



## Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

### SECTION 1: Identification

#### 1.1. Product Identifier

**Trade Name or Designation:** Ferrous Ammonium Sulfate, 0.00282 Normal (0.00282 Molar), 1 mL = 0.1 mg Cl<sub>2</sub>

**Product Number:** 3144

**Other Identifying Product Numbers:** 3144-1, 3144-100, 3144-16, 3144-32

#### 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

### 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.

This product is not categorized as hazardous in any GHS hazard class.

#### 2.2. GHS Label Elements

**Pictograms:** None Required.

**Signal Word:** None Required.

# Safety Data Sheet

**Hazard Statements:** None Required.

**Precautionary Statements:** None Required.

## 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	99.84
Ferrous Ammonium Sulfate Hexahydrate	Fe(NH <sub>4</sub> ) <sub>2</sub> (SO <sub>4</sub> ) <sub>2</sub> ·6H <sub>2</sub> O	405.00 g/mol	7783-85-9	0.11
Sulfuric Acid	H <sub>2</sub> SO <sub>4</sub>	98.07 g/mol	7664-93-9	< 0.1

## SECTION 4: First-Aid Measures

### 4.1. General First Aid Information

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

**Inhalation:** Not expected to require first aid. If necessary, remove to fresh air.

**Skin Contact:** May cause irritation, redness, and pain.

**Ingestion:** Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

### 4.2. Most Important Symptoms and Effects, Acute and Delayed

Mildly corrosive. Irritating to the eyes and skin. Wash areas of contact with water. If ingested, dilute with water. Call a physician if necessary. EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May cause irritation, redness, and pain.

### 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. Flush with plenty of water for at least 15 minutes. Call a physician if irritation develops. Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

## SECTION 5: Fire-Fighting Measures

### 5.1. Extinguishing Media

Dry chemical, foam, or carbon dioxide. Water is acceptable to use on these solutions due to the weak concentrations of acid involved.

# Safety Data Sheet

## 5.2. Specific Hazards Arising from the Substance or Mixture

Contact with most metals causes formation of flammable and explosive hydrogen gas. However, the risk is reduced due to the weaker concentration of Sulfuric Acid present.

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

### 6.2. Cleanup and Containment Methods and Materials

Cover the spill with Sodium Carbonate or a soda ash-slaked lime mixture (50:50). Mix and add water to form slurry. Decant the liquid to the drain with excess water. Treat the solid residue as normal refuse unless there are regulations prohibiting this practice due to the iron content. Always dispose of in accordance with local regulations.

## 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
Sulfuric Acid (7664-93-9)	TWA	USA	1 mg/m <sup>3</sup> TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Sulfuric Acid (7664-93-9)	TLV-TWA	USA	0.2 mg/m <sup>3</sup> TWA (thoracic particulate matter)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ferrous Ammonium Sulfate Hexahydrate TLV-TWA	TLV-TWA	USA	"1 mg/m <sup>3</sup> TWA (as Fe)" As Iron salts, soluble [RR-00521-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ferrous Ammonium Sulfate Hexahydrate TLV-TWA	TLV-TWA	USA	"1 mg/m <sup>3</sup> TWA (as Fe)" As Iron salts, soluble [RR-00521-0]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Ferrous Ammonium Sulfate Hexahydrate TLV-TWA	TLV-TWA	USA	1 mg/m <sup>3</sup> TWA (as Fe)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)



## Safety Data Sheet

### 8.2. Exposure Controls

**Engineering Controls:** 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.

### 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:** Light green 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.



## Safety Data Sheet

### 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

Organics, chlorates, carbides, fulminates, picrates, alkalines, reducing agents, nitrates, Acetic Acid, oxidizing agents, metals.

#### 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:

Not applicable.

##### Acute Toxicity - Other Information:

LD50, Oral, Rat: 2140 mg/kg (Sulfuric Acid), 3250 mg/kg (Ferrous Ammonium Sulfate Hexahydrate), details of toxic effects not reported other than lethal dose value. LC50, Inhalation, Rat: (Sulfuric Acid) 510 mg/m<sup>3</sup>/2H, No toxic effect noted.

##### 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:**

Not applicable.

**Aspiration Hazard:**

Not applicable.

**Additional Toxicology Information:**

Data not available.

### SECTION 12: Ecological Information

**12.1. Ecotoxicity**

Not applicable.

**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)**

Not regulated according to DOT Regulations.

#### **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.

# 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

Sulfuric Acid (CAS # 7664-93-9): 1000 lb EPCRA RQ

Sulfuric Acid (CAS # 7664-93-9): 1000 lb TPQ

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

Sulfuric Acid (CAS # 7664-93-9): 1000 lb final RQ; 454 kg final RQ

Ferrous Ammonium Sulfate Hexahydrate (CAS # 7783-85-9): 1000 lb final RQ; 454 kg final RQ

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

Sulfuric Acid (CAS # 7664-93-9): 1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

Ferrous Ammonium Sulfate Hexahydrate (CAS # 7783-85-9): "1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)" As Aqueous ammonia from water dissociable ammonium salts and other sources [RR-47925-4]

### 15.5. Massachusetts Right-to-Know Substance List

Sulfuric Acid (CAS # 7664-93-9): Extraordinarily hazardous

Sulfuric Acid (CAS # 7664-93-9): Present

Ferrous Ammonium Sulfate Hexahydrate (CAS # 7783-85-9): Present

### 15.6. Pennsylvania Right-to-Know Hazardous Substances

Sulfuric Acid (CAS # 7664-93-9): Environmental hazard

Sulfuric Acid (CAS # 7664-93-9): Environmental hazard (listed under Sulfuric acid)

Sulfuric Acid (CAS # 7664-93-9): Present

Sulfuric Acid (CAS # 7664-93-9): Present (listed under Sulfuric acid)

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

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

Ferrous Ammonium Sulfate Hexahydrate (CAS # 7783-85-9): "Environmental hazard" As Iron salts [RR-04647-9]

Ferrous Ammonium Sulfate Hexahydrate (CAS # 7783-85-9): "Present" As Iron salts [RR-04647-9]

Ferrous Ammonium Sulfate Hexahydrate (CAS # 7783-85-9): Environmental hazard

Ferrous Ammonium Sulfate Hexahydrate (CAS # 7783-85-9): Present

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

Sulfuric Acid (CAS # 7664-93-9): carcinogen; corrosive; reactive - second degree

Sulfuric Acid (CAS # 7664-93-9): sn 1761

Sulfuric Acid (CAS # 7664-93-9): SN 1761 500 lb TPQ

Sulfuric Acid (CAS # 7664-93-9): sn 1762

Ferrous Ammonium Sulfate Hexahydrate (CAS # 7783-85-9): sn 0928



## Safety Data Sheet

### 15.8. California Proposition 65

Sulfuric Acid (CAS # 7664-93-9): "carcinogen, 3/14/2003" As Strong inorganic acid mists containing sulfuric acid [RR-03978-1]

Sulfuric Acid (CAS # 7664-93-9): carcinogen, 3/14/2003

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

Sulfuric Acid (CAS # 7664-93-9): Present (DSL)

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

Ferrous Ammonium Sulfate Hexahydrate (CAS # 7783-85-9): 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.

Sulfuric Acid (CAS # 7664-93-9): Present (ACTIVE)

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

Ferrous Ammonium Sulfate Hexahydrate (CAS # 7783-85-9): Present (ACTIVE)

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

Sulfuric Acid (CAS # 7664-93-9): 231-639-5

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

Ferrous Ammonium Sulfate Hexahydrate (CAS # 7783-85-9): 233-151-8

## SECTION 16: Other Information

### 16.1. Full Text of Hazard Statements and Precautionary Statements

### 16.2. Miscellaneous Hazard Classes

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

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

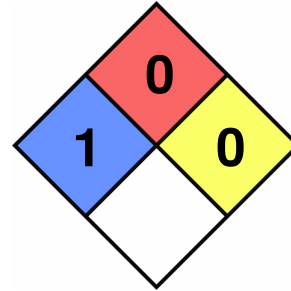
**Health Hazards Not Otherwise Classified (HHNOC):** Not Applicable.

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

## Safety Data Sheet

### 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.