

## SAFETY DATA SHEET

Creation Date 22-Sep-2009

Revision Date 21-Apr-2014

Revision Number 1

### 1. Identification

**Product Name** Silver(I) oxide  
**Cat No. :** C7090  
**Synonyms** Argentous oxide  
**Recommended Use** Laboratory chemicals  
**Uses advised against** No Information available

#### Details of the supplier of the safety data sheet

##### **Company**

Post Apple Scientific, inc.  
8893 Gulf Rd  
North East, PA 16428  
Tel: 814-725-3330

##### **Emergency Telephone Number**

**CHEMTREC** Tel. No. **US:**001-800-424-9300 /  
**Europe:**001-703-527-3887

### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Oxidizing solids	Category 2
Skin Corrosion/irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

May intensify fire; oxidizer  
Causes severe skin burns and eye damage  
May cause respiratory irritation



**Precautionary Statements****Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray  
 Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep/Store away from clothing/ other combustible materials  
 Take any precaution to avoid mixing with combustibles

**Response**

Immediately call a POISON CENTER or doctor/physician

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

**Skin**

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**Ingestion**

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition / information on ingredients

**Haz/Non-haz**

Component	CAS-No	Weight %
Silver oxide	20667-12-3	>95

### 4. First-aid measures

<b>Eye Contact</b>	Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.
<b>Ingestion</b>	Do not induce vomiting. Call a physician or Poison Control Center immediately.
<b>Most important symptoms/effects</b>	Causes burns by all exposure routes.
<b>Notes to Physician</b>	Treat symptomatically.

### 5. Fire-fighting measures

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**Suitable Extinguishing Media** Carbon dioxide (CO<sub>2</sub>). Dry chemical. chemical foam.

**Unsuitable Extinguishing Media** No information available.

**Flash Point** No information available.  
**Method -** No information available

**Autoignition Temperature** Not applicable

**Explosion Limits**  
**Upper** No data available  
**Lower** No data available

**Oxidizing Properties** Oxidizer

**Sensitivity to Mechanical Impact** No information available  
**Sensitivity to Static Discharge** No information available

### Specific Hazards Arising from the Chemical

Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).

**Hazardous Combustion Products** Fumes, oxygen.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### NFPA

**Health**  
3

**Flammability**  
0

**Instability**  
1

**Physical hazards**  
OX

## 6. Accidental release measures

**Personal Precautions** Ensure adequate ventilation. Use personal protective equipment. Avoid contact with the skin and the eyes. Avoid dust formation.

**Environmental Precautions** Do not flush into surface water or sanitary sewer system.

**Methods for Containment and Clean Up** Sweep up or vacuum up spillage and collect in suitable container for disposal.

## 7. Handling and storage

**Handling** Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Do not ingest. Keep away from clothing and other combustible materials. Use only under a chemical fume hood.

**Storage** Do not store near combustible materials. Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protective Equipment

<b>Eye/face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice

## 9. Physical and chemical properties

<b>Physical State</b>	Powder Solid
<b>Appearance</b>	Black
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No information available.
<b>pH</b>	No information available.
<b>Melting Point/Range</b>	No data available
<b>Boiling Point/Range</b>	No information available.
<b>Flash Point</b>	No information available.
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid,gas)</b>	No information available
<b>Flammability or explosive limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Vapor Pressure</b>	No information available.
<b>Vapor Density</b>	Not applicable
<b>Relative Density</b>	7.14
<b>Solubility</b>	No information available.
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	Not applicable
<b>Decomposition temperature</b>	> 130°C
<b>Viscosity</b>	Not applicable
<b>Molecular Formula</b>	Ag <sub>2</sub> O
<b>Molecular Weight</b>	231.74

## 10. Stability and reactivity

<b>Reactive Hazard</b>	Yes
<b>Stability</b>	Light sensitive. Oxidizer: Contact with combustible/organic material may cause fire.
<b>Conditions to Avoid</b>	Incompatible products. Combustible material. Excess heat.
<b>Incompatible Materials</b>	Organic materials, Strong oxidizing agents, Amines, Ammonia, Strong reducing agents, Combustible material, Metals, Sulfides
<b>Hazardous Decomposition Products</b>	Fumes, oxygen
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing

## 11. Toxicological information

### Acute Toxicity

**Product Information****Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Silver oxide	2820 mg/kg ( Rat )	Not listed	Not listed

**Toxicologically Synergistic Products** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** Causes burns by all exposure routes

**Sensitization** No information available.

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Silver oxide	20667-12-3	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** No information available.

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system.

**STOT - repeated exposure** None known.

**Aspiration hazard** No information available.

**Symptoms / effects, both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.. See actual entry in RTECS for complete information.

## 12. Ecological information

**Ecotoxicity**

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Persistence and Degradability** No information available.

**Bioaccumulation/ Accumulation** No information available

**Mobility** No information available

## 13. Disposal considerations

**Waste Disposal Methods**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

## 14. Transport information

### DOT

**UN-No** UN3085  
**Proper Shipping Name** OXIDIZING SOLID, CORROSIVE, N.O.S.  
**Proper technical name** (SILVER OXIDE)  
**Hazard Class** 5.1  
**Subsidiary Hazard Class** 8  
**Packing Group** II

### TDG

**UN-No** UN3085  
**Proper Shipping Name** OXIDIZING SOLID, CORROSIVE, N.O.S.  
**Hazard Class** 5.1  
**Subsidiary Hazard Class** 8  
**Packing Group** II

### IATA

**UN-No** UN3085  
**Proper Shipping Name** OXIDIZING SOLID, CORROSIVE, N.O.S.  
**Proper technical name** (SILVER OXIDE)  
**Hazard Class** 5.1  
**Subsidiary Hazard Class** 8  
**Packing Group** II

### IMDG/IMO

**UN-No** UN3085  
**Proper Shipping Name** OXIDIZING SOLID, CORROSIVE, N.O.S.  
**Proper technical name** (SILVER OXIDE)  
**Hazard Class** 5.1  
**Subsidiary Hazard Class** 8  
**Packing Group** II

## 15. Regulatory information

### International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Silver oxide	X	X	-	243-957-1	-		X	X	X	X	X

#### Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

### U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Silver oxide	20667-12-3	>95	1.0

**SARA 311/312 Hazardous Categorization**

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

**Clean Water Act**

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Silver oxide	-	-	X	-

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration  
Not applicableCERCLA  
Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

**State Right-to-Know**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Silver oxide	-	X	X	-	-

**U.S. Department of Transportation**

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

Mexico - Grade No information available

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class	C Oxidizing materials
	E Corrosive material



## 16. Other information

<b>Prepared By</b>	Regulatory Affairs Post Apple Scientific, inc. Email: gordon@postapplescientific.com
<b>Creation Date</b>	22-Sep-2009
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<b>Print Date</b>	21-Apr-2014
<b>Revision Summary</b>	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

### Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of SDS**