

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name Silver Nitrate
CAS number 7761-88-8
Synonyms Nitric acid, silver salt.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Company Lab Alley, LLC
12501 Pauls Valley Road
Austin, Texas 78737
U.S.A.
Telephone 512-668-9918
Fax 512-886-4008

1.4 Emergency telephone

Emergency Phone # US & Canada: 1-800-535-5053 INFOTRAC
International 1-352-323-3500 INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Oxidizing solids - Category 2
Corrosive to metals - Category 1
Skin Corrosion/irritation - Category 1B
Serious Eye Damage/Eye Irritation - Category 3
Specific Target Organ Toxicity - Single Exposure - Category 3
Respiratory system
Specific Target Organ Toxicity - Repeated Exposure - Category 2
Target Organs - Liver, Kidney

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word Danger

Hazard statements

- May intensify fire; oxidizer
- May be corrosive to metals
- Causes severe skin burns and eye damage
- May cause respiratory irritation
- May cause damage to organs through prolonged or repeated exposure

Precautionary statements

- Prevention Keep only in original container
Do not get in eyes, on skin, or on clothing
Do not breathe dust/fumes/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Use only outdoors or in a well-ventilated area.
Keep/Store away from clothing, other combustible materials
Take any precaution to avoid mixing with combustibles.
Wear protective gloves/protective clothing/eye protection/face protection
- Response Immediately call a POISON CENTER or doctor/physician
- Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Fire In case of fire: Use CO₂, dry chemical, or foam for extinction
- Storage Store locked up
Store in a well-ventilated place. Keep container tightly closed.
- Disposal Dispose of contents/container to an approved waste disposal plant

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Very toxic to aquatic life with long lasting effects

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Silver nitrate	Nitric acid, silver salt	7761-88-8	>95%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Call a physician or poison control center immediately.
In case of skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothing and shoes. Immediate medical attention is required.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
If swallowed	Do not induce vomiting. Call a physician or Poison Control Center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: treat symptomatically

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

Unsuitable extinguishing media Carbon dioxide (CO₂)

5.2 Specific hazards arising from the substance or mixture

Corrosive material. Oxidizer: Contact with combustible/organic material cause fire. May ignite combustibles (wood paper, oil, clothing, etc.). Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

5.4 Further information

Flash Point No information available

Autoignition Temperature No information available

Explosion limits

Upper No information available
Lower No information available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available
NFPA

Health	Flammability	Instability	Physical hazards
3	0	2	OX

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

6.2 Environmental precautions

Should not be released into the environment. See section 12 for additional ecological information.

6.3 Methods and materials for containment and cleaning up

Keep combustibles (wood, paper, oil, etc) away from spilled material. Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal. Avoid dust formation.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors/dust. Do not breathe dust. Keep away from clothing and other combustible materials.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials.

Incompatibilities

No information available

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Silver Nitrate	TWA	0.01 mg/m ³

US. ACGIH Threshold Limit Values

Component	Type	Value
Silver Nitrate	TWA	0.01 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Silver Nitrate	IDLH	10 mg/m ³
	TWA	0.01 mg/m ³

8.2 Exposure controls

Appropriate engineering controls

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Control of environmental exposure

Do not allow to be released into the environment. See section 12 for more information.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid
Appearance	White
Odor	Odorless
Odor Threshold	No information available
pH	5.4-6.4 10% aq solution
Melting Point/Range	212 °C / 413.6 °F
Boiling Point/Range	444 °C / 831.2 °F @ 760 mmHg
Evaporation Rate	No information available
Flammability (solid)	No information available
Flammability or explosive limit	No information available
Upper	
Lower	
Vapor Pressure	No information available
Vapor Density	Not applicable
Density	No information available
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No information available
Decomposition Temp	> 444°C
Viscosity	Not applicable
Molecular Formula	Ag N O3
Molecular Weight	169.87
VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information

No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

Yes

10.2 Chemical stability

Oxidizer: Contact with combustible/organic material may cause fire. Light sensitive.

10.3 Possibility of hazardous reactions

None under normal processing

10.4 Conditions to avoid

Avoid dust formation. Incompatible products. Excess heat. Combustible material. Exposure to light.

10.5 Incompatible materials

Strong oxidizing agents, strong reducing agents, Combustible material, Metals, Amines

10.6 Hazardous decomposition products

Nitrogen Oxides (NO_x)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Silver nitrate	2000 mg/kg (Rat)	Not listed	Not listed

Skin corrosion/irritation

Causes burns by all exposure routes.

Serious eye damage/eye irritation

Causes serious eye damage and irritation.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

Mutagenic effects have occurred in humans

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Silver nitrate	7761-88-8	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

Respiratory system

Specific target organ toxicity - repeated exposure

Liver, Kidney

Reproductive toxicity

No information available

Chronic effects

No information available

11.2 Additional Information

No information available

SECTION 12: Ecological information

12.1 Toxicity

Product		Species	Test Results
Silver nitrate	LC50	Freshwater Fish (L. idus)	0.029 mg/L/96h
	EC50	Microtox (P Phosphoreum)	0.038 mg/L/24h
	EC50	Microtox (P Phosphoreum)	0.395 mg/L/15 min
	EC50	Microtox (P Phosphoreum)	0.44 mg/L/30 min as Ag ⁺⁺
	EC50	Microtox (P Phosphoreum)	0.86 mg/L/15min as Ag ⁺⁺

12.2 Persistence and degradability

Soluble in water. Persistence is unlikely based on information available.

12.3 Bio accumulative potential

No information available

12.4 Mobility in soil

Will likely be mobile in environment due to its water solubility.

12.5 Results of PBT and vPvB assessment

No information available

12.6 Endocrine disrupting properties

No information available

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN-no	UN1493
Proper Shipping Name	SILVER NITRATE
Hazard Class	5.1
Subsidiary Hazard Class	8
Packing Group	II

IMDG

UN-no	UN1493
Proper Shipping Name	SILVER NITRATE
Hazard Class	5.1
Subsidiary Hazard Class	8

Packing Group II

IATA

UN-no UN1493
Proper Shipping Name SILVER NITRATE
Hazard Class 5.1
Subsidiary Hazard Class 8
Packing Group II

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not applicable

CERCLA Hazardous Substance List (40 CFR 302.4)
Silver Nitrate Hazardous Substance RQ: 1 lb

SARA 304 Emergency release notification
Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous
See section 2 for applicable information.

SARA 313 (TRI reporting)
Silver Nitrate Threshold Values %: 1.0

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act
Hazardous Substance
Toxic Pollutants
Reportable Quantities: 1 lb

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace
Not listed

US state regulations

US. Massachusetts RTK - Substance List

Listed

US. New Jersey Worker and Community Right-to-Know Act

Listed

US. Pennsylvania Worker and Community Right-to-Know Law

Listed

California Proposition 65

Not listed

SECTION 16: Other information

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SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.