RICCA CHEMICAL COMPANY®

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Sulfuric - Phosphoric - Manganese Special Reagent

Product Number R8352500

Other Identifying Product Numbers R8352500-20F, R8352500-4A

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 412 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

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

Hazard Class	Category	Hazard Statements	Precautionary Statements
Acute Toxicity - Inhalation (Dusts and Mists)	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
Serious Eye Damage / Eye Irritation	Category 1	H318	P280,P305+P351+P338,P310
Corrosive to Metals	Category 1	H290	P234,P390,P406

2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

NOTE: Hazard statements may be combined on labels to improve clarity and readability.

Hazard Number	Hazard Statement
H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H332	Harmful if inhaled

Precautionary Statements:

NOTE: Precautionary statements may be combined or consolidated on labels to improve clarity and readability.

Prevention

Precautionary Number	Precautionary Statement
P234	Keep only in original packaging.
P260	Do not breathe fumes or mist.
P264	Wash hands, arms, and face thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and eye protection.

Response

Precautionary Number	Precautionary Statement
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 or shower.
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 doctor.
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.
P390	Absorb spillage to prevent material damage.

Storage

Precautionary Number	Precautionary Statement
P405	Store locked up.

Disposal

Precautionary Number	Precautionary Statement
P501	Dispose of contents/container to suitable waste stream in accordance with local, state, federal, and international regulations.

2.3. Hazards not Otherwise Classified

No other hazards identified.

2.4. Ingredients of Unknown Acute Toxicity

16.1 percent of this mixture consists of ingredient(s) of unknown acute dermal toxicity.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 3: Composition / Information on Ingredients

3.1. Components of Mixture

Chemical Name (IUPAC)	Common Name and Synonyms	CAS Number	Weight%
water	Water	7732-18-5	71.70
sulfuric acid	Sulfuric Acid	7664-93-9	15.28
phosphoric acid	Phosphoric Acid; o-Phosphoric acid	7664-38-2	12.17
manganese(II) sulfate monohydrate	Manganous Sulfate Monohydrate	10034-96-5	0.85

SECTION 4: First-Aid Measures

4.1. Description of Necessary Measures

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Causes severe irritation, redness, pain, tearing and burns.

Ingestion: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Dilute with large amounts of water. Do not induce vomiting. Vomiting may cause further damage due to the corrosive nature of this product. Call a physician.

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 or shower. May cause serious damage to the skin. Effects may include redness, pain, skin burns.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Harmful if inhaled DANGER! Causes severe burns. May be fatal if swallowed. Do not get in eyes, on skin, or on clothing. If swallowed, do not induce vomiting. Give large quantity of water. Call a physician. Wash areas of contact with plenty of water for 15 minutes. For eyes, get medical attention. EYE CONTACT: Causes severe irritation, redness, pain, tearing and burns. SKIN CONTACT: May cause serious damage to the skin. Effects may include redness, pain, skin burns. CHRONIC EFFECTS / CARCINOGENICITY: May affect the skin, liver, kidneys and blood.

4.3. Immediate Medical Attention or Special Treatment Needed

Immediately call a poison center or doctor. 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. Get medical attention immediately. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Immediately flush with plenty of water for at least 15 minutes. Remove any contaminated clothing. Wash with soap and water, then flush again with water. Call a physician if irritation develops. Dilute with large amounts of water. Do not induce vomiting. Vomiting may cause further damage due to the corrosive nature of this product. Call a physician.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Does not burn. Use extinguishing media appropriate for surrounding fire. This material does not burn. Use appropriate media to extinguish source of fire

5.2. Specific Hazards Arising from the Substance or Mixture in a Fire

Not combustible. Evolves hydrogen on contact with most metals. Combustion by-products include oxides of phosphorus. Not combustible. Strong dehydrating agent, which may cause ignition of finely divided materials on contact. Reaction with metals may produce hydrogen gas. Oxides of sulfur may be produced in fire.

5.3. Special Protective Equipment and Precautions for Firefighters

Wear special protective clothing and positive pressure self-contained breathing apparatus. Butyl rubber, natural rubber, Neoprene, nitrile rubber, polyethylene, or Saranex barrier recommended. Wear special protective clothing and positive pressure self-contained breathing apparatus. Butyl rubber, natural rubber, Neoprene, polyethylene, polyvinyl chloride, Teflon, Viton, or Saranex barrier recommended.

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

Keep water away from release. Stop or control the leak, if this can be done without undue risk. Control runoff and isolate discharged material for proper disposal. Stop or control the leak, if this can be done without undue risk. Control runoff and isolate discharged material for proper disposal.

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. Exposure Limits

U.S. OSHA - Permissible Exposure Limits (PEL) - Time Weighted Averages (TWA)

Chemical Name	CAS Number	Exposure Limit
Phosphoric Acid	7664-38-2	1 mg/m3 TWA
Sulfuric Acid	7664-93-9	1 mg/m3 TWA

U.S. OSHA - Permissible Exposure Limits (PEL) - Ceiling Limits

Chemical Name	CAS Number	Exposure Limit
Manganous Sulfate Monohydrate	10034-96-5	"5 mg/m3 Ceiling (as Mn)" As Manganese compounds [RR-00602-0]

U.S. OSHA - Permissible Exposure Limits (PEL) - Short Term Exposure Limits (STEL)

No limits found.

U.S. OSHA - Specifically Regulated Chemicals

No limits found.

ACGIH - Threshold Limit Values - Ceilings (TLV-C)

No limits found.

ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)

Chemical Name	CAS Number	Exposure Limit
Phosphoric Acid	7664-38-2	3 mg/m3 STEL

ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Chemical Name	CAS Number	Exposure Limit
Manganous Sulfate Monohydrate	10034-96-5	"0.02 mg/m3 TWA (respirable particulate matter, as Mn); 0.1 mg/m3 TWA (inhalable particulate matter, as Mn)" As Manganese inorganic compounds [RR-03861-9]
Phosphoric Acid	7664-38-2	1 mg/m3 TWA
Sulfuric Acid	7664-93-9	0.2 mg/m3 TWA (thoracic particulate matter)

8.2. Engineering Controls

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

8.3. Individual Protective Measures and Personal Protective Equipment

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Physical State:	Liquid
Color:	Colorless
Odor:	Data not available.
Odor Threshold:	Data not available.
Melting/Freezing Point:	Data not available.
Boiling Point/Range:	Data not available.
Flammability:	Data not available.
Flammability/Explosive Limits:	Data not available.
Flash Point:	Not flammable
Auto-Ignition Temperature:	Data not available.
Decomposition Temperature:	Data not available.
pH:	Acidic
Kinematic Viscosity:	Data not available.
Solubility:	Miscible
Vapor Pressure:	Data not available.
Evaporation Rate:	Data not available.
Relative Density:	1.2
Relative Vapor Density:	Data not available.
Particle Characteristics:	Data not available.
Partition Coefficient n-octanol/water, log	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

Keep only in original packaging. 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

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Manganous Sulfate Monohydrate	10034-96-5	Oral LD50 Rat 2150 mg/kg (Source: Canada_WHMIS)
Phosphoric Acid	7664-38-2	Oral LD50 3000 mg/kg (Source: Canada_WHMIS)
Sulfuric Acid	7664-93-9	Oral LD50 Rat 2140 mg/kg (Source: JAPAN_GHS)

Acute Toxicity - Dermal Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Phosphoric Acid	7664-38-2	Dermal LD50 Rabbit 2740 mg/kg (Source: JAPAN_GHS)

Acute Toxicity - Inhalation Exposure:

Inhalation acute toxicity estimate (ATE, dust or mist): 2.1243 mg/L, 4 h(calculated)

Chemical Name	CAS Number	Toxicity
Manganous Sulfate Monohydrate	10034-96-5	Inhalation LC50 Rat >4.45 mg/L 4 h (no deaths occurred, dust, Source: ECHA_API) As Manganese(II) sulfate (1:1) [7785-87-7]
Phosphoric Acid	7664-38-2	Inhalation LC50 Rat 3846 mg/m3 1 h (Source: OECD_HPV)
Sulfuric Acid	7664-93-9	Inhalation LC50 Rat 0.375 mg/L 4 h (aerosol, Source: OECD_SIDS)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
Sulfuric Acid	7664-93-9	Group 1 (Carcinogenic to Humans) - Monograph 54 [1992] (occupational exposure to mists and vapours from sulfuric acid and other strong inorganic acids)

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
Manganous Sulfate Monohydrate	10034-96-5	Male Rat - No Evidence; Female Rat - No Evidence; Male Mice - Equivocal Evidence; Female Mice - Equivocal Evidence (TR-428)
Sulfuric Acid	7664-93-9	Known Human Carcinogen (listed under Strong inorganic acid mists containing sulfuric acid)

U.S. OSHA specifically regulated carcinogens

Chemical Name	CAS Number	Classification
	No data found.	

11.3 Additional Toxicology Information:

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

SECTION 12: Ecological Information

12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Sulfuric Acid	7664-93-9	Freshwater Fish	Acute	LC50 96 h Brachydanio rerio >500 mg/L [static] (IUCLID)

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

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 14: Transportation Information

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

Sizes: 4 L, 20 L

UN Number: UN3264

Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, n.o.s. (Sulfuric Acid, Phosphoric Acid)

Hazard Class: 8

Packing Group: II

Hazard Label(s):



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

Sizes: 4 L, 20 L

UN Number: UN3264

Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, n.o.s. (Sulfuric Acid, Phosphoric Acid)

Hazard Class: 8

Packing Group: II

Hazard Label(s):



14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 4 L, 20 L

UN Number: UN3264

Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (sulfuric acid, phosphoric acid)

Hazard Class: 8

Packing Group: II

Hazard Label(s):



Safety Data Sheet

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SECTION 15: Regulatory Information

15.01. Occupational Safety and Health Administration (OSHA) Hazards

Chemical Name	CAS Number	Regulatory Information
		No data found.

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

Chemical Name	CAS Number	RQ	TPQ
Sulfuric Acid	7664-93-9	1000 lb TPQ	1000 lb EPCRA RQ

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

Chemical Name	CAS Number	Regulatory Information
Phosphoric Acid	7664-38-2	5000 lb final RQ; 2270 kg final RQ
Sulfuric Acid	7664-93-9	1000 lb final RQ; 454 kg final RQ

15.04. Superfund Amendments and Reauthorization Act (SARA) 313 Toxics Release Inventory (TRI)

Chemical Name	CAS Number	List	Regulatory Information
Manganous Sulfate Monohydrate	10034-96-5	Emission Reporting	"1.0 % de minimis concentration (includes any unique chemical substance that contains Manganese as part of that chemical's infrastructure, listed under Chemical Category N450)" As Manganese compounds [RR-00602-0]
Sulfuric Acid	7664-93-9	Emission Reporting	1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Phosphoric Acid	7664-38-2	Present
Sulfuric Acid	7664-93-9	Extraordinarily hazardous

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Manganous Sulfate Monohydrate	10034-96-5	"Environmental hazard" As Manganese compounds [RR-00602-0]
Phosphoric Acid	7664-38-2	Environmental hazard
Sulfuric Acid	7664-93-9	Environmental hazard

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

Chemical Name	CAS Number	Regulatory Information
Manganous Sulfate Monohydrate	10034-96-5	"sn 2324" As Manganese compounds [RR-00602-0]
Phosphoric Acid	7664-38-2	sn 1516
Sulfuric Acid	7664-93-9	sn 1761

15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
Sulfuric Acid	7664-93-9	"carcinogen, 3/14/2003" As Strong inorganic acid mists containing sulfuric acid [RR-03978-1]

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

Chemical Name	CAS Number	List	Status
Manganous Sulfate Monohydrate	10034-96-5	DSL	"Present" As Manganese(II) sulfate [7785-87-7]
Phosphoric Acid	7664-38-2	DSL	Present
Sulfuric Acid	7664-93-9	DSL	Present
Water	7732-18-5	DSL	Present

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

Chemical Name	CAS Number	Status
Manganous Sulfate Monohydrate	10034-96-5	"Present (ACTIVE)" As Sulfuric acid, manganese(2+) salt (1:1) [7785-87-7]
Phosphoric Acid	7664-38-2	Present (ACTIVE)
Sulfuric Acid	7664-93-9	Present (ACTIVE)
Water	7732-18-5	Present [XU] (ACTIVE)

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

Chemical Name	CAS Number	List	Number
Manganous Sulfate Monohydrate	10034-96-5	EINECS	"232-089-9" As Manganese sulphate [7785-87-7]
Phosphoric Acid	7664-38-2	EINECS	231-633-2
Sulfuric Acid	7664-93-9	EINECS	231-639-5
Water	7732-18-5	EINECS	231-791-2

15.12. China - Inventory of Existing chemical Substances (IECSC)

Chemical Name	CAS Number	Status
Manganous Sulfate Monohydrate	10034-96-5	Present [23170]
Phosphoric Acid	7664-38-2	Present [22317]
Sulfuric Acid	7664-93-9	Present [23017]
Water	7732-18-5	Present [32224]

15.13. Korea - Existing Chemicals Inventory (KECI/KECL)

Chemical Name	CAS Number	List	Status
Manganous Sulfate Monohydrate	10034-96-5	Annex 1	"Present [KE-23032]" As Manganese(II) sulfate [7785-87-7]
Phosphoric Acid	7664-38-2	Annex 1	Present [KE-27427]
Sulfuric Acid	7664-93-9	Annex 1	Present [KE-32570]
Water	7732-18-5	Annex 1	Present [KE-35400]

15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Manganous Sulfate Monohydrate	10034-96-5	(1)-477
Phosphoric Acid	7664-38-2	(1)-422
Sulfuric Acid	7664-93-9	(1)-430
Water	7732-18-5	- (listed on Japanese Pharmacopoeia 8th Edition)

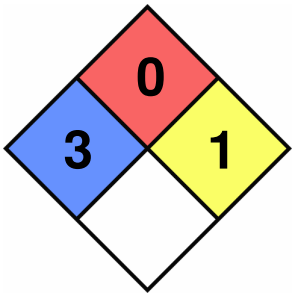
SECTION 16: Other Information

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

16.1 National Fire Protection Associate (NFPA) Rating

Health:	3
Flammability:	0
Reactivity	1
Special Hazard:	



16.2 Document Revision

Last Revision Date:
2026-05-05

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.