

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Ammonium Hydroxide 5% ACS Grade

Synonyms: azanium hydroxide, Ammonium Hydroxide

CAS Number: 1336-21-6

Grade/Purity: ACS Reagent Grade

Product Type: Bases

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer/Supplier: Alliance Chemical, 204 South Edmond St, Taylor, Texas 76574

Information: 512-365-6838 | www.alliancechemical.com

Emergency: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

Signal Word: Danger

GHS Pictograms:



Hazard Statements:

H314	Causes severe skin burns and eye damage
H335	May cause respiratory irritation
H400	Very toxic to aquatic life

Precautionary Statements:

P234	Keep only in original packaging.
P260	Do not breathe dust, fume, gas, mist, vapours or spray.
P261	Avoid breathing dust, fume, gas, mist, vapours or spray.
P264	Wash hands 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, protective clothing, and eye/face 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 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 (see first-aid information on this label).
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

P501	Dispose of contents and container in accordance with local, regional, national, and international regulations.
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3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	% MIN	% MAX	CAS #	EINECS# / ELINCS#	FORMULA	MOLECULAR WEIGHT
Ammonium Hydroxide	5	5	1336-21-6	215-647-6	NH ₄ OH	35.05 g/mol
Water	95	95	7732-18-5	231-791-2	H ₂ O	18.02 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention immediately.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. Wash with soap. Get medical attention immediately.
Inhalation	Move person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Suitable Media	Use water spray, alcohol-resistant foam, dry chemical, or CO ₂ . Use measures appropriate to local circumstances.
Unsuitable Media	Do not use a solid water stream as it may scatter and spread fire.
Protective Equipment	Wear self-contained breathing apparatus and full protective clothing.
Combustion Products	May include carbon oxides and other toxic fumes. See Section 10.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental	Prevent leakage or spillage from entering drains, sewers, or waterways.
Containment & Cleanup	Absorb with inert material. Collect in appropriate waste container. Dispose per applicable regulations.

7. HANDLING AND STORAGE

Safe Handling	Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use.
Safe Storage	Store in a cool, dry, well-ventilated area. Keep away from incompatible materials (see Section 10). Keep containers tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.

Occupational Exposure Limits:

AGENCY	EXPOSURE LIMIT
OSHA PEL	50 ppm TWA
NIOSH REL	25 ppm TWA / 35 ppm STEL
IDLH	300 ppm

Eyes	Wear chemical safety goggles or face shield.
Skin	Wear chemical-resistant gloves and protective clothing.

Inhalation	Use a NIOSH-approved respirator (N95/P100 for particulate, organic vapor or acid gas cartridge as appropriate to the substance) when exposure limits may be exceeded or visible mist or dust is generated.
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Exposure limits sourced from NIOSH Pocket Guide and OSHA 29 CFR 1910.1000. Hazard classification from ECHA Classification and Labelling Inventory (CLP Annex VI).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid with mild ammonia odor
Odor	Characteristic
Particle Characteristics	Not Applicable
pH	Not Available
Melting Point	-57.5°C
Boiling Point	38°C
Flash Point	Not Available
Vapor Pressure	Not Available
Specific Gravity	0.979
Solubility	Fully soluble in water
Molecular Formula	NH ₄ OH
Molecular Weight	35.05 g/mol

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions.
Hazardous Reactions	None under normal processing conditions.
Conditions to Avoid	Heat, sparks, open flame, and incompatible materials.
Incompatible Materials	Strong oxidizing agents, strong acids, strong bases.
Decomposition Products	May produce carbon oxides and other toxic fumes when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: See Section 2 for GHS hazard classification.

IARC	Not listed as carcinogen.
NTP	Not listed as carcinogen.
OSHA	Not listed as carcinogen.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Fish LC50: ~ 0.024 mg/L (48 h, <i>Lepomis macrochirus</i> — driven by un-ionized NH ₃ (pH/temp dependent); range 0.024–0.093 mg/L)
Persistence	Not applicable (inorganic; NH ₃ ⇌ NH ₄ ⁺ equilibrium). Toxicity from un-ionized ammonia, rising with pH and temperature.
Bioaccumulation	Not Available
Mobility in Soil	Not Available

13. DISPOSAL CONSIDERATIONS

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

14. TRANSPORT INFORMATION

US DOT	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
IATA/ICAO	Not regulated as dangerous goods.
Marine Pollutant	No
Note	Hazard communication note: Product may meet GHS hazard criteria for workplace handling, while not being regulated as dangerous goods for transport.

15. REGULATORY INFORMATION

TSCA Inventory	Listed.
SARA 313 (TRI)	Not listed.
California Prop 65	Not listed.
SARA 311/312	See Section 2 for hazard classifications.

Data retrieved as of — TSCA Inventory: 2026-08-02; SARA 313 (TRI): 2026-08-02; California Prop 65: 2026-08-02

16. OTHER INFORMATION

Revision Date: 08/27/2026

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