

# Safety Data Sheet

Classified according to WHMIS 2015

## SECTION 1: Identification

### 1.1. Product Identifier

**Trade Name or Designation:** Mercuric Nitrate, 0.100 Molar (M/10), 0.200 Normal (N/5)

**Product Number:** 4745

**Other Identifying Product Numbers:** 4745-16, 4745-32

### 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

# Safety Data Sheet

## 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 - Oral	Category 3	H301	P264, P270, P301+P310, P321, P330, P405, P501
Acute Toxicity - Dermal	Category 2	H310	P262, P264, P270, P280, P352, P310, P321, P361, P405, P501
Acute Toxicity - Inhalation	Category 3	H331	P261, P271, P304+P340, P311, P321, P403+P233, P405, P501
Specific Target Organs/Systemic Toxicity Following Repeated Exposure	Category 2	H373	P260, P314, P501
Hazardous to the Aquatic Environment (Acute)	Category 2	H401	P273, P501
Hazardous to the Aquatic Environment (Chronic)	Category 2	H411	P273, P391, P501

### 2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

Hazard Number	Hazard Statement
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H331	Toxic if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

## Safety Data Sheet

### Precautionary Statements:

Precautionary Number	Precautionary Statement
P260	Do not breathe fumes, mist, vapors, or spray.
P261	Avoid breathing fumes, mist, vapors, or spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash arms, hands and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or physician.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTER or physician.
P311	Call a POISON CENTER or physician.
P314	Get medical attention if you feel unwell.
P321	Specific treatment (Wash areas of contact with water immediately).
P330	Rinse mouth.
P352	Wash with plenty of soap and water.
P361	Take off immediately all contaminated clothing and wash it before reuse.
P391	Collect spillage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
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 <sub>2</sub> O	18.01 g/mol	7732-18-5	96.12
Mercuric Nitrate Monohydrate	Hg(NO <sub>3</sub> ) <sub>2</sub> ·H <sub>2</sub> O	342.62 g/mol	7783-34-8	3.39
Nitric Acid	HNO <sub>3</sub>	63.01 g/mol	7697-37-2	0.49

## Safety Data Sheet

### 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:** IF SWALLOWED: Immediately call a POISON CENTER or physician. 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

Toxic if swallowed. Fatal in contact with skin. Toxic if inhaled. May cause damage to organs through prolonged or repeated exposure. 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

Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water immediately). 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

Use protective clothing and NIOSH-approved breathing equipment appropriate for the surrounding fire.

### SECTION 6: Accidental Release Measures

#### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection.

## Safety Data Sheet

### 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

Store locked up. 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 <sup>3</sup> 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 (7783-34)	TLV-TWA	USA	"0.025 mg/m <sup>3</sup> TWA (as Hg)" As Mercury inorganic forms [RR-00569-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Mercuric Nitrate Monohydrate (7783-34)	TLV-TWA	USA	"0.025 mg/m <sup>3</sup> TWA (as Hg)" As Mercury inorganic forms [RR-00569-6]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Mercuric Nitrate Monohydrate (7783-34)	TLV-TWA	USA	0.025 mg/m <sup>3</sup> TWA (as Hg)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Mercuric Nitrate Monohydrate (7783-34)	TLV-TWA	USA	"0.025 mg/m <sup>3</sup> 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:** Wear protective gloves and eye protection. Chemical resistant gloves.

**Eye Protection:** Wear protective gloves and eye protection. Safety glasses or goggles.

## Safety Data Sheet

### 8.3. Personal Protective Equipment

Wear protective gloves and eye protection. 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:** Approximately 0°C

**Initial Boiling Point/Range:** Approximately 100°C - Approximately 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:** 1.01

**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.

## Safety Data Sheet

### 10.4. Hazardous Decomposition Products

Will not occur.

## SECTION 11: Toxicological Information

### 11.1. Information on Toxicological Effects

#### Acute Toxicity - Oral Exposure:

Toxic if swallowed. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF SWALLOWED: Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water immediately). Rinse mouth. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

#### Acute Toxicity - Dermal Exposure:

Fatal in contact with skin. Do not get in eyes, on skin, or on clothing. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves and eye protection. Wash with plenty of soap and water. Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water immediately). Take off immediately all contaminated clothing and wash it before reuse. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

#### Acute Toxicity - Inhalation Exposure:

Toxic 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. Specific treatment (Wash areas of contact with water immediately). Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

#### 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.

## Safety Data Sheet

**Specific Target Organ Toxicity from Single Exposure:**

Not applicable.

**Specific Target Organ Toxicity from Repeated Exposure:**

May cause damage to organs through prolonged or repeated exposure. Do not breathe fumes, mist, vapors, or spray. Get medical attention if you feel unwell. Dispose of contents in accordance with local, state, federal and international regulations.

**Aspiration Hazard:**

Not applicable.

**Additional Toxicology Information:**

Data not available.

### SECTION 12: Ecological Information

**12.1. Ecotoxicity**

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



## Safety Data Sheet

### SECTION 14: Transportation Information

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

**Sizes:** 1 L, 500 mL

**UN Number:** UN3287

**Proper Shipping Name:** Toxic Liquid, Inorganic, n.o.s. (Mercuric Nitrate)

**Hazard Class:** 6.1

**Packing Group:** III

**Hazard Label(s):**



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

**Sizes:** 1 L, 500 mL

**UN Number:** UN3287

**Proper Shipping Name:** Toxic Liquid, Inorganic, n.o.s. (Mercuric Nitrate)

**Hazard Class:** 6.1

**Packing Group:** III

**Hazard Label(s):**



#### 14.3 Transportation of Dangerous Goods (TDG, Canada)

**Sizes:** 1 L, 500 mL

**UN Number:** UN3287

**Proper Shipping Name:** TOXIC LIQUID, INORGANIC, N.O.S. (mercuric nitrate)

**Hazard Class:** 6.1

**Packing Group:** III

**Hazard Label(s):**



## Safety Data Sheet

### 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

#### 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

## Safety Data Sheet

### 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)

## Safety Data Sheet

### 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

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

Do not breathe fumes, mist, vapors, or spray. Do not get in eyes, on skin, or on clothing. Wash arms, hands and face 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 and eye protection.

IF SWALLOWED: Immediately call a POISON CENTER or physician. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician. Get medical attention if you feel unwell. Specific treatment (Wash areas of contact with water immediately). Rinse mouth. Wash with plenty of soap and water. Take off immediately all contaminated clothing and wash it before reuse. Collect spillage.

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

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

### 16.2. Miscellaneous Hazard Classes

**Canadian Carcinogenicity Hazard Class:** Not Applicable.

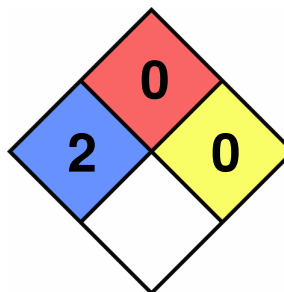
**Physical Hazards Not Otherwise Classified (PHNOC):** Not Applicable.

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

**Biohazardous Infectious Materials Hazard Class:** Not Applicable.

### 16.3. National Fire Protection Association (NFPA) Rating

<b>Health:</b>	2
<b>Flammability:</b>	0
<b>Reactivity:</b>	0
<b>Special Hazard:</b>	



## Safety Data Sheet

### 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.