



MATERIAL SAFETY DATA SHEET

SDS/MSDS

1. IDENTIFICATION

Product identifier

Product code: B-01838
Product Name: Nitric Acid 0.01M (0.01N) Standardized Solution

Other means of identification

Synonyms: No information available
CAS #: Mixture
RTECS # Not available
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Bio-Chem Chemicals
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Ambala Cantt, 133001 - Haryana
+91 82952 41953
info@biofinechemical.com - www.biofinechemical.com

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Specific target organ toxicity (repeated exposure)	Category 2
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Label elements

Warning

Hazard statements

May cause damage to organs through prolonged or repeated exposure



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

Get medical advice/attention if you feel unwell

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Water	7732-18-5	99.6
Mercuric Nitrate, Monohydrate	7783-34-8	0.34
Nitric acid	7697-37-2	0.07

4. FIRST AID MEASURES**First aid measures****General Advice:**

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact:

Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

Eye Contact:

Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

Inhalation:

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed**Symptoms**

May cause eye irritation. May cause skin irritation. Harmful if swallowed.

Indication of any immediate medical attention and special treatment needed**Notes to Physician:**

Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES**Extinguishing Media****Suitable Extinguishing Media:**

If it is involved in a fire, extinguish the fire using an agent

suitable for the type of surrounding fire.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products:

No information available.

Specific hazards:

Nonflammable

Special Protective Actions for Firefighters

Specific Methods:

No information available.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Ensure adequate ventilation. 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.

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.

Methods and material for containment and cleaning up

Methods for containment

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.

Methods for cleaning up

Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Do not ingest. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container.

Incompatible Materials:

No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WHEEL
Water	7732-18-5	None	None	None	None
Mercuric Nitrate, Monohydrate	7783-34-8	None	None	None	None
Nitric acid	7697-37-2	2 ppm TWA 5 mg/m ³ TWA	2 ppm TWA 5 mg/m ³ TWA 4 ppm STEL 10 mg/m ³ STEL	4 ppm STEL 2 ppm TWA	No information available

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Water	7732-18-5	None	None	None	None
Mercuric Nitrate, Monohydrate	7783-34-8	None	None	None	None
Nitric acid	7697-37-2	2 ppm TWA 5.2 mg/m ³ TWA 4 ppm STEL 10 mg/m ³ STEL	2 ppm TWA 4 ppm STEL	2 ppm TWA	2 ppm TWA EV 5.2 mg/m ³ TWA EV 4 ppm STEV 10 mg/m ³ STEV

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Water	7732-18-5	None	None
Mercuric Nitrate, Monohydrate	7783-34-8	None	None
Nitric acid	7697-37-2	4 ppm STEL 10 mg/m ³ STEL 2 ppm TWA 5.2 mg/m ³ TWA	2 ppm TWA 5 mg/m ³ TWA 4 ppm STEL 10 mg/m ³ STEL

Appropriate engineering controls

Engineering measures to reduce exposure:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection:

Goggles

Skin and body protection:

Long sleeved clothing. apron. Gloves.

Respiratory protection:

Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures:

Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES**Physical state:**

Liquid

Appearance:

No information available.

Color:

Colorless.

Odor:

No information available.

Taste

No information available.

Formula:

No information available

Molecular/Formula weight:

No information available

Flammability:

No information available

Flashpoint (°C/°F):

No information available.

Flash Point Tested according to:

Not available

Autoignition Temperature (°C/°F):

No information available

Lower Explosion Limit (%):

No information available

Upper Explosion Limit (%):

No information available

Melting point/range(°C/°F):

No information available

Decomposition temperature(°C/°F):

No information available

Boiling point/range(°C/°F):

No information available

Bulk density:

No information available

Density (g/cm3):

No information available

Specific gravity:

1 (Water)

pH:

Neutral

Vapor pressure @ 20°C (kPa):

No information available

Evaporation rate:

No information available

Vapor density:

No information available

VOC content (g/L):

No information available

Odor threshold (ppm):

No information available

Partition coefficient

(n-octanol/water):

No information available

Viscosity:

No information available

Miscibility:

No information available

Solubility:

Easily soluble in cold water

10. STABILITY AND REACTIVITY**Reactivity**

No information available

Chemical stability**Stability:**

Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid:

No information available.

Incompatible Materials:

No information available

Hazardous decomposition products:

No information available.

Other Information**Corrosivity:**

No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion.

Acute Toxicity

Component Information

Water	
CAS-No.	7732-18-5

LD50/oral/rat = > 90 mL/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Mercuric Nitrate, Monohydrate	
CAS-No.	7783-34-8

LD50/oral/rat = 26 mg/kg Oral LD50 Rat
LD50/oral/mouse = 25 mg/kg Oral LD50 Mouse
LD50/dermal/rabbit = No information available
LD50/dermal/rat = 75 mg/kg Dermal LD50 Rat
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Nitric acid	
CAS-No.	7697-37-2

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = 67 ppm Inhalation LC50 Rat 4 h
130 mg/m³ 4 h
7 mg/l 1 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = 430 mg/kg Oral LDL Rat

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =

Value - Acute Tox Oral = No information available

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat**VALUE-Vapor** = No information available**VALUE-Gas** = No information available**VALUE-Dust/Mist** = No information available**LC50/Inhalation/mouse****VALUE-Vapor** = No information available**VALUE - Gas** = No information available**VALUE - Dust/Mist** = No information available**Symptoms****Skin Contact:** May cause skin irritation.**Eye Contact:** May cause eye irritation.**Inhalation** Inhalation of mist or vapors may cause respiratory tract irritation and mucous membrane irritation.**Ingestion** Harmful if swallowed.**Aspiration hazard** No information available.**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Chronic Toxicity This product contains Mercuric Nitrate, monohydrate. Inhalation/Ingestion: High or repeated exposure can cause Mercury poisoning. Mercury poisoning causes gastrointestinal upset/disturbances, inflammation of the mouth and gums, sore gums, metallic taste in the mouth, personality changes, tremors/shakes, clumsiness, fatigue, headache, dizziness or faintness, insomnia, irritability and increased saliva. Other changes may include memory loss, trouble concentrating, extreme shyness, joint or muscle pain, muscle weakness, stomatitis, gingivitis, loose teeth or loss of teeth, loss of appetite and weight. Exposure can also affect the liver, cause kidney damage, and may decrease visual activity. Brain damage can occur if exposure continues.

Sensitization: No information available.**Mutagenic Effects:** No information available**Carcinogenic effects:** Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Mercuric Nitrate, Monohydrate	7783-34-8	Not listed	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	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)**IARC (International Agency for Research on Cancer)**NTP (National Toxicology Program)**OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.
Target Organs: Kidneys. Nervous system. Central nervous system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.

Nitric acid - 7697-37-2

Freshwater Fish Species Data: 72 mg/L LC50 *Gambusia affinis* 96h

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Water	7732-18-5	None	None	None	None
Mercuric Nitrate, Monohydrate	7783-34-8	None	None	None	None
Nitric acid	7697-37-2	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Class No information available
Packing group: No information available
Emergency Response Guide Number No information available
Marine Pollutant No data available
DOT RQ (lbs): No information available

Special Provisions No Information available
Symbol(s): No information available
Description: No information available

TDG (Canada)
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant No Information available
Description: No information available

ADR
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available

IMO / IMDG
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant No information available

RID
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available

ICAO
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available

IATA
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
ERG Code: No information available
Special Provisions No information available

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
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<i>Water</i>	7732-18-5	Present	Present KE-35400	Present	Not present	Present	Present	Present 231-791-2
<i>Mercuric Nitrate, Monohydrate</i>	7783-34-8	Not Listed	Not present	Present	Not present	Present	Present	Not present
<i>Nitric acid</i>	7697-37-2	Present	Present KE-25911	Present	Present (1)-394	Present	Present	Present 231-714-2

U.S. Regulations

Nitric acid

Massachusetts RTK: Present

Massachusetts EHS: extraordinarily hazardous

New Jersey RTK Hazardous Substance List: 1356

New Jersey (EHS) List: 1356 500 lb TPQ

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

New Jersey TCPA - EHS: 15000lbTQ

450lbTQ

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

Michigan PSM HHC: = 500 lb TQ 94.5% by weight or greater

Minnesota - Hazardous Substance List: Present

New York Release Reporting - List of Hazardous Substances:

1000 lb RQ

100 lb RQ

Louisiana Reportable Quantity List for Pollutants: 1000lbfinal RQAs listed in 40 CFR 117.3 Table 117.3 and 40 CFR 302.4 Table 302.4

454kgfinal RQAs listed in 40 CFR 117.3 Table 117.3 and 40 CFR 302.4 Table 302.4

1000lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into or onto all media within any consecutive 24-hour period

100lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into the atmosphere

California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Water</i>	7732-18-5	Not Listed	Not Listed	Not Listed	Not Listed
<i>Mercuric Nitrate, Monohydrate</i>	7783-34-8	Not Listed	Not Listed	Not Listed	Not Listed
<i>Nitric acid</i>	7697-37-2	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
<i>Water</i>	7732-18-5	None	None	None	None	None
<i>Mercuric Nitrate, Monohydrate</i>	7783-34-8	None	None	None	None	None
<i>Nitric acid</i>	7697-37-2	1000 lb final RQ 454 kg final RQ	1000 lb TPQ	None	None	1.0 % de minimis concentration

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
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Water	7732-18-5	Not Applicable	Not Applicable
Mercuric Nitrate, Monohydrate	7783-34-8	Not Applicable	Not Applicable
Nitric acid	7697-37-2	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

Non-controlled

Components

Water

Nitric acid

WHIMHAZ

Uncontrolled product according to WHMIS classification criteria

C E including 61.3%, 67.18%, 70%

E 0.63%, 6.3%

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Nitric acid	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Water	7732-18-5	Present	Not Listed
Mercuric Nitrate, Monohydrate	7783-34-8	Not Listed	Not Listed
Nitric acid	7697-37-2	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Water	7732-18-5	Not listed
Mercuric Nitrate, Monohydrate	7783-34-8	Not listed
Nitric acid	7697-37-2	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Water	7732-18-5	Not listed
Mercuric Nitrate, Monohydrate	7783-34-8	Not listed
Nitric acid	7697-37-2	Not listed

EU Classification

R-phrases(s)

not determined (not applicable)

S -phrase(s)

none

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Water	7732-18-5		No information	
Mercuric Nitrate, Monohydrate	7783-34-8		No information	
Nitric acid	7697-37-2	C; R35 O; R8	20%≤C C;R35 5%≤C<20% C;R34 70%≤C O;R8	S1/2 S23 S26 S36 S45

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

None.