

SAFETY DATA SHEET

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

1.1 Product identifiers

Product name Silver Nitrate and Nitric Acid Solution in DI Water

CAS number See section 3

Synonyms None

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)

Skin Corrosion/Irritation Category 1 A.
 Serious Eye Damage/Eye Irritation Category 1.
 Specific target organ toxicity (single exposure) Category 3 .Target Organs - Respiratory system.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

Causes severe skin burns and eye damage
 May cause respiratory irritation

Precautionary statements

Prevention:

Do not breathe dust/fume/gas/mist/vapors/spray.
 Wash face, hands and any exposed skin thoroughly after handling.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Use only outdoors or in a well-ventilated area.

Response:

Immediately call a POISON CENTER or doctor/physician.
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

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

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
Nitric Acid	-	7697-37-2	2%
Water	-	7732-18-5	96%
Silver Nitrate	-	7761-88-8	2%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
If inhaled	If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately.
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. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician 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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Not combustible. CO₂, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable extinguishing media None identified.

5.2 Specific hazards arising from the substance or mixture

Combustion can result in Nitrogen oxides (NO_x) and Silver oxides.

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. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

5.4 Further information

Flash Point No information available.

Autoignition Temperature No information available.

Explosion limits

Upper No data available.

Lower No data 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

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system. Should not be released into the environment. Do not allow material to contaminate ground water system.

6.3 Methods and materials for containment and cleaning up

Neutralize spill with sodium bicarbonate or lime. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

6.4 Reference to other sections

Refer to protective measures listed in Sections 7 and 8. See section 13 for proper disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Store in a cool, dry, well ventilated area. Keep away from incompatible materials.

Incompatibilities

Alkali metals, strong oxidizing agents, organic materials, acetic anhydride, acetonitrile, alcohols, acrylonitrile.

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
Nitric Acid	PEL	2 ppm 5 mg/m ³
Silver Nitrate	TWA	0.01 mg/m ³ (Silver)

US. ACGIH Threshold Limit Values

Component	Type	Value
Nitric Acid	TLV	2 ppm 5.2 mg/m ³
	STEL	4 ppm 10 mg/m ³
Silver Nitrate	TWA	0.01 mg/m ³ (Silver)

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Nitric Acid	REL	2 ppm 5 mg/m ³
	STEL	4 ppm 10 mg/m ³
	IDLH	25 ppm
Silver Nitrate	TWA	0.01 mg/m ³ (Silver)

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles.

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

Handle in accordance with good industrial hygiene.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	No information available
Odor Threshold	No information available
pH	No information available
Melting Point/Range	No information available
Boiling Point/Range	No information available
Evaporation Rate	No information available
Flammability (solid)	No information available
Flammability or explosive limit	
Upper	No information available
Lower	No information available
Vapor Pressure	No information available
Vapor Density	No information available
Density	No information available
Solubility	No information available
Partition coefficient; n-octanol/water	No information available

Autoignition Temp	No information available
Decomposition Temp	No information available
Viscosity	No information available
Molecular Formula	Mixture
Molecular Weight	Mixture
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

None known, based on information available.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Decomposes on exposure to light. None under normal processing.

10.4 Conditions to avoid

Light. Incompatible products.

10.5 Incompatible materials

Alkali metals, organic materials, acetic anhydride, acetonitrile, alcohols, acrylonitrile, strong oxidizing agents.

10.6 Hazardous decomposition products

Nitrogen oxides (NO_x), Metal oxides.

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	-	-	-

Skin corrosion/irritation

No information available.

Serious eye damage/eye irritation

No information available.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen.

Specific target organ toxicity - single exposure

Respiratory system.

Specific target organ toxicity - repeated exposure

No information available.

Reproductive toxicity

May damage the unborn child.

Chronic effects

No information available.

11.2 Additional Information

The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Toxicity

Do not empty into drains.

12.2 Persistence and degradability

No information available.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

No information available.

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 Number	UN 3264
Proper Shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
Hazard Class	8
Packaging Group	III
Technical name	Silver Nitrate, Nitric Acid Solution

IMDG

UN Number	UN 3264
Proper Shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
Hazard Class	8
Packaging Group	III
Technical name	Silver Nitrate, Nitric Acid Solution

IATA

UN Number	UN 3264
Proper Shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
Hazard Class	8
Packaging Group	III
Technical name	Silver Nitrate, Nitric Acid Solution

SECTION 15: Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not listed/applicable.

CERCLA Hazardous Substance List (40 CFR 302.4)

Silver Nitrate, RQ: 1 lb

Nitric Acid, RQ: 1,000 lbs

SARA 304 Emergency release notification

Listed: Nitric Acid

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed/applicable.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Listed: Nitric Acid

SARA 311/312 Hazardous

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

SARA 313 (TRI reporting)

Listed: Silver nitrate

Listed: Nitric Acid

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not listed/applicable.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not listed/applicable.

Safe Drinking Water Act

Silver Nitrate, RQ: 1,000 lbs

Nitric Acid, RQ: 1,000,000 lbs

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed/applicable.

US state regulations

US. Massachusetts RTK - Substance List

Silver nitrate 7761-88-8

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

Silver nitrate 7761-88-8

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

Silver nitrate 7761-88-8

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.