

MATERIAL SAFETY DATA SHEET

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SECTION 1: CHEMICAL IDENTIFICATION

Code: PR0610-25G ; PR0610-100G

Name: Silver Nitrate

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENT

Chemical Name:	EC No.:	CAS No.:	Weight%
Silver nitrate	231-853-9	7761-88-8	95-100

Synonyms: Lunar caustic; Nitrate D'argent (French); Nitric acid; Silver(1) salt; Silver(1) nitrate; Silverniträt; Silver nitrate (DOT); UN1493(DOT)

SECTION 3: HAZARDS IDENTIFICATION

GHS Classification

Oxidizing solid-	Category 2
Aquatic hazard (acute)-	Category 1
Aquatic hazard (long-term)-	Category 1
Skin irritation-	Category 1B (Do not use)

GHS Label elements, including precautionary statements



Signal word: Danger

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A member of Revongen Corporation (SST No: B16-1808-21023214)

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Hazard statements

H272	May intensify fire; oxidizer
H314	Causes severe skin burns and eye damage
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary statements

P220	Keep/Store away from clothing/ other combustible materials.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305+P351+P338	If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a poison centre or doctor/physician.

SECTION 4: FIRST-AID MEASURES

In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

In case of skin contact, wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

In case of inhalation, move to fresh air if accidentally breathe in vapors or decomposition products. If breathing become difficult, give artificial respiration.

In case of ingestion, clean mouth with water and afterwards drink plenty of water. Consult a physician if necessary.

SECTION 5: FIRE FIGHTING MEASURES

Flammable and may cause fire upon contact with combustible material.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Use water spray only.

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

Hazardous decomposition products formed under fire conditions: Nitrogen oxides, silver/silver oxide.

Explosion data – sensitivity to mechanical impact: Not sensitive.

Explosion data – sensitivity to static discharge: Not sensitive.

SECTION 6: ACCIDENTAL RELEASE MEASURES

For personal protection, use personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

For environmental precautions, prevent further leakage or spillage if safe to do so.

For cleaning up, pick up and arrange disposal to properly labeled containers. Avoid dust formation.

Ventilate area and wash spill site after material pickup is done.

SECTION 7: HANDLING AND STORAGE

Handle in accordance with good industrial hygiene and safety practice. Protect from light and moisture.

Keep containers tightly closed in a dry, cool and well-ventilated place.

Light sensitive and moisture sensitive.

Incompatible with chlorides, carbonates, isocyanates, ferrous salts, chlorosulfonic acid, arsenic powder, fluorine, and sodium chlorate.

Caution:

- Explosive ignition occurs when a dry mixture of powdered magnesium and silver nitrate in contact with a drop of water.
- Ignition occurs when a mixture with charcoal is struck.
- Explosion occurs when a mixture with phosphorous or sulfur is struck.
- Production of explosive compounds may occur when reacts with acetaldehyde, acetylene or other terminal alkynes.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Component	Value	Control parameters
Silver nitrate (7761-88-8)	TWA (ACGIH TLV)	0.01 mg/m ³
	TWA (OSHA PEL)	0.01 mg/m ³ (vacated)
		0.01 mg/m ³
	IDLH (NIOSH)	10 mg/m ³
	TWA (NIOSH)	0.01 mg/m ³

Respiratory protection Where exposure limits are exceeded, wear respiratory protection. Use respirators and components tested and approved under appropriate government standards such as NIOSH/MSHA. Positive-pressure supplied air respirators may be required for high airborne contamination concentrations.

Skin and body protection Wear protective gloves and clothing.

Eye/face protection Use face shield. Tightly fitting safety goggles with side-shields.

Use engineering measures such as showers, eyewash stations and ventilation system.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Fine white
Physical state:	Crystalline powder
Odor:	No information available
Odor threshold:	No information available
Density:	4.35
pH:	No data available
Melting point:	212°C
Freezing point:	No information available
Initial boiling point:	No information available
Boiling point:	433°C

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Flash point:	Not determined
Auto-ignition temperature:	No data available
Decomposition temperature:	No information available
Flammability properties:	May cause fire upon contact with combustible materials
Upper flammability limits in air:	No data available
Lower flammability limits in air:	No data available
Explosive properties:	No information available
Oxidizing properties:	No information available
Solubility:	Soluble
Partition coefficient (n-octanol/water):	No data available
MMHG @ 37.8°C	No data available
Vapor density:	No data available
Evaporation rate:	No data available
Specific gravity:	No data available
Viscosity:	No information available

SECTION 10: STABILITY AND REACTIVITY

Stable under recommended storage conditions.

Materials to avoid: Chlorides; Carbonates; Isocyanates; Ferrous Salts; Chlorosulfonic Acid; Arsenic Powder; Fluorine; Sodium Chlorate.

Explosive ignition occurs when a dry mixture of powdered magnesium and silver nitrate in contact with a drop of water.

Ignition occurs when a mixture with charcoal is struck.

Explosion occurs when a mixture with phosphorous or sulfur is struck.

Production of explosive compounds may occur when reacts with acetaldehyde, acetylene or other terminal alkynes.

Hazardous decomposition products: Silver/silver oxides, nitrogen oxides

Hazardous polymerization: Do not occur

Conditions to avoid: Protect from light and moisture

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Product is corrosive and highly toxic. Causes burns.

Oral LD50: Rat – 1173 mg/kg

Chronic Toxicity

Toxicity risk increases upon prolonged or repeated exposure. Target organ effect on throat, nasal septum, fingernails, eyes and skin.

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

This product is harmful to aquatic organisms.

LC50:	Fish – Pimephales promelas – 0.0094mg/l – 96hrs
	Daphnia magna (water flea) – 5µg/l – 96hrs
EC50:	Daphnia magna (water flea) – 0.6µg/l – 48hrs
	Daphnia magna (water flea) – 0.9µg/l – 48hrs
	Microtox – 0.038mg/ml – 24hrs
	Microtox – 0.395mg/l – 15min
	Microtox – 0.44mg/l – 30min
	Microtox – 0.86mg/l – 15min

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose waste material in accordance with all federal, state and local environmental regulation.

For contaminated packing too dispose in accordance with all federal, state and local environmental regulation.

Observe all federal, state and local environmental regulations.

SECTION 14: TRANSPORT INFORMATION

DOT (US)

UN no.: 1493 Class: 5.1 Packing group: II
Proper shipping name: Silver nitrate

IATA

UN no: 1493 Class: 5.1 Packing group: II
Proper shipping name: Silver nitrate

SECTION 15: REGULATORY INFORMATION

International inventories

TSCA	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

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U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulation, Part 372:

Chemical name: Silver nitrate
CAS No.: 7761-88-8
SARA 313 – Threshold Values%: 1.0%

SARA 311/312 Hazard Categories

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

Clean Water Act

This product contains the following substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name: Silver nitrate
CAS No.: 7761-88-8
Weight%: 95-100
CWA – reportable quantities: 1lb

CERCLA

Chemical name: Silver nitrate
Hazardous substances RQs: 1 lb

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

International Regulations

Mexico – Grade

Chemical name: Silver nitrate
Carcinogen status: A3
Exposure limits: TWA – 0.01 mg/m³

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WHMIS Hazard Class

- C Oxidizing materials
- D2A Very toxic materials
- E Corrosive materials



SECTION 16: OTHER INFORMATION

The information contained in this MSDS relates only to the material(s) designed and does not relate to use(s) in combination with any other material, process(es) and /or chemical reaction(s). Vivantis Technologies Sdn. Bhd. provides this information in good faith, from sources believed to be accurate; however, Vivantis assumes no liability for its accuracy or completeness, and thus shall not be held liable for any damage resulting from handling or from contact with the above product.

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