

# MATERIAL SAFETY DATA SHEET

## I PRODUCT IDENTIFICATION

**Trade Name:** Silver Oxide

**Formula:** Ag<sub>2</sub>O

## II HAZARDOUS INGREDIENTS

**TLV:** 100 µg/m<sup>3</sup>

**PEL:** 10 µg/m<sup>3</sup>

**%:** 99

## III PHYSICAL DATA

**Vapor Pressure:** N/A

**Vapor Density:** N/A

**Specific Gravity (water=1):** Not Determined

**Solubility in Water:** N/A

**Appearance/Odor:** Tan-to-Brown Powder, no odor.

## IV FIRE AND EXPLOSION HAZARDS DATA

**Flash Point (Method used):** Not Applicable, Setaflash Flashpoint Tester.

**Extinguishing Media:** CO<sub>2</sub>, Dry Chemical, Foam.

**Special Fire Fighting Procedures:** Protective clothing and positive pressure, self-contained breathing apparatus as specified in 29 CFR 1910 subpart L should be worn. Can ignite or explode on contact with incompatible substances.

**Unusual Fire & Explosion:** Material is an oxidizer.

## V HEALTH HAZARD INFORMATION

**Effects of Overexposure:** Silver compounds can effect the body if they are inhaled or if they come in contact with the eyes or skin. Silver compounds can cause discoloration or blue-gray darkening of the eyes, nose, throat and skin.

**Health Precautions:** Avoid breathing dust. Use in well ventilated area. Avoid contact with eyes. Do not wear contact lenses. Avoid contact with skin, especially when cracked or irritated. Keep work area as dust-free as possible.

**Keep Away from Incompatible Substances:** Aluminum, ammonium hydroxide, bromine trifluoride, alkali metals, sodium peroxide-charcoal.

**Workplace Exposure Limits (mg/m<sup>3</sup>):** (Note: 5/15 means 5 mg/m<sup>3</sup> breathable dust or 15 mg/m<sup>3</sup> total dust.)

**TLV:** Time-Weighted Average: 10

**Short-Term Exposure Limit:** None

**Permissible Exposure Limit:** 5/15

**Ceiling Limit:** None

**Clinical Effects: Breathing:** Repeated overexposure can cause mild bronchitis (cough, shortness of breath). Acute overexposure to dust may aggravate pre-existing chronic lung diseases.

**Breathing, Eye and Skin Contact:** Repeated exposure to dust can permanently discolor (argyria) the skin and mucous membranes of the eyes and nose/throat with no other physical effects.

**Clinical Considerations Suggested by Inconclusive Studies:** Repeated skin contact with silver compounds has been found to cause allergic reactions in a few apparently sensitive persons, including (skin inflammation) and hypersensitivity.

## **EMERGENCY AND FIRST AID PROCEDURES:**

**INHALATION:** Remove person to fresh air.

**EYE:** Rinse with flowing water for at least 15 minutes without stop. Turn back eyelids and flush beneath them several times.

**SKIN:** Rinse affected area with flowing water, then wash with soap or detergent and water.

## **VI REACTIVITY DATA**

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**Stability:** Unstable

**Normal Conditions:** Conditions causing instability: Exposure to light slowly releases silver and chlorine (accumulation of chlorine in an enclosed space could be hazardous to person entering area—highly irritating and corrosive to tissues).

**Incompatibility (Material to Avoid):** Aluminum, ammonium hydroxide, bromine trifluoride, alkali metals, sodium peroxide-charcoal.

**Hazardous Instability:** Occurs; Decomposition.

**Reactivity Potential:** Unstable (reactive)

**Reactivity Hazards:** Fire, explosion.

**Explanation:** Reaction with aluminum proceeds explosively. Reaction with bromine trifluoride is violent. Reaction product with alkali metals can explode on impact. Mixture with sodium peroxide and charcoal ignites spontaneously. Reaction product with ammonium hydroxide and air or heat can explode on impact.

## **VII SPILL OR LEAK PROCEDURES**

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**Steps to be Taken in Case Material is Released or Spilled:** Clean-up Procedures: Shovel/sweep/vacuum up spilled material for recovery or disposal.

**Initial Health/Safety Protective Measures:** Notify health/safety officer. Let dust settle.

**Disposal Methods:** Substance is not covered by RCRA but is on the New Jersey hazardous waste list. Dispose in sealed containers in a State or locally approved waste facility.

## **VIII SPECIAL PROTECTION INFORMATION**

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**Respiratory Protection:** Any NIOSH/MSHA approved dust respirator at levels up to five times the PEL. At higher levels use a self-contained breathing apparatus with full face piece operated in pressure-demand or other positive pressure mode.

**Ventilation:** Sufficient to keep dust air levels below the workplace exposure limits.

**Protective Clothing:** 8-inch minimum face shield, gloves and other clothing to protect exposed skin from prolonged or repeated contact.

**Eye Protection:** Dust-proof safety goggles.

**Other Protective Equipment:** Eyewash station or hose suitable for irrigation of the eyes.

## **IX SPECIAL PRECAUTIONS**

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- Avoid breathing dust. Use in well ventilated area.
- Avoid contact with eyes. Do not wear contact lenses.
- Avoid contact with skin, especially when cracked or irritated.
- Keep work area as dust-free as possible.

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Dated: June 1993