

## Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

### SECTION 1: Identification

#### 1.1. Product Identifier

**Trade Name or Designation:** Sulfuric Acid, 4% (w/w)

**Product Number:** 8152

**Other Identifying Product Numbers:** 8152-1

#### 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   |
| Skin Corrosion / Irritation | Category 1 | H314              | P260, P264, P280, P301+P330+P331, P303+P361+P353, P363, P304+P340, P310, P321, P305+P351+P338, P405, P501 |
| Eye Damage / Irritation     | Category 1 | H318              | P280, P305+P351+P338, P310  |

## Safety Data Sheet

### 2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

| Hazard Number | Hazard Statement                         |
|---------------|--|
| H314          | Causes severe skin burns and eye damage. |
| H318          | Causes serious eye damage.               |
| H332          | Harmful if inhaled.                      |

Precautionary Statements:

| Precautionary Number | Precautionary Statement  |
|----------------------|--|
| P260                 | Do not breathe fumes, mist, vapors, or spray.  |
| P261                 | Avoid breathing fumes, mist, vapors, or spray.   |
| P264                 | Wash arms, hands and face thoroughly after handling.   |
| P271                 | Use only outdoors or in a well-ventilated area.  |
| P280                 | Wear protective gloves and eye protection.   |
| P301+P330+P331       | IF SWALLOWED: rinse mouth. Do NOT induce vomiting.   |
| P303+P361+P353       | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.   |
| P304+P340            | IF INHALED: Remove person to fresh air and keep comfortable for breathing.   |
| P305+P351+P338       | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.         |
| P310                 | Immediately call a POISON CENTER or physician.   |
| P312                 | Call a POISON CENTER or physician if you feel unwell.  |
| P321                 | Specific treatment (Wash areas of contact with water. If possible, wipe off areas of contact with dry cloth before flushing with water). |
| P363                 | Wash contaminated clothing before reuse.   |
| 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.

# Safety Data Sheet

## 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  | 95.91   |
| Sulfuric Acid | H <sub>2</sub> SO <sub>4</sub> | 98.07 g/mol      | 7664-93-9  | 4.09    |

## SECTION 4: First-Aid Measures

### 4.1. General First Aid Information

**Eye Contact:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause slight irritation.

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

**Skin Contact:** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. May cause slight irritation.

**Ingestion:** IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.

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

Causes severe skin burns and eye damage. Causes serious eye damage. Harmful if inhaled. Irritating to eyes and skin. After contact with skin, wash immediately with plenty of water. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. EYE

CONTACT: May cause slight irritation. SKIN CONTACT: May cause slight irritation.

### 4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water. If possible, wipe off areas of contact with dry cloth before flushing with water). 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.

### 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.

## Safety Data Sheet

### 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.

### 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. Wash site with soda ash solution. Always dispose of in accordance with local regulations.

## 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. Do not mix with bases. Contact with water will generate heat.

## 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) |

### 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.

### 8.3. Personal Protective Equipment

Wear protective gloves and eye protection. Normal room ventilation is adequate. Chemical resistant gloves. Safety glasses or goggles.

# Safety Data Sheet

## SECTION 9: Physical and Chemical Properties

### 9.1. Basic Physical and Chemical Properties

**Appearance:** Colorless liquid

**Physical State:** Liquid

**Odor:** Odorless

**Odor Threshold:** Data not available.

**pH:** < 1

**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:** Not Applicable.

**Vapor Density:** Data not available.

**Relative Density:** 1.03

**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

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

### 10.4. Hazardous Decomposition Products

Will not occur.

# Safety Data Sheet

## 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: 2140 mg/kg (Sulfuric Acid), 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:**

Causes severe skin burns and eye damage. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water. If possible, wipe off areas of contact with dry cloth before flushing with water). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

**Serious Eye Damage and Irritation:**

Causes serious eye damage. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

**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.

## Safety Data Sheet

**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.

### SECTION 14: Transportation Information

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

Not regulated according to DOT Regulations.

## Safety Data Sheet

### 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

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

### 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)



## Safety Data Sheet

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

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

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

### 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

### 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)

### 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)

### 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

## Safety Data Sheet

### SECTION 16: Other Information

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

Causes severe skin burns and eye damage. Harmful if inhaled.

Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye protection.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water. If possible, wipe off areas of contact with dry cloth before flushing with water). Wash contaminated clothing before reuse.

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.

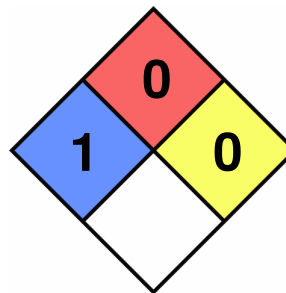
**Physical Hazards Not Otherwise Classified (PHNOC):** Not Applicable.

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

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

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

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



#### 16.4. Document Revision

**Last Revision Date:** 2023-11-13

## 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.