

Material Safety Data Sheet

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Version 1.6
Regulation (EC) No 1907/2006

1 - Product and Company Information

Product Name SILVER NITRATE 0.1 MOL/L, VOLUMETRIC &
Product Number 35375

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2 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Harmful to aquatic organisms, may cause long-term adverse effects
in the aquatic environment.

3 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
SILVER NITRATE (>=1% to <2.5%) AQUEOUS SOLUTION	7761-88-8	231-853-9	None

Ingredient Name	Percent	CAS #	EC no	Annex I Index Number
WATER	>= 95	7732-18-5	231-791-2	None
SILVER NITRATE	>= 1 <= 5	7761-88-8	231-853-9	047-001-00-2

Symbols: C-N

R-Phrases: 34-50/53

Causes burns. Very toxic to aquatic organisms, may cause long-term
adverse effects in the aquatic environment.

Formula AgNO3
Molecular Weight 169.9 AMU

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult,
call a physician.

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious
amounts of water.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of vapors.

METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed. Store in a cool dry place.

Incompatible Materials: Incompatible with: chlorides, carbonates, thiocyanates, ferrous salts, chlorosulfonic acid, arsenic powder, chloride trifluoride, or phosphonium iodide. Solutions of silver nitrate with ammonia, ammonia/sodium carbonate, or ammonia/sodium hydroxide have had several instances of explosions reported. Reaction with acetaldehyde, acetylene, or other terminal alkynes may produce explosive compounds. A dry mixture of powdered magnesium and silver nitrate has been reported to ignite explosively on contact with a drop of water. A mixture with charcoal ignites when struck with a hammer while mixtures with phosphorous or sulfur explode when struck. Passage of phosphine gas into a solution of silver nitrate resulted in an explosion. An explosion occurred on stirring a slurry of silver nitrate crystals which had been recrystallized from water and ethanol. (Chem. Eng. News, p.2, January 12, 1987)

SPECIAL REQUIREMENTS: Light sensitive.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection is desired, use multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges.

Hand Protection: Protective gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Liquid Color: Colorless	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	1.015 g/cm ³	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	5.8 g/l	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions of Instability: May decompose on exposure to light.

Materials to Avoid: Alcohols, Ammonia, Magnesium, Strong bases, Strong reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Silver/silver oxides, Nitrogen oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

SIGNS AND SYMPTOMS OF EXPOSURE

May cause argyria (a slate-gray or bluish discoloration of the skin and deep tissues due to the deposit of insoluble albuminate of silver). Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: May be harmful if swallowed.

TARGET ORGAN INFORMATION

Lungs. Blood. Nerves. Eyes.

CHRONIC EXPOSURE - MUTAGEN

Result: Laboratory experiments have shown mutagenic effects.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

Non-hazardous for road transport.

IMDG

Non-hazardous for sea transport.

IATA

Non-hazardous for air transport.

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

R-PHRASES: 52/53

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

S-PHRASES: 61

Avoid release to the environment. Refer to special instructions/safety data sheets.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 3

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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