

# Material Safety Data Sheet

## Silver Nitrate MSDS

### Section 1: Chemical Product and Company Identification

**Product Name:** Silver Nitrate

**CAS#:** 7761-88-8

**RTECS:** VW4725000

**Chemical Name:** Silver Nitrate

**Chemical Formula:** AgNO<sub>3</sub>

### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS #	% by Weight
Silver Nitrate	7761-88-8	100

### Section 3: Hazards Identification

**Potential Health Effects**

**Inhalation:**

Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. May be absorbed into the body following inhalation with symptoms paralleling those from ingestion exposure. Dust deposits in the lungs may resemble a form of pneumoconiosis.

**Ingestion:**

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach. Can cause sore throat, vomiting, diarrhea. Poison. Symptoms include pain and burning in the mouth, blackening of the skin and mucous membranes, throat, and abdomen, salivation, vomiting of black material, diarrhea, collapse, shock, coma and death.

**Skin Contact:**

Corrosive. Symptoms of redness, pain, and severe burn can occur.

**Eye Contact:**

Corrosive. Can cause blurred vision, redness, pain, severe tissue burns and eye damage.

**Chronic Exposure:**

Repeated application or ingestion causes a permanent bluish discoloration of the skin, conjunctiva, and mucous membranes. Repeated inhalation may cause lung disease.

**Aggravation of Pre-existing Conditions:**

Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.

#### Section 4: First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Ingestion:**

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Contact:**

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

#### Section 5: Fire and Explosion Data

**Flammability of the Product :** Non-flammable.

**Auto-Ignition Temperature :** Non applicable.

**Flash Points :** Not applicable.

**Flammable Limits :** Not applicable.

**Product of Combustion :** Not available.

**Fire Hazards in Presence of Various Suubstances :** Organic materials, combustible materials.

**Explosion Hazards in Presence of Various Substances :**

Risks of explosion of the product in presence of mechanical impact : Not available.

Risks of explosion of the product in presence of Static discharge : Not available.

**Fire Fighting Media and Instructions :** Not applicable.

**Special Remarks on Fire Hazards :** Not available.

**Special Remarks on Explosion Hazard :** Not available.

#### Section 6: Accidental Release Measures

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill:**

Corrosive solid. Stop leak if without risk. Do not get water inside container. Avoid contact with a combustible material. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas;

dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

#### Section 7: Handling and Storage

**Precautions:**

Keep container dry. Keep away from heat. Keep away from sources of ignition. Keep away from combustible material.. Do

not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory  
Keep container tightly closed. Keep container in a cool, well-ventilated area. Separate from acids, alkalies, reducing agents  
and combustibles. See NFPA 43A, Code for the Storage of Liquid and Solid Oxidizers. Sensitive to light. Store in light-resistant  
containers.

## Section 8: Exposure Controls/Personal Protection

### Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended  
exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants  
below the exposure limit.

### Personal Protection:

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent.  
Gloves.

### Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to  
avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling  
this product.

### Exposure Limits:

TWA:0.01 (mg/m Ag) from ACGIH (TLV) [United States] TWA: 0.01 (mg/m Ag) from OSHA (PEL) [United States]<sup>3</sup> Consult  
local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid. (Solid crystalline)

**Odor:** Not available.

**Taste:** Bitter. Metallic

**Molecular Weight:** 169.87 g/mole

**Color:** Colorless. White.

**Boiling Point:** Decomposition temperature: 440 °C

**Melting Point:** 212 °C

**Critical Temperature:** Not available.

**Specific Gravity:** 4.35 (Water = 1)

**Vapor Pressure:** Not applicable.

**Vapor Density:** 5.8 (Air =1)

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:** Easily Soluble in cold water.

### Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials, light.

**Incompatibility with various substances:** Reactive with reducing agents, combustible materials, organic materials, alkalis.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Remarks on Reactivity:** Not available.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** No.

### Section 11: Toxicological Information

**Routes of Entry:** Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 50 mg/kg [Mouse].

**Chronic Effects on Humans:**

Causes damage to the following organs: lungs. May cause damage to the following organs: mucous membranes, skin, eyes.

**Other Toxic Effects on Humans:**

Very hazardous in case of skin contact (irritant), of ingestion. Hazardous in case of skin contact (permeator), of inhalation.

Slightly hazardous in case of skin contact (corrosive).

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** Not available.

**Special Remarks on other Toxic Effects on Humans:** Not available

### Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation:** Not available.

### Section 13: Disposal Considerations

**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations

### Section 14: Transport Information

**DOT Classification:** CLASS 5.1: Oxidizing material.

**Identification:** : Silver nitrate UNNA: 1493 PG: II

**Special Provisions for Transport:** Not available.

### Section 15: Other Regulatory Information

**Federal and State Regulations:**

Connecticut hazardous material survey.Silver nitrate Illinois chemical safety act: Silver nitrate New York acutely hazardous substances: Silver nitrate Rhode Island RTK hazardous substances: Silver nitrate Pennsylvania RTK: Silver nitrate Massachusetts RTK:Silver nitrate Massachusetts spill list:Silver nitrate New Jersey:Silver nitrate New Jersey spill list:Silver nitrate Louisiana spill reporting: Silver nitrate California Director's List of Hazardous Substances: Silver nitrate TSCA 8(b) inventory: Silver nitrate

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**HMIS (U.S.A.):**

**Health Hazard:** 3

**Fire Hazard:** 0

**Reactivity:** 0

**Personal Protection:** j

**National Fire Protection Association (U.S.A.):**

**Health:** 2

**Flammability:** 0

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**

Gloves (impervious). Synthetic apron. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

### Section 16: Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

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