

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Mercuric Nitrate, 0.0141 Normal, 0.00705 Molar, 1 mL = 0.5 mg Cl⁻

Product Number: 4705

Other Identifying Product Numbers: 4705-1, 4705-16, 4705-32, 4705-5

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company: Ricca Chemical Company

Address: 448 West Fork Drive

Arlington, TX 76012 USA

Telephone: 888-467-4222

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

Hazard Class	Category	Hazard Statements	Precautionary Statements:
Acute Toxicity - Inhalation	Category 4	H332	P261, P271, P304+P340, P312
Hazardous to the Aquatic Environment (Acute)	Category 3	H402	P273, P501
Hazardous to the Aquatic Environment (Chronic)	Category 3	H412	P273, P501

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2.2. GHS Label Elements

Pictograms:



Signal Word: **Warning**

Hazard Statements:

Hazard Number	Hazard Statement
H332	Harmful if inhaled.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements:

Precautionary Number	Precautionary Statement
P261	Avoid breathing fumes, mist, vapors, or spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or physician if you feel unwell.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	Weight%
Water	H ₂ O	18.01 g/mol	7732-18-5	99.50
Mercuric Nitrate Monohydrate	Hg(NO ₃) ₂ ·H ₂ O	342.62 g/mol	7783-34-8	0.25
Nitric Acid	HNO ₃	63.01 g/mol	7697-37-2	0.25



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SECTION 4: First-Aid Measures

4.1. General First Aid Information

Eye Contact: May cause irritation, redness, pain, and tearing.

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Skin Contact: May cause irritation. Effects may be similar to inhalation and ingestion. May cause dermatitis.

Ingestion: Dilute with water or milk. Vomiting may occur spontaneously but do not induce. Call a physician immediately.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Harmful if inhaled. Mildly toxic. Harmful if inhaled or absorbed through skin. Causes irritation to the skin, eyes, and respiratory tract. May cause allergic skin reaction. If ingested, give large quantity of water, do not induce vomiting. Vomiting may occur spontaneously. Call a physician immediately. Wash areas of contact with plenty of water for at least 15 minutes. Mercury compounds affect the kidneys and central nervous system. EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May cause irritation. Effects may be similar to inhalation and ingestion. May cause dermatitis. CHRONIC EFFECTS / CARCINOGENICITY: Mercury can accumulate in the body on prolonged exposure. May effect kidneys and central nervous system.

4.3. Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Wash areas of contact with soap and water for at least 15 minutes. Call a physician if irritation develops. Dilute with water or milk. Vomiting may occur spontaneously but do not induce. Call a physician immediately.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire. Dry chemical or foam may suffice for small fires. For large fires, try fog or regular foam. Exercise caution if water is used (it may increase contamination of area).

5.2. Specific Hazards Arising from the Substance or Mixture

Not considered to be a fire or explosion hazard. Heat of reaction can accelerate the combustion of ordinary combustible materials.

5.3. Special Protective Equipment for Firefighters

Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear appropriate PPE for the size and nature of the spill. As a general rule, wear safety glasses and gloves.

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6.2. Cleanup and Containment Methods and Materials

Wear gloves to protect from absorption through skin. Absorb with suitable material and containerize for proper disposal. Do not flush to sewer.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Nitric Acid (7697-37-2)	TWA	USA	2 ppm TWA; 5 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Nitric Acid (7697-37-2)	TLV-TWA	USA	2 ppm TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Nitric Acid (7697-37-2)	TLV-STEL	USA	4 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Mercuric Nitrate Monohydrate (7783-37-2) TLV-TWA		USA	"0.025 mg/m ³ TWA (as Hg)" As Mercury inorganic forms [RR-00569-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Mercuric Nitrate Monohydrate (7783-37-2) TLV-TWA		USA	"0.025 mg/m ³ TWA (as Hg)" As Mercury inorganic forms [RR-00569-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Mercuric Nitrate Monohydrate (7783-37-2) TLV-TWA		USA	0.025 mg/m ³ TWA (as Hg)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Mercuric Nitrate Monohydrate (7783-37-2) TLV-TWA		USA	"0.025 mg/m ³ TWA (as Hg)" As Mercury inorganic forms [RR-00569-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

8.2. Exposure Controls

Engineering Controls: Use only outdoors or in a well-ventilated area. No specific controls are needed. Normal room ventilation is adequate.

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Chemical resistant gloves.

Eye Protection: Safety glasses or goggles.



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8.3. Personal Protective Equipment

Normal room ventilation is adequate. Chemical resistant gloves. Safety glasses or goggles.

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Colorless liquid

Physical State: Liquid

Odor: Data not available.

Odor Threshold: Data not available.

pH: Data not available.

Melting/Freezing Point: 0.0°C

Initial Boiling Point/Range: 100°C - 100°C

Flash Point: Data not available.

Evaporation Rate: Data not available.

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Vapor Pressure: Data not available.

Vapor Density: Data not available.

Relative Density: 1.00

Solubility: Miscible

Partition Coefficient: Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: Data not available.

Explosive Properties: Data not available.

Oxidizing Properties: Data not available.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Acetylene, Ethanol, Phosphine, Cyanide, Ferrocene, Sulfur, Isobutene, Aromatics, Hypophosphoric Acid.

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10.4. Hazardous Decomposition Products

Will not occur.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not applicable.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Harmful if inhaled. Avoid breathing fumes, mist, vapors, or spray. Use only outdoors or in a well-ventilated area. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Acute Toxicity - Other Information:

LD50, Oral, Rat: 26 mg/kg (Mercuric Nitrate); LD50, Dermal, Rat: 75 mg/kg (Mercuric Nitrate); LD50, Oral, Human: (Nitric Acid) 430 mg/kg, Details of toxic effects not reported other than lethal dose value.

Skin Corrosion and Irritation:

Not applicable.

Serious Eye Damage and Irritation:

Not applicable.

Respiratory Sensitization:

Not applicable.

Skin Sensitization:

Not applicable.

Germ Cell Mutagenicity:

Not applicable.

Carcinogenicity:

Not applicable.

Reproductive Toxicity:

Not applicable.

Specific Target Organ Toxicity from Single Exposure:

Not applicable.

Specific Target Organ Toxicity from Repeated Exposure:

Not applicable.

Aspiration Hazard:

Not applicable.

Additional Toxicology Information:

Data not available.



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SECTION 12: Ecological Information

12.1. Ecotoxicity

Harmful to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations. Harmful to aquatic life with long lasting effects. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in Soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

SECTION 14: Transportation Information

14.1. Transportation by Land-Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.



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14.2. Transportation by Air - International Air Transport Association (IATA)

Not regulated according to IATA Dangerous Goods Regulations.

14.3 Transportation of Dangerous Goods (TDG, Canada)

Not regulated according to TDG Regulations.

SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Nitric Acid (CAS # 7697-37-2): 1000 lb EPCRA RQ

Nitric Acid (CAS # 7697-37-2): 1000 lb TPQ

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Nitric Acid (CAS # 7697-37-2): 1000 lb final RQ; 454 kg final RQ

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): 10 lb final RQ; 4.54 kg final RQ

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15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Nitric Acid (CAS # 7697-37-2): 1.0 % de minimis concentration

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): "1.0 % Supplier notification limit (includes any unique chemical substance that contains Mercury as part of that chemical's infrastructure, listed under Chemical Category N458)" As Mercury compounds [RR-00138-7]

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): "10 lb RT" As Mercury compounds [RR-00138-7]

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): 1.0 % Supplier notification limit (includes any unique chemical substance that contains Mercury as part of that chemical's infrastructure, listed under Chemical Category N458)

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): 10 lb RT

15.5. Massachusetts Right-to-Know Substance List

Nitric Acid (CAS # 7697-37-2): Extraordinarily hazardous

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): Present

15.6. Pennsylvania Right-to-Know Hazardous Substances

Nitric Acid (CAS # 7697-37-2): Environmental hazard

Nitric Acid (CAS # 7697-37-2): Present

Water (CAS # 7732-18-5): "Present" As Ethyl alcohol and water [RR-00802-6]

Water (CAS # 7732-18-5): Present

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): "Environmental hazard" As Mercury compounds [RR-00138-7];

"Environmental hazard" As Mercury inorganic compounds [RR-00569-6]

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): "Present" As Mercury compounds [RR-00138-7];

"Present" As Mercury inorganic compounds [RR-00569-6]

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): Environmental hazard

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): Present

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15.7. New Jersey Worker and Community Right-to-Know Components

Nitric Acid (CAS # 7697-37-2): corrosive; reactive - second degree

Nitric Acid (CAS # 7697-37-2): sn 1356

Nitric Acid (CAS # 7697-37-2): SN 1356 500 lb TPQ

Nitric Acid (CAS # 7697-37-2): sn 3722

Nitric Acid (CAS # 7697-37-2): SN 3722 500 lb TPQ (water dissociable, Category Code N511)

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): "corrosive" As Mercury inorganic compounds [RR-00569-6]

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): "sn 1183" As Mercury inorganic compounds [RR-00569-6]

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): "sn 1183" As Mercury inorganic compounds [RR-00569-6];
"sn 3722" As Nitrate compounds [RR-01770-9]

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): "SN 2414 500 lb TPQ (Category Code N458. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Mercury compounds [RR-00138-7]

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): "SN 2414 500 lb TPQ (Category Code N458. Includes any unique chemical substance that contains the named metal as part of that chemical structure)" As Mercury compounds [RR-00138-7];

"SN 3722 500 lb TPQ (water dissociable, Category Code N511)" As Nitrate compounds [RR-01770-9]

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): corrosive

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): sn 1173

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): sn 1183

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): SN 2414 500 lb TPQ (Category Code N458. Includes any unique chemical substance that contains the named metal as part of that chemical structure)

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): sn 3722

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): SN 3722 500 lb TPQ (water dissociable, Category Code N511)

15.8. California Proposition 65

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): "developmental toxicity, 7/1/1990" As Mercury compounds [RR-00138-7]

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): developmental toxicity, 7/1/1990

15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Nitric Acid (CAS # 7697-37-2): Present (DSL)

Water (CAS # 7732-18-5): Present (DSL)

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): Present (DSL)

15.10. United States of America Toxic Substances Control Act (TSCA) List

All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.

Nitric Acid (CAS # 7697-37-2): Present (ACTIVE)

Water (CAS # 7732-18-5): Present (ACTIVE)

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): Present [12C] (ACTIVE)

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15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Nitric Acid (CAS # 7697-37-2): 231-714-2

Water (CAS # 7732-18-5): 231-791-2

Mercuric Nitrate Monohydrate (CAS # 7783-34-8): 233-152-3

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

Harmful if inhaled. Harmful to aquatic life with long lasting effects.

Avoid breathing fumes, mist, vapors, or spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

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

Dispose of contents in accordance with local, state, federal and international regulations.

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

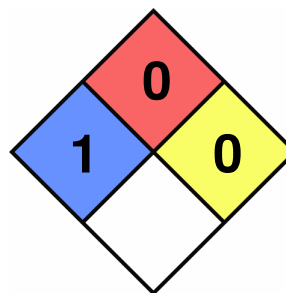
Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.

Biohazardous Infectious Materials Hazard Class: Not Applicable.

16.3. National Fire Protection Association (NFPA) Rating

Health: 1
Flammability: 0
Reactivity: 0
Special Hazard:



16.4. Document Revision

Last Revision Date: 2023-09-11

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.