

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Water Hardness Buffer, with Magnesium EDTA

Product Number 9200

Other Identifying Product Numbers 9200-1, 9200-16, 9200-32, 9200-5

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
Corrosive to the Respiratory Tract	Corrosive		
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
Hazardous to the Aquatic Environment, Short-term (Acute)	Acute 2	H401	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
H314	Causes severe skin burns and eye damage
H401	Toxic to aquatic life
	Corrosive to the respiratory tract

Precautionary Statements:

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

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

Prevention

Precautionary Number	Precautionary Statement
P260	Do not breathe fumes or mist.
P264	Wash hands, arms, and face thoroughly after handling.
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.
P363	Wash contaminated clothing before reuse.

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

15.4 percent of this mixture consists of ingredient(s) of unknown acute oral and dermal toxicity. 7.7 percent of this mixture consists of ingredient(s) of unknown acute inhalation 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	77.42
ammonium hydroxide	Ammonium Hydroxide; Aqueous ammonia	1336-21-6	14.86
ammonium chloride	Ammonium Chloride	12125-02-9	6.97
disodium 2-[2-[bis(carboxymethyl)amino]ethyl-(carboxylatomethyl)amino]acetate dihydrate	Ethylenediaminetetraacetic Acid (EDTA), Disodium Salt, Dihydrate	6381-92-6	0.49
magnesium dichloride hexahydrate	Magnesium Chloride Hexahydrate	7791-18-6	0.27

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. May cause severe burns and permanent damage.

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

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes severe skin burns and eye damage **WARNING!** Hazardous fumes and liquid. Use with adequate ventilation. Avoid breathing vapor. Avoid contact with skin, eyes or clothing. Do not pipet by mouth. If ingested, give large quantity of water. Do not induce vomiting. Call a physician. Wash areas of contact with plenty of water for at least 15 minutes. For eyes, get medical attention. **EYE CONTACT:** May cause severe burns and permanent damage. **SKIN CONTACT:** May cause serious damage to the skin. Effects may include redness, pain, skin burns.

4.3. Immediate Medical Attention or Special Treatment Needed

Immediately call a poison center or doctor. 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. Do not induce vomiting. Give large quantity of water. Call a physician immediately.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire.

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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

Flammable vapors may accumulate in confined spaces.

5.3. Special Protective Equipment and Precautions for Firefighters

Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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

Ventilate area of leak or spill. Cover spill with a 1:1:1 mixture by weight of Sodium Carbonate or Calcium Carbonate, clay and sand. Scoop mixture into a plastic container and, in the fume hood, add to a pail of cold water. Neutralize this mixture with 5% Hydrochloric Acid, let stand overnight, then pour the liquid into the drain while flushing with water. Dispose of any solid with normal refuse. Wash the area of the spill with plenty of water.

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. Store below 25°C. Empty containers may be hazardous since they retain product residues.

SECTION 8: Exposure Controls / Personal Protection

8.1. Exposure Limits

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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

Chemical Name	CAS Number	Exposure Limit
Ammonium Hydroxide	1336-21-6	"50 ppm TWA; 35 mg/m3 TWA" As Ammonia [7664-41-7]

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)

Chemical Name	CAS Number	Exposure Limit
Ammonium Chloride	12125-02-9	20 mg/m3 STEL (fume)
Ammonium Hydroxide	1336-21-6	"35 ppm STEL" As Ammonia [7664-41-7]

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

Chemical Name	CAS Number	Exposure Limit
Ammonium Chloride	12125-02-9	10 mg/m3 TWA (fume)
Ammonium Hydroxide	1336-21-6	"25 ppm TWA" As Ammonia [7664-41-7]

8.2. Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limit.

8.3. Individual Protective Measures and Personal Protective Equipment

Respiratory Protection: If the TLV is exceeded, a full-face chemical cartridge respirator may be worn up to 50 times the TLV or the maximum use concentration specified by the respirator supplier, whichever is less.

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:	Approximately 0°C
Boiling Point/Range:	Approximately 100°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:	Alkaline
Kinematic Viscosity:	Data not available.
Solubility:	miscible
Vapor Pressure:	Data not available.
Evaporation Rate:	Data not available.
Relative Density:	0.97
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

Strong oxidizers, acids, Calcium Hypochlorite bleaches, gold, mercury, silver, halogens.

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
Ammonium Chloride	12125-02-9	Oral LD50 Acute Toxicity Estimate 500 mg/kg (Source: Canada_WHMIS)
Magnesium Chloride Hexahydrate	7791-18-6	Oral LD50 Rat 2800 mg/kg (Source: NLM_CIP)

Acute Toxicity - Dermal Exposure:

No information found.

Chemical Name	CAS Number	Toxicity
Ammonium Chloride	12125-02-9	Dermal LD50 Rat >2000 mg/kg (Source: ECHA_API)
Magnesium Chloride Hexahydrate	7791-18-6	Dermal LD50 Rat >2000 mg/kg (Source: ECHA_API)

Acute Toxicity - Inhalation Exposure:

Inhalation acute toxicity estimate (ATE, vapor): 20.1884 mg/L, 4 h(calculated)

Chemical Name	CAS Number	Toxicity
Ammonium Hydroxide	1336-21-6	Inhalation LC50 Acute Toxicity Estimate 3 mg/L 4 h (Source: ECHA)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
No data found.		

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
No data found.		

U.S. OSHA specifically regulated carcinogens

Chemical Name	CAS Number	Classification
No data found.		

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

11.3 Additional Toxicology Information:

Causes severe skin burns and eye damage. Corrosive to the respiratory tract.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Magnesium Chloride Hexahydrate	7791-18-6	Freshwater Algae	Acute	"EC50 72 h Pseudokirchneriella subcapitata >82.7 mg/L (OECD_SIDS)" As Magnesium chloride [7786-30-3]
Ammonium Chloride	12125-02-9	Freshwater Fish	Acute	LC50 96 h Cyprinus carpio 209 mg/L [static]
Ammonium Hydroxide	1336-21-6	Freshwater Fish	Acute	LC50 96 h Pimephales promelas 8.2 mg/L
Ethylenediaminetetraacetic Acid (EDTA), Disodium Salt, Dihydrate	6381-92-6	Freshwater Fish	Acute	"LC50 96 h Poecilia reticulata 320 mg/L [semi-static] (IUCLID)" As Disodium EDTA [139-33-3]
Magnesium Chloride Hexahydrate	7791-18-6	Freshwater Fish	Acute	"LC50 96 h Pimephales promelas 1970 - 3880 mg/L [static] (EPA)" As Magnesium chloride [7786-30-3]
Ammonium Hydroxide	1336-21-6	Water Flea	Acute	EC50 48 h water flea 0.66 mg/L; EC50 48 h Daphnia pulex 0.66 mg/L
Magnesium Chloride Hexahydrate	7791-18-6	Water Flea	Acute	"EC50 48 h Daphnia magna 140 mg/L [Static] (EPA)" As Magnesium chloride [7786-30-3]

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: 1 L, 4 L, 20 L, 500 mL

UN Number: UN2672

Proper Shipping Name: Ammonia Solution

Hazard Class: 8

Packing Group: III

Hazard Label(s):



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

Sizes: 1 L, 4 L, 20 L, 500 mL

UN Number: UN2672

Proper Shipping Name: Ammonia Solution

Hazard Class: 8

Packing Group: III

Hazard Label(s):



14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 1 L, 4 L, 20 L, 500 mL

UN Number: UN2672

Proper Shipping Name: AMMONIA SOLUTION

Hazard Class: 8

Packing Group: III

Hazard Label(s):



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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
Ammonium Hydroxide	1336-21-6	"500 lb TPQ" As Ammonia [7664-41-7]	"100 lb EPCRA RQ" As Ammonia [7664-41-7]

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

Chemical Name	CAS Number	Regulatory Information
Ammonium Chloride	12125-02-9	5000 lb final RQ; 2270 kg final RQ
Ammonium Hydroxide	1336-21-6	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
Ammonium Chloride	12125-02-9	Emission Reporting	"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]
Ammonium Hydroxide	1336-21-6	Emission Reporting	"1.0 % de minimis concentration (includes anhydrous Ammonia and aqueous Ammonia from water dissociable Ammonium salts and other sources, 10% of total aqueous Ammonia is reportable under this listing)" As Ammonia [7664-41-7]; "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]

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Ammonium Chloride	12125-02-9	Present (including fume)
Ammonium Hydroxide	1336-21-6	Present

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Ammonium Chloride	12125-02-9	Environmental hazard
Ammonium Hydroxide	1336-21-6	Environmental hazard

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

Chemical Name	CAS Number	Regulatory Information
Ammonium Chloride	12125-02-9	sn 0093
Ammonium Hydroxide	1336-21-6	sn 0103

15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
No data found.		

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

Chemical Name	CAS Number	List	Status
Ammonium Chloride	12125-02-9	DSL	Present
Ammonium Hydroxide	1336-21-6	DSL	Present
Ethylenediaminetetraacetic Acid (EDTA), Disodium Salt, Dihydrate	6381-92-6	DSL	Present
Water	7732-18-5	DSL	Present
Magnesium Chloride Hexahydrate	7791-18-6	DSL	"Present" As Magnesium chloride [7786-30-3]

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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

Chemical Name	CAS Number	Status
Ammonium Chloride	12125-02-9	Present (ACTIVE)
Ammonium Hydroxide	1336-21-6	Present (ACTIVE)
Ethylenediaminetetraacetic Acid (EDTA), Disodium Salt, Dihydrate	6381-92-6	"Present (ACTIVE)" As Glycine, N,N'-1,2-ethanediybis[N-(carboxymethyl)-, sodium salt (1:2) [139-33-3]; "Present (ACTIVE)" As Glycine, N,N'-1,2-ethanediybis[N-(carboxymethyl)-, sodium salt (1:?) [7379-28-4]
Water	7732-18-5	Present [XU] (ACTIVE)
Magnesium Chloride Hexahydrate	7791-18-6	"Present (ACTIVE)" As Magnesium chloride (MgCl ₂) [7786-30-3]

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
Ammonium Chloride	12125-02-9	EINECS	235-186-4
Ammonium Hydroxide	1336-21-6	EINECS	215-647-6
Ethylenediaminetetraacetic Acid (EDTA), Disodium Salt, Dihydrate	6381-92-6	EINECS	"205-358-3" As Disodium dihydrogen ethylenediaminetetraacetate [139-33-3]; "230-944-0" As Sodium N,N'-ethane-1,2-diybis[N-(carboxymethyl)glycinate [7379-28-4]
Water	7732-18-5	EINECS	231-791-2
Magnesium Chloride Hexahydrate	7791-18-6	EINECS	"232-094-6" As Magnesium chloride [7786-30-3]

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

Chemical Name	CAS Number	Status
Ammonium Chloride	12125-02-9	Present [24013]
Ammonium Hydroxide	1336-21-6	Present [27662]
Ethylenediaminetetraacetic Acid (EDTA), Disodium Salt, Dihydrate	6381-92-6	Present [38165]
Water	7732-18-5	Present [32224]
Magnesium Chloride Hexahydrate	7791-18-6	Present [24098]

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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

Chemical Name	CAS Number	List	Status
Ammonium Chloride	12125-02-9	Annex 1	Present [KE-01645]
Ammonium Hydroxide	1336-21-6	Annex 1	Present [KE-01688]
Ethylenediaminetetraacetic Acid (EDTA), Disodium Salt, Dihydrate	6381-92-6	Annex 1	"Present [KE-13651]" As Disodium EDTA [139-33-3]; "Present [KE-13188]" As Glycine, N,N'-1,2-ethanediybis[N-(carboxymethyl)-, sodium salt [7379-28-4]; "Present [KE-13660]" As (Ethylenedinitrilo)tetraacetic acid salts [RR-14063-6]
Water	7732-18-5	Annex 1	Present [KE-35400]
Magnesium Chloride Hexahydrate	7791-18-6	Annex 1	"Present [KE-22691]" As Magnesium chloride [7786-30-3]

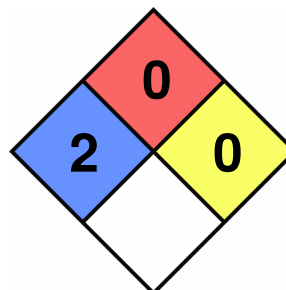
15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Ammonium Chloride	12125-02-9	(1)-218
Ammonium Hydroxide	1336-21-6	(1)-314
Ethylenediaminetetraacetic Acid (EDTA), Disodium Salt, Dihydrate	6381-92-6	(2)-1265 (not considered as a new chemical substance)
Water	7732-18-5	- (listed on Japanese Pharmacopoeia 8th Edition)
Magnesium Chloride Hexahydrate	7791-18-6	(1)-233

SECTION 16: Other Information

16.1 National Fire Protection Associate (NFPA) Rating

Health: 2
Flammability: 0
Reactivity: 0
Special Hazard:



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

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.