with eyes may cause severe irritation and possible eye burns

Skin: May cause severe irritation and possible burns

Ingestion: Harmful if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting, and possible burns.

Carcinogenicity: Not Applicable

Medical Conditions Aggravated by Long-Term Exposure: Not Applicable

Chronic Effects: Chronic inhalation or ingestion may cause "argyria," which is characterized by blue-gray pigmentation of the skin and mucous membranes. The condition develops slowly, usually after 2-25 years of

exposure. Chronic skin contact may cause local argyria, a permanent discoloration of the skin. Pigmentation is permanent.

Section 4 - First Aid Measures

Inhalation: Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **Note to Physician:** *Treat symptomatically and supportively.*

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately. DO NOT allow victim to rub or keep eyes closed.

Skin Contact: Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Note to Physicians: Not Applicable

Special Precautions/Procedures: Not Applicable

Section 5 - Fire-Fighting Measures

Flash Point: Not Applicable

Flash Point Method: Not Applicable

Burning Rate: Not Applicable

Autoignition Temperature: Not Applicable

LEL: Not Applicable

UEL: Not Applicable

Flammability Classification: Not Applicable

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray, or alcohol-resistant foam

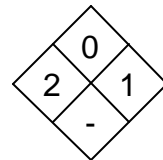
Unusual Fire or Explosion Hazards: Strong oxidizer. Contact with combustible materials may cause a fire.

Hazardous Combustion Products: Not Applicable

Fire-Fighting Instructions: Not Applicable

Fire-Fighting Equipment: 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.

NFPA



Section 6 - Accidental Release Measures

Spill /Leak Procedures: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Remove all sources of ignition.

Small Spills: Not Applicable

Large Spills

Containment: Not Applicable

Cleanup: Not Applicable

Regulatory Requirements: Not Applicable

Section 7 - Handling and Storage

Handling Precautions: Wash thoroughly after handling. Use with adequate ventilation. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Do not get on skin or in eyes. Do not ingest or inhale. Do not store near combustible materials.

Storage Requirements: Keep away from sources of ignition. Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Regulatory Requirements: Not Applicable

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Not Applicable

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

Administrative Controls: Not Applicable

Respiratory Protection: Follow the OSHA respirator regulations found in 29CFR 1910.134. Always use a NIOSH-approved respirator when necessary.

Protective Clothing/Equipment: Wear impervious gloves. Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.134. Wear appropriate protective clothing to prevent skin exposure.

Safety Stations: Not Applicable

Contaminated Equipment: Not Applicable

Comments: Not Applicable

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance and Odor: Brownish, black heavy powder; no odor

Odor Threshold: Not Applicable

Vapor Pressure: Not Applicable

Vapor Density (Air=1): Not Applicable

Formula Weight: Not Applicable

Density: Not Applicable

Specific Gravity (H₂O=1, at 4 °C): 7.14

pH: Not Applicable

Water Solubility: Negligible

Other Solubilities: Not Applicable

Boiling Point: Not Applicable

Freezing/Melting Point: 3922 °F

Viscosity: Not Applicable

Refractive Index: Not Applicable

Surface Tension: Not Applicable

% Volatile: Not Applicable

Evaporation Rate: Not Applicable

Molecular Weight/Formula: 231.7358; Ag₂O

Section 10 - Stability and Reactivity

Stability: Stable; absorbs carbon dioxide from the air

Polymerization: Not Applicable

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

Conditions to Avoid: Incompatible materials, combustible materials, organic materials, reducing agents

Hazardous Decomposition Products: Oxygen, silver fumes

Hazardous Symbols: X | F

Section 11- Toxicological Information

Toxicity Data:

Eye Effects: Not Applicable

Skin Effects: Not Applicable

Acute Inhalation Effects: Not Applicable

Acute Oral Effects: Not Applicable

Chronic Effects: Not Applicable

Carcinogenicity: Not Applicable

Mutagenicity: Not Applicable

Teratogenicity: Not Applicable

Section 12 - Ecological Information

Ecotoxicity: Not Applicable

Environmental Fate: Not Applicable

Environmental Degradation: Not Applicable

Soil Absorption/Mobility: Not Applicable

Section 13 - Disposal Considerations

Disposal: Dispose of in a manner consistent with federal, state, and local regulations.

Disposal Regulatory Requirements: Not Applicable

Container Cleaning and Disposal: Not Applicable

Section 14 - Transport Information

DOT Transportation Data (49 CFR 172.101):

Shipping Name: Not Applicable

Shipping Symbols: Not Applicable

Hazard Class: Not Applicable

ID No.: Not Applicable

Packing Group: Not Applicable

Label: Not Applicable

Special Provisions (172.102): Not Applicable

Packaging Authorizations

a) **Exceptions:** Not Applicable

b) **Non-bulk Packaging:** Not Applicable

c) **Bulk Packaging:** Not Applicable

Quantity Limitations

a) **Passenger, Aircraft, or Railcar:** Not Applicable

b) **Cargo Aircraft Only:** Not Applicable

Vessel Stowage Requirements

a) **Vessel Stowage:** Not Applicable

b) **Other:** Not Applicable

Section 15 - Regulatory Information

EPA Regulations: Not Applicable

OSHA Regulations: Not Applicable

State Regulations: Not Applicable

Section 16 - Other Information

Prepared By: M. Day

Revision Notes: Not Applicable

Additional Hazard Rating Systems: Not Applicable

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