RICCA CHEMICAL COMPANY®

# Safety Data Sheet

## SECTION 1: Identification

### 1.1. Product Identifier

**Trade Name or Designation:** Ammoniacal Buffer, pH 10.0

**Product Number:** 616.5
**Other Identifying Product Numbers:** 616.5-1, 616.5-32

### 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 hr)

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 (in accordance with OSHA HCS 29 CFR 1910.1200)

*For the full text of the Hazard and Precautionary Statements listed below, see Section 16.*

| Hazard Class | Category | Hazard Statement | Precautionary Statements |
|---|---|---|---|
| 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 |
| Reproductive Toxicity | Category 2 | H361 | P201, P202, P280, P308+P313, P405, P501 |
| Specific Target Organs/Systemic Toxicity Following Single Exposure | Category 2 | H371 | P260, P264, P270, P308+P311, P405, P501 |
| Specific Target Organs/Systemic Toxicity Following Repeated Exposure | Category 1 | H372 | P260, P264, P270, P314, P501 |
| Corrosive to Metals | Category 1 | H290 | P234, P390, P406 |
| Hazardous to the Aquatic Environment (Acute) | Category 2 | H401 | P273, P501 |
| Hazardous to the Aquatic Environment (Chronic) | Category 2 | H401 | P273, P501 |

### 2.2. GHS Label Elements

**Pictograms:**



**Signal Word:** **Danger**

**Hazard Statements:**

| Hazard Number | Hazard Statement |
|---|---|
| H290 | May be corrosive to metals. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H361 | Suspected of damaging fertility or the unborn child. |
| H371 | May cause damage to organs. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H401 | Toxic to aquatic life. |

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**Precautionary Statements:**

| Precautionary Number | Precautionary Statement |
|---|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P234 | Keep only in original container. |
| P260 | Do not breathe dust, fumes or mist. |
| P264 | Wash arms, hands and face thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P273 | Avoid release to the environment. |
| 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. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308+P311 | IF exposed or concerned: Call a POISON CENTER or physician. |
| P308+P313 | IF exposed or concerned: Get medical attention. |
| P310 | Immediately call a POISON CENTER or physician. |
| P314 | Get medical attention if you feel unwell. |
| P363 | Wash contaminated clothing before reuse. |
| P390 | Absorb spillage to prevent material damage. |
| P405 | Store locked up. |
| P406 | Store in corrosive resistant container with a resistant inner liner. |
| P501 | Dispose of contents in accordance with local, state, federal and international regulations. |

### 2.3. WHMIS Classification

WHMIS classification is not included based on the recommended option (Option 4) found in the Canada Gazette Part II, Vol. 149, No.3, page 458

### 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 | $H_2O$ | 18.01 g/mol | 7732-18-5 | 78.56% |
| Ammonium Hydroxide | $NH_4OH$ | 35.04 g/mol | 1336-21-6 | 14.42% |
| Ammonium Chloride | $NH_4Cl$ | 53.49 g/mol | 12125-02-9 | 7.03% |

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## 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 severe irritation with possible permanent damage.

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

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

**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

This item is corrosive. May be fatal if swallowed or inhaled. Mist and vapor cause burns to every area of contact. Use with adequate ventilation. Avoid contact with skin, eyes or clothing. Wash areas of contact with plenty of water immediately. For eyes, get medical attention. EYE CONTACT: May cause severe irritation with possible permanent damage. SKIN CONTACT: May cause irritation, redness, and pain.

### 4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician.

## 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.

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

Flammable vapors may accumulate in confined spaces.

### 5.3. Special Protective Equipment 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.

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## SECTION 7: Handling and Storage

### 7.1. Precautions for Safe Handling and Storage Conditions

Store in corrosive resistant container with a resistant inner liner. 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. Control Parameters

| Chemical Name | Limit Type | Country | Exposure Limit | Information Source |
|---|---|---|---|---|
| Ammonium Chloride (12125-02-9) | TLV-STEL | USA | 20 mg/m³ STEL (fume) | ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL) |
| Ammonium Chloride (12125-02-9) | TLV-TWA | USA | 10 mg/m³ TWA (fume) | ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA) |

### 8.2. Exposure Controls

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

**Respiratory Protection:** If the TLV is exceeded, a half-mask organic vapor respirator may be worn for up to 10 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full facepiece organic vapor respirator may be worn for up to 50 times the exposure limit, or the maximum use concentration specified by the respirator supplier, whichever is lowest.

**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. If the TLV is exceeded, a half-mask organic vapor respirator may be worn for up to 10 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full facepiece organic vapor respirator may be worn for up to 50 times the exposure limit, or the maximum use concentration specified by the respirator supplier, whichever is lowest. Chemical resistant gloves. Safety glasses or goggles.

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## SECTION 9: Physical and Chemical Properties

### 9.1. Basic Physical and Chemical Properties

| | |
|---|---|
| **Appearance:** | Colorless liquid |
| **Physical State:** | Liquid |
| **Odor:** | Data not available. |
| **Odor Threshold:** | Data not available. |
| **pH:** | 10 |
| **Melting/Freezing Point:** | Approximately 0°C |
| **Initial Boiling Point /Range:** | Approximately 36°C - Approximately 36°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 Coeffieient (n-Octanol/Water):** | Data not available. |
| **Auto-Ignition Temperature:** | Data not available. |
| **Decomposition Temperature:** | Data not available. |
| **Viscosity:** | Data not available. |
| **ExplosiveProperties:** | 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

Keep only in original container. Strong oxidizers, acids, Calcium Hypochlorite bleaches, gold, mercury, silver, halogens.

### 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 applicable.

**Acute Toxicity - Dermal Exposure:**

Not applicable.

**Acute Toxicity - Inhalation Exposure:**

Not applicable.

**Acute Toxicity - Other Information:**

LD50, Oral, Rat: 350 mg/kg (Ammonium Hydroxide), gastrointestinal, liver, kidney, ureter, bladder changes. LDLo, Oral, Human: 43 mg/kg; LCLo, Inhalation, Human: 5000 ppm, LD50, Oral, Rat: 1650 mg/kg (Ammonium Chloride), details of toxic effects not reported other than lethal dose value.

**Skin Corrosion and Irritation:**

Causes severe skin burns and eye damage. Do not breathe dust, fumes or mist. 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 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:**

Suspected of damaging fertility or the unborn child. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

**Specific Target Organ Toxicity from Single Exposure:**

May cause damage to organs. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF exposed or concerned: Call a POISON CENTER or physician. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

**Specific Target Organ Toxicity from Repeated Exposure:**

Causes damage to organs through prolonged or repeated exposure. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Get medical attention if you feel unwell. Dispose of contents in accordance with local, state, federal and international regulations.

**Aspiration Hazard:**

Not applicable.

**Additional Toxicology Information:**

Data not available.

## SECTION 12: Ecological Information

### 12.1. Ecotoxicity

Toxic to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.Toxic to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.

### 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.

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## SECTION 14: Transportation Information

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

**UN Number:** UN2672

**Proper Shipping Name:** Ammonia Solution

**Hazard Class:** 8

**Packing Group:** III

**Hazard Placard Labels:**




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

**UN Number:** UN2672

**Proper Shipping Name:** Ammonia Solution

**Hazard Class:** 8

**Packing Group:** III

**Hazard Placard Labels:**




## 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

Not listed.

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

Ammonium Chloride (CAS # 12125-02-9): 5000 lb final RQ; 2270 kg final RQ

Ammonium Hydroxide (CAS # 1336-21-6): 1000 lb final RQ; 454 kg final RQ

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

Ammonium Chloride (CAS # 12125-02-9): 1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)

Ammonium Hydroxide (CAS # 1336-21-6): 1.0 % de minimis concentration (10% of total aqueous Ammonia is reportable under this listing)

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

Ammonium Chloride (CAS # 12125-02-9): Present

Ammonium Hydroxide (CAS # 1336-21-6): Present

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

Ammonium Chloride (CAS # 12125-02-9): Environmental hazard
Ammonium Chloride (CAS # 12125-02-9): Present
Ammonium Hydroxide (CAS # 1336-21-6): Environmental hazard
Ammonium Hydroxide (CAS # 1336-21-6): Present
Water (CAS # 7732-18-5): Present

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

Ammonium Chloride (CAS # 12125-02-9): sn 0093
Ammonium Hydroxide (CAS # 1336-21-6): corrosive
Ammonium Hydroxide (CAS # 1336-21-6): sn 0103

## 15.8. California Proposition 65

Not listed.

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

Ammonium Chloride (CAS # 12125-02-9): Present
Ammonium Hydroxide (CAS # 1336-21-6): Present
Water (CAS # 7732-18-5): Present

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

Ammonium Chloride (CAS # 12125-02-9): Present
Ammonium Hydroxide (CAS # 1336-21-6): Present
Water (CAS # 7732-18-5): Present

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

Not listed.

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## SECTION 16: Other Information

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

May be corrosive to metals. Causes severe skin burns and eye damage. Causes serious eye damage. Suspected of damaging fertility or the unborn child. May cause damage to organs. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep only in original container. Do not breathe dust, fumes or mist. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. 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. IF exposed or concerned: Call a POISON CENTER or physician. Get medical attention if you feel unwell. Specific treatment (Wash areas of contact with water). Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Store locked up. Store in corrosive resistant container with a resistant inner liner.

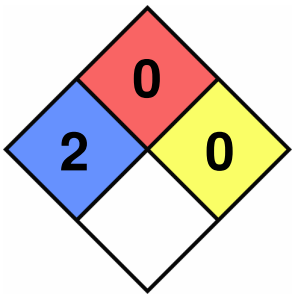
Dispose of contents in accordance with local, state, federal and international regulations.

### 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.
Not Applicable.

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

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




### 16.4. Document Revision

**Last Revision Date:** 5/1/2015

# Safety Data Sheet

## 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.