



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Ammonium Hydroxide, 15% (v/v) in Methanol

Product Number: R0616300

Other Identifying Product Numbers: R0616300-1A

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

Safety Data Sheet

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 - Oral | Category 3 | H301 | P264, P270, P301+P310, P321, P330, P405, P501 |
| 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 1 | H360 | 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 |
| Flammable Liquids | Category 2 | H225 | P210, P233, P240, P241, P242, P243, P280, P303+P361+P353, P370+P378, P403+P235, P501 |
| Hazardous to the Aquatic Environment (Acute) | Category 2 | H401 | P273, P501 |

2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

| Hazard Number | Hazard Statement |
|---------------|---|
| H225 | Highly flammable liquid and vapor. |
| H301 | Toxic if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H360 | May damage fertility or the unborn child. |
| H371 | May cause damage to organs. |
| H401 | Toxic to aquatic life. |

Safety Data Sheet

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. |
| P210 | Keep away from heat, sparks and open flame. No smoking. |
| P233 | Keep container tightly closed. |
| P240 | Ground container and receiving equipment. |
| P241 | Use explosion-proof equipment. |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P260 | Do not breathe fumes, mist, vapors, or spray. |
| 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+P310 | IF SWALLOWED: Immediately call a POISON CENTER or physician. |
| 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. |
| 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. |
| P321 | Specific treatment (Wash areas of contact with water). |
| P330 | Rinse mouth. |
| P363 | Wash contaminated clothing before reuse. |
| P370+P378 | In case of fire: Use dry chemical, foam or carbon dioxide to extinguish. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| 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% |
|--------------------|--------------------|------------------|------------|---------|
| Methyl Alcohol | CH ₃ OH | 32.04 g/mol | 67-56-1 | 83.20 |
| Water | H ₂ O | 18.01 g/mol | 7732-18-5 | 12.10 |
| Ammonium Hydroxide | NH ₄ OH | 35.04 g/mol | 1336-21-6 | 4.70 |

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 irritation with burning and stinging with possible damage to the cornea and conjunctiva.

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. Results in drying and cracking which can lead to secondary infections and dermatitis. Dermal absorption causes many of the symptoms of inhalation.

Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Dilute immediately with water or milk. Induce vomiting. Call a physician.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Toxic if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. May damage fertility or the unborn child. May cause damage to organs. DANGER! Flammable and corrosive. Keep away from heat, sparks and open flames. Keep container closed. Use with adequate ventilation. Avoid ingestion, prolonged breathing of vapor, or contact with skin, eyes or clothing. If ingested, give large quantity of water and call a physician immediately. Wash areas of contact with plenty of water for 15 minutes. For eyes, get medical attention. EYE CONTACT: May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva. SKIN CONTACT: Results in drying and cracking which can lead to secondary infections and dermatitis. Dermal absorption causes many of the symptoms of inhalation.

4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact 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. Wash areas of contact with soap and water for at least 15 minutes. Call a physician if irritation develops. Dilute immediately with water or milk. Induce vomiting. Call a physician.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

In case of fire: Use dry chemical, foam or carbon dioxide to extinguish. Use any means suitable for extinguishing surrounding fire.



Safety Data Sheet

5.2. Specific Hazards Arising from the Substance or Mixture

Highly flammable liquid and vapor. Moderate explosion hazard and dangerous fire hazard when exposed to heat, sparks and open flames. Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Sensitive to static discharge.

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

Ground container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Remove all sources of ignition. Contain spill. Do not flush to sewer. Absorb with suitable inert material (vermiculite, dry sand, etc) and place in a chemical waste container for proper disposal in an approved waste disposal facility. Ventilate area of spill. Have extinguishing agent available in case of fire. Use non-sparking tools and equipment. 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. Store in secure, flammable storage area away from all sources of ignition. Empty containers may be hazardous since they retain product residues.

Safety Data Sheet

SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

| Chemical Name | Limit Type | Country | Exposure Limit | Information Source |
|--------------------------------|------------|---------|--|--|
| Ammonium Hydroxide (1336-21-6) | TWA | USA | 50 ppm TWA; 35 mg/m ³ TWA | U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs) |
| Ammonium Hydroxide (1336-21-6) | TLV-STEL | USA | 35 ppm STEL | ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL) |
| Ammonium Hydroxide (1336-21-6) | TLV-TWA | USA | 25 ppm TWA | ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA) |
| Methyl Alcohol (67-56-1) | TWA | USA | 200 ppm TWA; 260 mg/m ³ TWA | U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs) |
| Methyl Alcohol (67-56-1) | TLV-STEL | USA | 250 ppm STEL | ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL) |
| Methyl Alcohol (67-56-1) | TLV-TWA | USA | 200 ppm TWA | 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 engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved atmosphere supplied respirator must be worn.

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 engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved atmosphere supplied respirator must be worn. 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: Ammonia/alcohol

Odor Threshold: Data not available.

pH: Alkaline

Melting/Freezing Point: -98°C (Methanol)

Initial Boiling Point/Range: 65°C (Methanol) - 65°C (Methanol)

Flash Point: 12°C (Methanol)

Evaporation Rate: No data available

Flammability: Data not available.

Flammability/Explosive Limits: 6% (méthanol) - 36% (Methanol)

Vapor Pressure: approximately 100 mmHg at 20°C

Vapor Density: 1.11 (Methanol)

Relative Density: 0.8

Solubility: Miscible

Partition Coefficient: Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: No data 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

Keep away from heat, sparks and open flame. No smoking. Keep container tightly closed. Strong oxidizing agents such as Nitrates, Perchlorates, Sulfuric Acid, heat, sparks or open flame. Will attack some forms of plastics, rubber and coatings. May react with metallic aluminum and generate hydrogen gas.

Safety Data Sheet

10.4. Hazardous Decomposition Products

Will not occur.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Toxic if swallowed. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF SWALLOWED: Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). Rinse mouth. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Not applicable.

Acute Toxicity - Other Information:

LD50, Oral, Rat: (Methanol) 5628 mg/kg, details of toxic effects not reported other than lethal dose value. LD50, Oral, Rat: 350 mg/kg (Ammonium Hydroxide), gastrointestinal, liver, kidney, ureter, bladder changes.

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 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:

May damage 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.



Safety Data Sheet

Specific Target Organ Toxicity from Single Exposure:

May cause damage to organs. Do not breathe fumes, mist, vapors, or spray. 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:

Not applicable.

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.

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

SECTION 14: Transportation Information

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

Sizes: 1 L

UN Number: UN2924

Proper Shipping Name: Flammable liquid, corrosive, n.o.s. (Methanol, Ammonium Hydroxide)

Hazard Class: 3 (8)

Packing Group: II

Hazard Label(s):



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

Sizes: 1 L

UN Number: UN2924

Proper Shipping Name: Flammable liquid, corrosive, n.o.s. (Methanol, Ammonium Hydroxide)

Hazard Class: 3 (8)

Packing Group: II

Hazard Label(s):



14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 1 L

UN Number: UN2924

Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (methanol, ammonium hydroxide)

Hazard Class: 3 (8)

Packing Group: II

Hazard Label(s):



Safety Data Sheet

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

Ammonium Hydroxide (CAS # 1336-21-6): 100 lb EPCRA RQ

Ammonium Hydroxide (CAS # 1336-21-6): 500 lb TPQ

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

Ammonium Hydroxide (CAS # 1336-21-6): 100 lb final RQ; 45.4 kg final RQ

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

Methyl Alcohol (CAS # 67-56-1): 5000 lb final RQ; 2270 kg final RQ

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

Ammonium Hydroxide (CAS # 1336-21-6): "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 (CAS # 1336-21-6): 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 (includes anhydrous Ammonia and aqueous Ammonia from water dissociable Ammonium salts and other sources, 10% of total aqueous Ammonia is reportable under this listing)

Methyl Alcohol (CAS # 67-56-1): 1.0 % de minimis concentration

15.5. Massachusetts Right-to-Know Substance List

Ammonium Hydroxide (CAS # 1336-21-6): Extraordinarily hazardous (including anhydrous)

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

Methyl Alcohol (CAS # 67-56-1): Present

15.6. Pennsylvania Right-to-Know Hazardous Substances

Ammonium Hydroxide (CAS # 1336-21-6): Environmental hazard

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

Methyl Alcohol (CAS # 67-56-1): "Present" As Denatured alcohols [RR-00113-8]

Methyl Alcohol (CAS # 67-56-1): Environmental hazard

Methyl Alcohol (CAS # 67-56-1): Present

Water (CAS # 7732-18-5): "Present" As Ethyl alcohol and water [RR-00802-6]

Water (CAS # 7732-18-5): Present

Safety Data Sheet

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

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

Ammonium Hydroxide (CAS # 1336-21-6): sn 0084

Ammonium Hydroxide (CAS # 1336-21-6): SN 0084 500 lb TPQ (The reportable quantity for anhydrous Ammonia is based on 100% of the anhydrous Ammonia. The reportable quantity for aqueous Ammonia is the Ammonia equivalent weight for concentrations of $\geq 20\%$.)

Ammonium Hydroxide (CAS # 1336-21-6): sn 0103

Methyl Alcohol (CAS # 67-56-1): flammable - third degree; teratogen

Methyl Alcohol (CAS # 67-56-1): sn 1222

Methyl Alcohol (CAS # 67-56-1): SN 1222 500 lb TPQ

15.8. California Proposition 65

Methyl Alcohol (CAS # 67-56-1): developmental toxicity, 3/16/2012

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

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

Methyl Alcohol (CAS # 67-56-1): Present (DSL)

Methyl Alcohol (CAS # 67-56-1): Present (NDSL)

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.

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

Methyl Alcohol (CAS # 67-56-1): 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)

Ammonium Hydroxide (CAS # 1336-21-6): 215-647-6

Ammonium Hydroxide (CAS # 1336-21-6): 231-635-3

Methyl Alcohol (CAS # 67-56-1): 200-659-6

Methyl Alcohol (CAS # 67-56-1): 270-649-4

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

Highly flammable liquid and vapor. Toxic if swallowed. Causes severe skin burns and eye damage. May damage fertility or the unborn child. May cause damage to organs. Toxic to aquatic life.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks and open flame. No smoking. Keep container tightly closed. Ground container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe fumes, mist, vapors, or spray. 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: Immediately call a POISON CENTER or physician. 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. Specific treatment (Wash areas of contact with water). Wash contaminated clothing before reuse. In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.

Store in a well-ventilated place. Keep cool. 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.

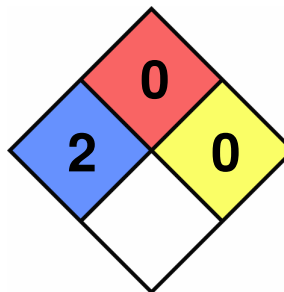
Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

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

Biohazardous Infectious Materials Hazard Class: Not Applicable.

16.3. National Fire Protection Association (NFPA) Rating

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





Safety Data Sheet

16.4. Document Revision

Last Revision Date: 2023-09-11

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.