SAFETY DATA SHEET

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

1.1 Product identifiers

Product name	Mercuric Nitrate 0.01N Solution
CAS number	7783-34-8
Synonyms	Mercuric Nitrate Monohydrate; Mercury (II) Nitrate Hydrate

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)

Acute Oral Toxicity	Category 4
Acute Inhalation Toxicity	Category 4
Acute Dermal Toxicity	Category 3
Specific Target Organ Toxicity (repeated exposure)	Category 2
Target Organ(s) - Kidney	
Acute Aquatic Hazard	Category 2

Chronic Aquatic Hazard	Category 2

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word: Danger

Hazard statements:
Harmful if swallowed or if inhaled.
Toxic in contact with skin.
May cause damage to organs through prolonged or repeated exposure.
Toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention: Do not breathe mist or vapors. Wash skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/ protective clothing.

Response: Get medical advice/ attention if you feel unwell.

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/doctor if you feel unwell. Take off contaminated clothing and wash before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

Spills: Collect spillage.

Storage: Store locked up.

Disposal: Dispose of contents/ container to an approved waste disposal plant.

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

None identified.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Mercury (II) Nitrate	Mercuric Nitrate Monohydrate; Mercuric Nitrate	7783-34-8	0.05-0.30%

Nitric Acid	-	7697-37-2	0.05-0.20%
Water	Aqua; H2O	7732-18-5	99.50-99.85%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled Remove to fresh air. If not breathing, give artificial respiration. 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. Immediate medical attention is required.

In case of skin contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

In case of eye contact In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

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

None reasonably foreseeable.

4.3 Indication of any immediate medical attention and special treatment needed

Note to Physician: Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Water spray, Carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

Very toxic. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. Do not allow run-off from fire-fighting to enter drains or water courses.

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 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
4	1	1	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid contact with skin, eyes, and clothing. Evacuate personnel to safe areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements, or confined areas.

6.3 Methods and materials for containment and cleaning up

Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container.

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

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see Section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Incompatibilities
Strong bases; Acetylene; Hypophosphoric acid; Aromatic compounds; Phosphine; Ethanol; Strong reducing agents.

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	TWA	2 ppm 5 mg/m3

US. ACGIH Threshold Limit Values

Component	Type	Value
Mercury (II) Nitrate	TWA	0.25 mg/m3
Nitric Acid	TWA	2 ppm
	STEL	4 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Mercury (II) Nitrate	TWA	0.05 mg/m3
	C	0.1 mg/m3
Nitric Acid	ST	4 ppm 10 mg/m3
	TWA	2 ppm 10 mg/m3

Biological occupational exposure limits
No information available.

8.2 Exposure controls

Appropriate engineering controls
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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). Safety glasses.

Skin protection
Wear appropriate protective gloves.

Body Protection
Wear appropriate 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 let product enter drains.

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)	Not applicable.
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	Soluble in water.
Partition coefficient; n-octanol/water	No information available.
Autoignition Temp	Not applicable.
Decomposition Temp	No information available.
Viscosity	No information available.
Molecular Formula	$HgN_2O_6 * H_2O$
Molecular Weight	342.6 g/mol

VOC Content(%)	No information available.
Oxidizing properties	None.

9.2 Other safety information
No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
Stable under normal conditions.

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

10.3 Possibility of hazardous reactions
Generates dangerous gases or fumes in contact with: Metals
Violent reactions possible with: The generally known reaction partners of water.

10.4 Conditions to avoid
No information available.

10.5 Incompatible materials
Strong bases; Acetylene; Hypophosphoric acid; Aromatic compounds; Phosphine; Ethanol; Strong reducing agents.

10.6 Hazardous decomposition products
In the event of a fire, may cause evolution of toxic metal compounds, nitrous gases, and mercury.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Mercury (II) Nitrate	5.1 mg/kg	5.1 mg/kg	0.051 mg/L
Nitric Acid	-	-	2.65 mg/L

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

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Mercury(II) Nitrate	7783-34-8	Not listed	Not listed	Not listed	Not listed	Not listed
Nitric Acid	7697-37-2	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure
No information available.

Specific target organ toxicity - repeated exposure
Mixture may cause damage to organs through prolonged or repeated exposure. - 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	
Mercury(II) Nitrate	LC50	Pimephales promelas	0.172 mg/L	96 h
	LC50	Daphnia magna	0.0083 mg/L	21 d

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

Discharge into the environment must be avoided.

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	UN3289
Proper Shipping Name	Toxic liquid, corrosive, inorganic, n.o.s.
Hazard Class	6.1 (8)
Packing Group	II

IMDG

UN-no	UN3289
Proper Shipping Name	Toxic liquid, corrosive, inorganic, n.o.s.
Hazard Class	6.1 (8)
Packing Group	II

IATA

UN-no	UN3289
Proper Shipping Name	Toxic liquid, corrosive, inorganic, n.o.s.
Hazard Class	6.1 (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 listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Listed: Mercury(II) Nitrate- RQ:10 lbs; Nitric acid- RQ:1000 lbs

SARA 304 Emergency release notification

Regulated: Nitric Acid- RQ: 1000 lbs

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 more information.

SARA 313 (TRI reporting)

Regulated: Mercury(II) Nitrate- Weight: > 95%; Treshold Values: > 0%; RT: 10 lb.

Other federal regulations

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

Regulated: Mercuric(II) Nitrate.

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

Regulated: Mercuric(II) Nitrate.

Safe Drinking Water Act

Not regulated.

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

Not listed.

US state regulations

US. Massachusetts RTK - Substance List

Listed: Mercury(II) Nitrate, Water, Nitric Acid.

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

Listed: Mercury(II) Nitrate.

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

Listed: Mercury(II) Nitrate, Nitric Acid.

California Proposition 65

Listed: Mercury(II) Nitrate.

SECTION 16: Other information

Issue date: 11/05/2024

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.