



Bausch Chemicals Material Safety Data Sheet

www.BauschScientific.com/sds/agno3_sds.pdf

Effective Date: 11/12/2018

24 Hour Emergency Telephone: CHEMTREC: 1-800-424-9300

SILVER NITRATE

1. Product Identification

Synonyms: Nitric Silver Salt, Lunar Caustic

Supplier: Bausch Scientific (www.BauschScientific.com)

Distributed by: Earth Science Organics

2. Composition/Information on Ingredients

CAS: 7761-88-8

Chemical Formula: AgNO₃

Formula Weight: 169.87 (63.49% Silver metal by weight)

Crystalline Structure: Orthorhombic

<u>Ingredient</u>	<u>CAS No.</u>	<u>Percent</u>	<u>Hazardous</u>
Silver Nitrate	7761-88-8	99.99%	Yes
Free HNO ₃	7697-37-2	00.01%	Yes

3. Hazards Identification

NFPA Health Rating: 3 - Elevated, causes eye and skin burns. Even small amounts will stain skin, Inhalation will cause burns to the upper respiratory tract.

Flammability Rating: 0 - None

Reactivity Rating: 0 - Normally stable, even under fire exposure conditions, reactive with water.

Personal Protection Equipment: Safety goggles and/or face shield. Latex gloves. Good ventilation.

Storage Color Code: Yellow (Reactive). Store below 75°F

4. First Aid Measures

Immediate first aid treatment reduces the health effects of this substance.

Inhalation:

Remove to fresh air. Crystals will sting the nasal passages. Get medical attention as soon as possible. Call a physician.

Ingestion:

If swallowed, DO NOT INDUCE VOMITING! Give a quantity of milk or water containing table salt. Get medical attention immediately if the quantity ingested is more than a gram or if feeling unwell regardless of amount.

Skin Contact:

Wash immediately with soap and water for at least 15 minutes. Stains will normally vanish within a 5-7 days. Stains on finger nails usually can be buffed away.

Eye Contact:

Get medical attention immediately. Immediately flush eyes with plenty of distilled water for at least 30 minutes. Tears will cause a film to form on the eye.

5. Fire Fighting Measures

Fire:

Use an extinguishing agent suitable for surrounding fires.

Explosion:

Reaction with ammonia forms explosive Fulminating Silver or silver nitride, which are extremely volatile contact explosives. A single gram of silver nitride can wreak havoc in a laboratory.

Fire Extinguishing Media:

Water spray may be used to keep fire exposed containers cool. Do not get water inside container.

Special Information:

Heat: When heating silver nitrate, wear SCBA (self-contained breathing apparatus) and protective gear as decomposition products are toxic and corrosive.

Disposal: Disposal of even small quantities of silver nitrate in waste systems connected to a septic tank will destroy septic enzymes which would require, flushing out and seeding with fresh enzymes

6. Accidental Release Measures

Wear protective equipment. Clean up in a way that doesn't disperse the crystals into the air. If it is released into water, add table salt. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Wear personal protective clothing and equipment, including latex gloves, goggles, and a smock or lab coat to protect clothing from accidental spills. Silver Nitrate is an oxidizer - **Do not store near combustible materials.** Store in a closed container, and keep in a dark and damp-free ventilated area. Silver Nitrate is not light sensitive although impurities in air will make cause sensitivity to light. Pure Silver Nitrate is not hygroscopic and does not absorb moisture.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

OSHA Permissible Exposure Limit (PEL): 0.01 mg/m³ (TWA) as silver metal dust
ACGIH Threshold Limit Value (TLV): 0.01 mg /m³ (TWA)
as soluble silver compounds

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation generally is preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirator (NIOSH Approved)

If the exposure limit is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus. Silver nitrate is an oxidizer and should not come in contact with cartridges and canisters that contain oxidizable materials, such as activated charcoal.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where airborne exposure is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:	Transparent, white crystals
Odor:	Odorless
Solubility:	2190g/1000ml water @ 20°C (70°F)
Specific Gravity:	4.35g/cc
pH:	6
Boiling Point:	441°C (824°F)
Melting Point:	212°C (414°F)
Vapor Density:	4.4 (Air=1)

10. Stability and Reactivity

Stability:

Stable at room temperature in sealed containers

Hazardous Decomposition Products:

Oxides of nitrogen

Hazardous Polymerization: Will not occur.

Incompatibilities:

Ammonia, reducing agents, alkali and alkaline metals

Conditions to Avoid: Do not allow solutions of Silver Nitrate and Ammonia to mix.

11. Toxicological Information

CAS# 7761-88-8: Oral, mouse: LD50 = 50mg/kg

12. Ecological Information

Environmental Fate:	No information found
Environmental Toxicity:	No information found

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RC RA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations.

Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name:	Silver Nitrate Crystals
Hazard Class:	5.1
UN/NA:	UN1493
Packing Group:	PG II

PACKAGING

ORM-D: USPS can ship within United States only.

ORM-D Packaging instruction 5A: Consumer Commodity ORM-D AIR, the weight of the contents of the primary packing container cannot exceed 1 kg. See USPS publication 52, Appendix C, 1999 page 291.

Outer Packaging: A strong outer packaging that is capable of firmly and securely holding the primary receptacle and cushioning material is required.

Mailability:

International Mail: Prohibited

Domestic Mail: Permitted via air or surface transportation

Bausch Chemicals

Material Safety Data Sheet

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