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	Digestion Reagent, with Copper Catalyst for Kjeldahl Nitrogen Analysis
Product Number	2551
Other Identifying Product Numbers	2551-1, 2551-16, 2551-32

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	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

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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 1A	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
Hazardous to the Aquatic Environment, Short-term (Acute)	Acute 2	H401	P273,P501
Hazardous to the Aquatic Environment, Long-term (Chronic)	Chronic 3	H412	P273,P501

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
H401	Toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects

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.
P273	Avoid release to the environment.
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

27.1 percent of this mixture consists of ingredient(s) of unknown acute dermal toxicity. 10.4 percent of this mixture consists of ingredient(s) of unknown acute inhalation toxicity.

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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	62.53
sulfuric acid	Sulfuric Acid	7664-93-9	27.11
dipotassium sulfate	Potassium Sulfate; Sulfuric acid, dipotassium salt	7778-80-5	9.77
copper sulfate pentahydrate	Copper Sulfate Pentahydrate; Sulfuric acid, copper(2+) salt, pentahydrate	7758-99-8	0.59

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. Eye contact causes tissue damage and blindness.

Ingestion: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Do not induce vomiting. Give large quantity of water. Call a physician immediately.

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. Skin contact causes burns, blistering, local necrosis, and membrane ulceration. Burns may be 2nd or 3rd degree.

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 and call a physician. Wash areas of contact with plenty of water for 15 minutes. For eyes, get medical attention. EYE CONTACT: Eye contact causes tissue damage and blindness. SKIN CONTACT: Skin contact causes burns, blistering, local necrosis, and membrane ulceration. Burns may be 2nd or 3rd degree. 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. Remove contacts if possible. Call a physician. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. If possible, wipe off areas of contact with dry cloth before flushing contact areas with water for at least 15 minutes. Flushing immediately with water will generate a large amount of heat upon contact with sulfuric acid. Call a physician. Dispose of cloth by soaking in water. Neutralize the soaking solution with dilute sodium hydroxide solution, then flush the neutralized rinse water down the drain with excess water and treat the cloth as solid refuse. Do not induce vomiting. Give large quantity of water. Call a physician immediately.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Dry chemical, foam, or carbon dioxide. Reacts with water producing heat and toxic fumes.

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

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, 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.

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 a large amount of heat. Store above 20ºC to prevent crystallization.

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
Sulfuric Acid	7664-93-9	1 mg/m3 TWA

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

No limits found.

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)

No limits found.

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

Chemical Name	CAS Number	Exposure Limit
Sulfuric Acid	7664-93-9	0.2 mg/m3 TWA (thoracic particulate matter)
Copper Sulfate Pentahydrate	7758-99-8	"1 mg/m3 TWA (dust and mist, as Cu)" As Copper compounds [RR-00595-8]

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.

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SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Physical State:	liquid
Color:	Light blue
Odor:	Data not available.
Odor Threshold:	Data not available.
Melting/Freezing Point:	Data not available.
Boiling Point/Range:	Approximately 102°C
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:	Data not available.
Kinematic Viscosity:	Data not available.
Solubility:	miscible
Vapor Pressure:	Data not available.
Evaporation Rate:	Data not available.
Relative Density:	1.33
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.

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SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Sulfuric Acid	7664-93-9	Oral LD50 Rat 2140 mg/kg (Source: JAPAN_GHS)
Copper Sulfate Pentahydrate	7758-99-8	Oral LD50 Rat 794 mg/kg (Source: Canada_WHMIS)
Potassium Sulfate	7778-80-5	Oral LD50 Rat 6600 mg/kg (Source: NLM_CIP)

Acute Toxicity - Dermal Exposure:

No information found.

Chemical Name	CAS Number	Toxicity
Copper Sulfate Pentahydrate	7758-99-8	Dermal LD50 Rabbit >8 g/kg (Source: NLM_HSDB)
Potassium Sulfate	7778-80-5	Dermal LD50 Rat >2000 mg/kg (Source: ECHA_API)

Acute Toxicity - Inhalation Exposure:

Inhalation acute toxicity estimate (ATE, dust or mist): 1.2399 mg/L, 4 h(calculated)

Chemical Name	CAS Number	Toxicity
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
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
Potassium Sulfate	7778-80-5	Freshwater Algae	Acute	EC50 72 h Desmodesmus subspicatus 2900 mg/L (IUCLID)
Sulfuric Acid	7664-93-9	Freshwater Fish	Acute	LC50 96 h Brachydanio rerio >500 mg/L [static] (IUCLID)
Copper Sulfate Pentahydrate	7758-99-8	Freshwater Fish	Acute	LC50 96 h Lepomis macrochirus 0.66 - 1.15 mg/L [semi-static] (EPA); LC50 96 h Lepomis macrochirus 0.96 - 1.8 mg/L [static] (EPA); LC50 96 h Oncorhynchus mykiss 0.1478 - 0.165 mg/L [flow-through] (EPA); LC50 96 h Oncorhynchus mykiss 0.09 - 0.19 mg/L [static] (EPA); LC50 96 h Pimephales promelas 0.6752 mg/L [static] (EPA)
Potassium Sulfate	7778-80-5	Freshwater Fish	Acute	LC50 96 h Lepomis macrochirus 653 mg/L (IUCLID); LC50 96 h Lepomis macrochirus 3550 mg/L [static] (EPA); LC50 96 h Pimephales promelas 510 - 880 mg/L [static] (EPA)
Copper Sulfate Pentahydrate	7758-99-8	Water Flea	Acute	EC50 48 h Daphnia magna 0.147 - 0.227 mg/L [Static] (EPA)
Potassium Sulfate	7778-80-5	Water Flea	Acute	EC50 48 h Daphnia magna 890 mg/L (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.

SECTION 14: Transportation Information

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

Sizes: 1 L, 4 L, 500 mL

UN Number: UN2796

Proper Shipping Name: Sulfuric Acid Solution

Hazard Class: 8

Packing Group: II

Hazard Label(s):



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

Sizes: 1 L, 4 L, 500 mL

UN Number: UN2796

Proper Shipping Name: Sulfuric Acid Solution

Hazard Class: 8

Packing Group: II

Hazard Label(s):



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14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 1 L, 4 L, 500 mL

UN Number: UN2796

Proper Shipping Name: SULFURIC ACID SOLUTION

Hazard Class: 8

Packing Group: II

Hazard Label(s):



SECTION 15: Regulatory Information

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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
Sulfuric Acid	7664-93-9	1000 lb final RQ; 454 kg final RQ
Copper Sulfate Pentahydrate	7758-99-8	"10 lb final RQ; 4.54 kg final RQ" As Cupric sulfate [7758-98-7]

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

Chemical Name	CAS Number	List	Regulatory Information
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)
Copper Sulfate Pentahydrate	7758-99-8	Emission Reporting	"1.0 % de minimis concentration (includes any unique chemical substance that contains Copper as part of that chemical's infrastructure except for CAS numbers 147-14-8, 1328-53-6, or 14302-13-7, or copper phthalocyanine compounds that are substituted with only Hydrogen and/or Bromine and/or Chlorine that meet the molecular structure specified within the regulation, listed under Chemical Category N100)" As Copper compounds [RR-00595-8]

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Sulfuric Acid	7664-93-9	Extraordinarily hazardous
Copper Sulfate Pentahydrate	7758-99-8	"Present" As Cupric sulfate [7758-98-7]

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15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Sulfuric Acid	7664-93-9	Environmental hazard
Copper Sulfate Pentahydrate	7758-99-8	"Environmental hazard" As Sulfuric acid, copper(2+) salt (1:1) [7758-98-7]; "Environmental hazard" As Copper compounds [RR-00595-8]

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

Chemical Name	CAS Number	Regulatory Information
Sulfuric Acid	7664-93-9	sn 1761
Copper Sulfate Pentahydrate	7758-99-8	"sn 0549" As Cupric sulfate [7758-98-7]; "sn 2215" As Copper compounds [RR-00595-8]

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
Sulfuric Acid	7664-93-9	DSL	Present
Water	7732-18-5	DSL	Present
Copper Sulfate Pentahydrate	7758-99-8	DSL	"Present" As Cupric sulfate [7758-98-7]
Potassium Sulfate	7778-80-5	DSL	Present
Potassium Sulfate	7778-80-5	NDSL	"Present" As Sulfuric acid, potassium salt [10233-01-9]

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

Chemical Name	CAS Number	Status
Sulfuric Acid	7664-93-9	Present (ACTIVE)
Water	7732-18-5	Present [XU] (ACTIVE)
Copper Sulfate Pentahydrate	7758-99-8	"Present (ACTIVE)" As Sulfuric acid, copper(2+) salt (1:1) [7758-98-7]
Potassium Sulfate	7778-80-5	Present (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)

Chemical Name	CAS Number	List	Number
Sulfuric Acid	7664-93-9	EINECS	231-639-5
Water	7732-18-5	EINECS	231-791-2
Copper Sulfate Pentahydrate	7758-99-8	EINECS	"231-847-6" As Copper sulphate [7758-98-7]
Potassium Sulfate	7778-80-5	EINECS	231-915-5

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

Chemical Name	CAS Number	Status
Sulfuric Acid	7664-93-9	Present [23017]
Water	7732-18-5	Present [32224]
Copper Sulfate Pentahydrate	7758-99-8	Present [35060]
Potassium Sulfate	7778-80-5	Present [23145]

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

Chemical Name	CAS Number	List	Status
Sulfuric Acid	7664-93-9	Annex 1	Present [KE-32570]
Water	7732-18-5	Annex 1	Present [KE-35400]
Copper Sulfate Pentahydrate	7758-99-8	Annex 1	"Present [KE-08956]" As Cupric sulfate [7758-98-7]
Copper Sulfate Pentahydrate	7758-99-8	Annex 2	"97-3-718 (1997-3-0718)" As Inorganic copper salts [RR-03690-8]
Potassium Sulfate	7778-80-5	Annex 1	Present [KE-29200]

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

Chemical Name	CAS Number	MITI No.
Sulfuric Acid	7664-93-9	(1)-430
Water	7732-18-5	- (listed on Japanese Pharmacopoeia 8th Edition)
Copper Sulfate Pentahydrate	7758-99-8	(1)-300 (not considered as a new chemical substance)
Potassium Sulfate	7778-80-5	(1)-454

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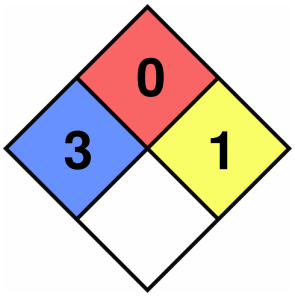
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SECTION 16: Other Information

16.1 National Fire Protection Associate (NFPA) Rating

Health:	3
Flammability:	0
Reactivity	1
Special Hazard:	



16.2 Document Revision

Last Revision Date:
2026-05-22

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.