

# Safety Data Sheet

## Anhydrous Ammonia, liquified

**United States Cylinder Gas**  
11618 S Mayfield Ave, Alsip, Illinois, 60803  
Emergency Phone: CHEMTREC 1-800-424-9300  
www.uscylgas.com

### Section 1: Product and Company Identification

**United States Cylinder Gas**  
11618 S Mayfield Ave, Alsip, Illinois, 60803  
(708) 389-1402  
Emergency Phone: CHEMTREC 1-800-424-9300  
www.uscylgas.com

Product Code: **Anhydrous Ammonia**

Part Number: ANHY 150

**Synonyms:** NH<sub>3</sub>

**Recommended Use:** Industrial use. Use as directed.

**Usage Restrictions:**

### Section 2: Hazards Identification



Hazard Classification:

Acute Dust Inhale Toxicity (Category 4), H332  
Acute Gas Inhale Toxicity (Category 4), H332  
Acute Vapor Inhale Toxicity (Category 4), H332  
Eye Effects (Category 1), H318  
Flammable (Category 1), H220  
Gases Under Pressure, H280  
Skin Corrosion (Category 1.C), H314

Hazard Statements:

H332: Harmful if inhaled  
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H318: Causes serious eye damage  
H220: Extremely flammable gas  
H280: Contains gas under pressure; may explode if heated  
H314: Causes severe skin burns and eye damage  
CGA-HG04: MAY FORM EXPLOSIVE MIXTURES WITH AIR.  
CGA-HG22: CORROSIVE TO THE RESPIRATORY TRACT.

Precautionary Statements

P202: Do not handle until all safety precautions have been read and understood.  
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P260: Do not breathe gas.  
P264: Wash hands thoroughly after handling.

P271+P403: Use and store only outdoors or in a well-ventilated place.  
P280: Wear protective gloves, protective clothing, eye protection, and/or face protection.  
P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
P381: In case of leakage, eliminate all ignition sources.  
P405: Store locked up.  
P501: Dispose of contents/container in accordance with container/supplier owner instructions.  
CGA-PG02: Protect from sunlight when ambient temperature exceeds 52C (125F).  
CGA-PG05: Use a back flow preventive device in the piping.  
CGA-PG06: Close valve after each use and when empty.  
CGA-PG10+CGA-PG20: Use only with equipment of compatible materials of construction and rated for cylinder pressure.  
CGA-PG12: Do not open valve until connected to equipment prepared for use.  
CGA-PG27: Read and follow the Safety Data Sheet (SDS) before use.

### Section 3: Composition/Information on Ingredients

	CAS #	Concentration
Anhydrous Ammonia	7664-41-7	100%

	Trade Names
Anhydrous Ammonia	Ammonia azane Ammonia gas Nitro-sil Ammonia anhydrous Ammoniakgas

### Section 4: First Aid Measures

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower]. 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. Immediately call a POISON CENTER or doctor/physician. SPECIFIC TREATMENT: (Follow all First Aid instructions in Section 4 of the Safety Data Sheet). Rinse skin with water/shower. Wash contaminated clothing before reuse.

### Section 5: Fire Fighting Measures

#### Suitable Extinguishing Media:

Dry powder, carbon dioxide, cool surrounding area with fine water mist.

#### Protection of Firefighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

	Products of Combustion
Anhydrous Ammonia	Ammonia, oxides of nitrogen

## Section 6: Accidental Release Measures

### Personal Precautions:

Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.

### Environmental Precautions:

Keep away from drains, surface and ground water. Avoid heat, flames, sparks and other sources of ignition.

### Methods for Containment and Cleanup:

Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition. If necessary, cover drains. Absorb large spills, dispose in appropriate containers.

## Section 7: Handling and Storage

### Handling:

See precautions in Section 2. Only trained personnel should handle this product. Always use approved personal protective equipment.

### Storage:

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Store and handle in accordance with all current regulations and standards. Store in a well-ventilated area. Keep separated from incompatible substances.

	Incompatibilities	Conditions to avoid
Anhydrous Ammonia	Acids, combustible materials, metals, oxidizing materials, metal salts, halo carbons, halogens, amines, reducing agents, cyanides, bases	High temperatures, electric discharge, electric sparks, welding, other ignition sources. Minimize contact with material. Avoid inhalation of material or combustion by-products. Containers may rupture or explode if exposed to heat.

## Section 8: Exposure Controls/Personal Protection

Exposure Guidelines	Threshold Limit Value -TLV (ppm)
Anhydrous Ammonia	50

### Engineering Controls

No specific controls are needed.

### Eye Protection

Wear splash resistant safety goggles.

### Skin Protection

Wear chemical protective clothing, including gloves.

### Respiratory Protection

Use self-contained breathing apparatus.

### General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

## Section 9: Physical and Chemical Properties

	Physical State / Physical Form	Appearance / Color	Odor	Flash Point	Flammability	Partition Coefficient
Anhydrous Ammonia	Gas	Colorless	Pungent odor	Not available	True	0

	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits	Boiling Point	Freezing Point	Vapor Pressure
Anhydrous Ammonia	1204 F (651 C)	28	15.4	-27 F (-33 C)	-108 F (-78 C)	128.78

	Vapor Density	Specific Gravity	Water Solubility	pH	Evaporation Rate	Viscosity
Anhydrous Ammonia	0.5967	Not applicable (gas); 0.682 @ - 33.4 C (liquefied gas)	38% @ 20 C	0	Not applicable	0.255 mPa.s (0.255 centipoises) @ - 33.5 C (liquefied gas)

	Molecular Weight	Molecular Formula	Density	Volatility	Solvent Solubility
Anhydrous Ammonia	17.031	N-H3	0.6087816	Not applicable	Soluble : Methanol, ethanol, chloroform, ether, organic solvents

## Section 10: Stability and Reactivity

	Stability	Conditions to Avoid	Incompatible Materials
Anhydrous Ammonia	Stable at normal temperatures and pressure.	High temperatures, electric discharge, electric sparks, welding, other ignition sources. Minimize contact with material. Avoid inhalation of material or combustion by-products. Containers may rupture or explode if exposed to heat.	Acids, combustible materials, metals, oxidizing materials, metal salts, halo carbons, halogens, amines, reducing agents, cyanides, bases

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
Anhydrous Ammonia	Ammonia, oxides of nitrogen	Will not polymerize.

## Section 11: Toxicology Information

The toxicology information is calculated for the mixture.

### Acute Toxicity Estimates (ATE) of the mixture.

Oral ATE (mg/kg)	Not Available
Inhalation ATE (ppm)	4500
Dermal ATE (mg/kg)	Not Available

### Additional health hazards:

Skin Corrosion/Irritation	H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.
Eye Damage/Irritation	H318 CAUSES SERIOUS EYE DAMAGE.
Respiratory or Skin Sensitization	Not Available
Germ Cell Mutagenicity	Not Available
Carcinogenicity	Not Available
Reproductive Toxicity	Not Available
STOT – single exposure	Not Available
STOT – repeated exposure	Not Available
Aspiration Hazard	Not Available

## Section 12: Ecological Information

### Fate and Transport

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Anhydrous Ammonia	Fish toxicity: 23 Invertebrate toxicity: Algal toxicity: Phyto toxicity: Other toxicity:	Not available	Not available	Not available

## Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations. Do not dispose in sewers or waterways. Recycle if possible to do so. Return to manufacturer for disposal if needed.

## Section 14: Transportation Information

### U.S. DOT 49 CFR 172.101

	Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
Anhydrous Ammonia	Ammonia, Anhydrous	UN1005	Not available	Not available	Not available	Not available	Not available

### Canadian Transportation of Dangerous Goods

	Shipping Name	UN Number	Class	Packing Group / Risk Group
Anhydrous Ammonia	Ammonia, Anhydrous	UN1005	Not Available	Not Available

## Section 15: Regulatory Information

### U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
Anhydrous Ammonia	Not Regulated.	Not Regulated.	Not Regulated.

### SARA 370.21

	Acute	Chronic	Fire	Reactive	Sudden Release
Anhydrous Ammonia	Yes	No	No	No	Yes

### SARA 372.65

Anhydrous Ammonia	Listed.
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### OSHA Process Safety

Anhydrous Ammonia	10000 LBS TQ
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### State Regulations

	CA Proposition 65
Anhydrous Ammonia	Not regulated.

### Canadian Regulations

	WHMIS Classification
Anhydrous Ammonia	A, B1, D1A, E

## National Inventory Status

	US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Anhydrous Ammonia	Ammonia	Not listed.	Listed on DSL.

## Section 16: Other Information

	NFPA Rating
Anhydrous Ammonia	Health = 3, Flammability = 1, Instability = 0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard