

Safety Data Sheet

Silver Oxide

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Silver Oxide
Recommended Use: Science education applications
Synonyms: Silver Oxide
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



May intensify fire; oxidizer. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

GHS Classification:

Oxidizing Solid Category 2, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3

Acute Toxicity Dermal Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Gas Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Silver Oxide	20667-12-3	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO₂ or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

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Fire and/or Explosion Hazards:	Fire or excessive heat may produce hazardous decomposition products. Keep away from combustible material.
Hazardous Combustion Products:	Silver, Metal Oxides,

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled:	Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Ventilate the contaminated area. Isolate area. Keep unnecessary personnel away. Avoid contact with material. Avoid creating and inhaling dust. Avoid contact with skin and eyes. Reduce airborne dust and prevent scattering by moistening with water Vacuum or sweep up material and place in a disposal container Contain the discharged material. Do not allow the spilled product to enter public drainage system or open waterways.
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Section 7 Handling and Storage

Handling:	Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep/Store away from clothing/.../combustible materials. Take any precaution to avoid mixing with combustibles. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Keep away from ... (incompatible materials to be indicated by the manufacturer). Keep away from combustible material. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Do not breathe dust. Use only in well-ventilated areas. Avoid contact with skin and eyes.
Storage:	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep container tightly closed in a cool, well-ventilated place.
Storage Code:	Yellow - Reactive. Store separate and away from incompatible material.

Section 8 Protection Information

Chemical Name	(TWA)	ACGIH	(STEL)	(TWA)	OSHA PEL	(STEL)
No data available	N/A		N/A	N/A		N/A

Control Parameters	
Engineering Measures:	No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.
Personal Protective Equipment (PPE):	Lab coat, apron, eye wash, safety shower.
Respiratory Protection:	No respiratory protection required under normal conditions of use. Respiratory protection may be required in addition to ventilation depending upon conditions of use. NIOSH approved air purifying respirator with dust/mist filter.
Respirator Type(s):	Wear chemical splash goggles when handling this product. Have an eye wash station available.
Eye Protection:	Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Skin Protection:	
Gloves:	Nitrile

Section 9 Physical Data

Formula: Ag ₂ O	Vapor Pressure: N/A
Molecular Weight: 231.74	Evaporation Rate (BuAc=1): N/A
Appearance: Grey Powder	Vapor Density (Air=1): N/A
Odor: No data available	Specific Gravity: 7.22
Odor Threshold: No data available	Solubility in Water: Soluble
pH: No data available	Log Pow (calculated): No data available
Melting Point: 300 C	Autoignition Temperature: No data available
Boiling Point: No data available	Decomposition Temperature: No data available
Flash Point: No data available	Viscosity: No data available
Flammable Limits in Air: N/A	Percent Volatile by Volume: N/A

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Section 10

Reactivity Data

Reactivity:	No data available
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	Exposure to light.
Incompatible Materials:	Amines, Ammonia, Strong acids, Strong oxidizing agents
Hazardous Decomposition Products:	Metal Oxides, , Silver
Hazardous Polymerization:	Will not occur

Section 11

Toxicity Data

Routes of Entry	Inhalation, ingestion, eye or skin contact.
Symptoms (Acute):	Respiratory disorders
Delayed Effects:	No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Silver Oxide	20667-12-3	Oral LD50 Mouse 1027 mg/kg Oral LD50 Rat 2820 mg/kg	Not determined	Not determined

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
No data available	20667-12-3	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity:	No evidence of a mutagenic effect.
Teratogenicity:	No evidence of a teratogenic effect (birth defect).
Sensitization:	No evidence of a sensitization effect.
Reproductive:	No evidence of negative reproductive effects.
Target Organ Effects:	
Acute:	See Section 2
Chronic:	Not listed as a carcinogen by IARC, NTP or OSHA.

Section 12

Ecological Data

Overview:	This material is not expected to be harmful to the ecology.
Mobility:	No data
Persistence:	No data
Bioaccumulation:	No data
Degradability:	No data
Other Adverse Effects:	No data

Chemical Name	CAS Number	Eco Toxicity
N/A	20667-12-3	

Section 13

Disposal Information

Disposal Methods:	Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s):	Not Determined

Section 14

Transport Information

Ground - DOT Proper Shipping Name:

UN number: 1479 Class: 5.1 Packing group: II; Oxidizing solid, corrosive, n.o.s., (Silver oxide)

Air - IATA Proper Shipping Name:

UN number: 1479 Class: 5.1 Packing group: II Proper shipping name: Oxidizing solid, n.o.s. (Disilver oxide)

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Section 15

Regulatory Information

TSCA Status:

All components in this product are on the TSCA Inventory.

Chemical Name**CAS
Number****§ 313 Name****§ 304 RQ****CERCLA RQ****§ 302 TPQ****CAA 112(2)
TQ**

No data available

20667-12-3

No

No

No

No

No

Section 16

Additional Information

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The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health