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## SAFETY DATA SHEET

### Section 1. Identification

Product Name: **Ammonium Hydroxide – 4%**  
Synonyms: Ammonium Hydroxide Solutions, Aqua Ammonia, Aqua Ammonia Solutions, Ammonia Solutions, Ammonia Aqueous, Ammonia Water

CAS REGISTRY NO: 1336-21-6

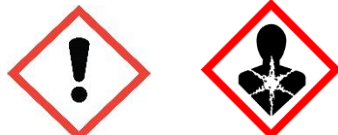
Supplier: **WD Service Company**  
Corporate Emergency Telephone Number: **800-366-9326**  
24 Hour Emergency Telephone Number: **Chemtrec: 800-424-9300**  
Recommended Use: Various Industrial

### Section 2. Hazard(s) Identification

Hazard: Acute Toxicity, Corrosive, Acute Aquatic Toxicity

Classification: Skin Corrosion/Irritation (Category 2) **Note: (1 - Most Severe / 4 - Least Severe)**  
Eye Damage / Eye Irritation (Category 2A)  
Specific Target Organ/Systemic Toxicity – Single Exposure (Category 2)  
Specific Target Organ/Systemic Toxicity – Repeated Exposure (Category 2)  
Acute Aquatic Toxicity (Category 3)

Pictogram:



Signal word: **WARNING**

Hazard statements: Causes skin irritation.  
Causes serious eye irritation.  
May cause damage to organs.  
May cause damage to organs through prolonged or repeated exposure.  
Harmful to aquatic life.

Precautionary statements: Do not breathe fumes or mist.  
Wash exposed skin thoroughly after handling. Take off contaminated clothing and wash it before reuse.  
Do not eat, drink or smoke when using this product.  
Avoid release to the environment.  
Use personal protective equipment as required.  
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Call a POISON CENTER or doctor/physician.  
IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with plenty of soap and water.  
If skin irritation occurs: Get medical attention.  
IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do.  
Continue rinsing. If eye irritation persists: Seek immediate medical attention.  
IF exposed or concerned or you feel unwell; Call a POISON CENTER or doctor/physician.  
If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.  
In case of fire: Use dry chemical, carbon dioxide, foam, or water spray for extinction.  
Store upright in a cool, dry place.  
Dispose of contents/container in accordance with all applicable federal, state, and local regulations.  
Protect from sunlight. Do not expose to temperatures exceeding 50° C/122°F.

### Section 3. Composition / Information on Ingredients

**CHEMICAL NAME:** Ammonium Hydroxide (Ammonium Hydroxide Solutions 4%)

**CAS REGISTRY NO:** 1336-21-6 Ammonium Hydroxide 4%  
7732-18-5 Water 96%

**SYNONYMS:** Ammonium Hydroxide Solutions, Aqua Ammonia, Aqua Ammonia Solutions, Ammonia Solutions, Ammonia Aqueous, Ammonia Water.

**CHEMICAL FAMILY:** Inorganic nitrogen compounds.

**COMPOSITION:** Solutions: Anhydrous Ammonia (4%); Water (96%); Density: 12.5-13° Baume.

**Ammonia, Anhydrous: CAS # 7664-41-7; Water: CAS# 7732-18-5**

### Section 4. First Aid Measures

IF INHALED: Mild inhalation of ammonia vapors may cause irritation of the nose and throat. Coughing and sneezing may be present. Exposure to more excessive ammonia vapors may cause respiratory irritation, olfactory fatigue, labored breathing, and possible pulmonary edema. For more severe exposure, seek medical attention.

IF ON SKIN (or hair): Remove contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. If irritation develops, seek medical attention. Wash clothing before reuse.

IF IN EYES: Immediately rinse with plenty of cool water. Eyelids should be held apart and away from eyeball for thorough rinsing. Remove contact lenses if present. Avoid rubbing the affected area. Speed is essential to minimize injury. Seek immediate medical attention.

IF SWALLOWED: Do NOT induce vomiting. Rinse mouth thoroughly with water. If able, have person sip a glassful of water. Follow with a citrus juice if available. Call a physician or poison control center.

### Section 5. Fire Fighting Measures

**Flammability:** Liquid state not flammable

**Flash Point:** No information available

**Flash Point Method:** Not applicable

**Burning Rate:** No information available

**Autoignition Temp:** No information available

In the event of a fire, wear full protective clothing and MSHA/NIOSH self-contained breathing apparatus with a full face piece operated in the pressure-demand or other positive pressure mode.

Ammonia gas will be liberated at all temperatures, which can be explosive under confined space conditions. Contact between this product and concentrated mineral acids will cause instant boiling and possible explosion.

Using extinguishing measures that are appropriate to local circumstances and the surrounding environment; Water spray may be used to keep fire exposed containers cool. Water spray or fog should be used to remove generated ammonia gas from the atmosphere. Fire extinguishing agents include dry chemical, carbon dioxide, foam, or water spray.

### Section 6. Accidental Release Measures

Use personal protective equipment as required/recommended. Evacuate public to a safe area. Stay upwind of spill. Avoid contact with skin, eyes, and clothing.

Prevent spills from entering sewers or waterways. Contain run-off using diking composed of a suitable material. Soak up liquid on inert absorbent and transfer to an approved container. Clean contaminated surface thoroughly.

### Section 7. Handling and Storage

**Handling Precautions:** Use personal protective equipment as required/recommended. Use only with adequate ventilation. Avoid contact with skin, eyes and clothing. Use suitable respiratory equipment in case of inadequate ventilation. Handle empty containers as if they were full due to presence of residual ammonia vapors. Do not mix with other household chemicals.

**Storage Requirements:** Store using properly labeled containers in a cool, dry, well ventilated area. Keep out of reach of children. Separate from incompatible material and excessive heat.

## Section 8. Exposure Controls / Personal Protection

**Engineering Controls:** Use adequate ventilation, especially in confined spaces. Provide local exhaust ventilation system to meet established exposure limits where ammonia vapors are likely to approach or exceed exposure limits.

**Personal Protective Equip:** Chemical splash goggles; face shield; neoprene gloves; NIOSH approved respirator; apron.

## Section 9. Physical and Chemical Properties

<b>APPEARANCE:</b>	Clear; colorless	<b>Odor:</b>	Pungent, ammonia
<b>Physical State:</b>	Liquid	<b>Solubility:</b>	Completely soluble
<b>Spec Grav./Density:</b>	0.994-0.996	<b>Freezing/Melting Pt.</b>	32°F
<b>Boiling Point:</b>	212°F (approx.)	<b>UFL/LFL:</b>	25%/16%
<b>pH:</b>	12.1		

## Section 10. Stability and Reactivity

**Stability:** The product is stable and non-reactive under normal conditions of use, pressure, storage and transport.

**Conditions to Avoid:** Contact with incompatible materials.

**Materials to Avoid:** Chlorine, hypochlorite, acids, alkalies, oxidizing materials, copper, aluminum, zinc, galvanized metals.

**Hazardous Decomposition:** Ammonia gas and oxides of nitrogen.

**Hazardous Polymerization:** Will not occur.

## Section 11. Toxicological Information

**Acute Toxicity:**

**Oral (LD50):** No information available.

**Inhalation (LC50):** No information available.

**Skin Irritation:** Repeated, prolonged or occluded contact may cause various severities of skin irritation.

**Eye Irritation:** May cause eye irritation with severe pain, closure of eyelids, and possible corneal injury.

**Sensitization:** Ammonia vapors may cause upper respiratory irritation resulting in coughing and sneezing, olfactory fatigue, labored breathing, and pulmonary edema.

**Chronic Toxicity:** None known.

## Section 12. Ecological Information

Considered biodegradable.

BOD/COD Value is not established.

Ecotoxicity: This product is acutely toxic to aquatic life.

## Section 13. Disposal Considerations

Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Small amounts of unused product may be flushed safely to sanitary sewer with plenty of water. Contact the local water board before flushing large amounts.

If solidified, large amounts may be disposed of in a sanitary landfill.

Contact state or local authorities for additional restrictions.

## Section 14. Transport Information

DOT: Not regulated. Classified as non-hazardous.

## Section 15. Regulatory Information

\*Ammonium hydroxide (1336216 4%) CERCLA, CSWHS, MASS, NJEHS, PA, TSCA

\*Water (773218 96%) TSCA

### REGULATORY KEY DESCRIPTIONS

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TSCA	= Toxic Substances Control Act
MASS	= MA Massachusetts Hazardous Substances List
NJHS	= NJ Right-to-Know Hazardous Substances
NRC	= Nationally Recognized Carcinogens
OSHAWAC	= OSHA Workplace Air Contaminants
PA	= PA Right-to-Know List of Hazardous Substances
SARA313	= SARA 313 Title III Toxic Chemicals
TXAIR	= TX Air Contaminants with Health Effects Screening Level
HAP	= Hazardous Air Pollutants
CERCLA	= Superfund clean up substance
CSWHS	= Clean Water Act Hazardous Substances
NJEHS	= NJ Extraordinarily Hazardous Substances

## Section 16. Other Information

Author: WD Service Company

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Revision Note: N/A

### Disclaimer:

The information, data, and recommendations in this safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or in any process. To the best of our knowledge, the information, data, and recommendations set forth herein are believed to be accurate. We make no warranties, either expressed or implied, with respect thereto and assume no liability in connection with any use of such information, data, and recommendations. Judgements as to the suitability of the information contained herein for the party's own use or purposes are solely the responsibility of that party. Any party handling, transferring, transporting, storing, applying or otherwise using this product should review thoroughly all applicable laws, rules, regulations, standards and good engineering practices. Such thorough review should occur before the party handles, transfers, transports, stores, applies or otherwise uses this product.