



# Material Safety Data Sheet

Ammonia 100 ppm Cylinder

(REVISED 3/06/03)

EMERGENCY PHONE: (800) 424-9300

## Section 1 - Identification

Product Code: 604-0100-58  
Product Name: Cylinder, Ammonia 100 ppm, Balance Air  
Synonyms: NH<sub>3</sub> 100ppm  
Chemical Family: Gas Mixtures  
CAS #: N/A  
Molecular Formula: NH<sub>3</sub> (50 ppm in Air)

### NFPA Rating

Health	2
Flammability	0
Reactivity	0
Special	None

## Section 2 - Ingredients

Chemical	CAS #	%	OSHA/PEL	ACGIH TLV
Ammonia	7764-41-7	.0001 < x < 5	50 ppm TWA 35 ppm STEL	25 ppm TWA 35 ppm STEL
Air	N/A	95 < x < 99.9999	None	None

## Section 3 - Physical Data

Boiling Point: -194.3°C. (-137.8° F.)  
% Volatiles: N/A  
Solubility in Water: Negligible.  
Specific Gravity (H<sub>2</sub>O = 1): N/A  
Freezing Point: -216.2°C. (-357.2° F.)  
Evaporation Rate  
(butyl acetate = 1): N/A  
Vapor Density (air = 1): N/A  
Vapor Pressure: N/A  
Appearance and Odor: Colorless gas with mild to strong ammonia odor (depending on amount of ammonia present.)  
Other:

## Section 4 - Fire and Explosion Hazard Data

Flash Point (°F):	N/A
Flammable Limits in Air, % by volume:	Lower: N/A                      Upper: N/A
Autoignition Temperature:	N/A
Extinguishing Media:	None required. Use any extinguishing media suitable for surrounding fire.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Use a water spray or fog to reduce or direct vapors. Do not direct a water spray at the source of a release. Water spray should be used with care. Approach fire from an upwind direction to prevent over-exposure to gas mixture. If this product is involved in a fire, fire run-off water should be contained to prevent possible environmental damage. Cylinders may rupture violently when involved in a fire situation.
NFPA Ratings (Scale 0-4):	Health = 2, Fire = 0, Reactivity = 0

## Section 5 - Health Data

OSHA (PEL):	NH <sub>3</sub>	50 ppm TWA / 35 ppm STEL
	Air	None
ACGIH (TLV):	NH <sub>3</sub>	25 ppm TWA / 35 ppm STEL
	Air	None

### ANIMAL TOXICITY

LDLO unr-man:	N/A
LD50: Oral - rat	N/A
Skin - rabbit	N/A
LC50: Inhalation - rat	2000 ppm / 4 Hr
Carcinogenicity:	No

### EFFECTS OF EXPOSURE

#### Acute Effects

Ingestion:	N/A
Skin Contact:	May cause irritation.
Eye Contact:	May cause irritation. Can cause eye damage with corneal burns if not rinsed properly.
Inhalation:	Inhaled ammonia can cause irritation of respiratory system. Depending on exposure, high levels of ammonia can cause laryngitis, pulmonary edema, or pneumonitis. Severe over exposure can be fatal as a result of lung damage. This gas can also cause asphyxiation by displacing oxygen content if released in sufficient quantities.
Medical Conditions, if any, aggravated by the chemical:	Respiratory conditions, skin conditions or eye disorders may be aggravated by over exposure.
Other health hazards:	N/A
Most likely routes of entry:	Inhalation, skin and eye contact.



**Section 5 - Health Data (continued)**

Chronic Effects

Ingestion: N/A  
Skin Contact: Repeated skin contact may cause dermatitis.  
Eye Contact: None.  
Inhalation: Prolonged or repeated inhalation of this gas may cause impaired lung function and emphysema.  
Other: N/A

**EMERGENCY AND FIRST AID PROCEDURES**

Ingestion: None Required.  
Skin Contact: Remove contaminated clothing and flush skin with warm water for at least 15 minutes. Take care not to contaminate eyes. Seek immediate medical attention.  
Eye Contact: Remove victim to fresh air. Flush eyes with water for at least 15 minutes. If pain is present, seek medical attention.  
Inhalation: Immediate medical attention is required for all cases of overexposure to ammonia. Rescue personnel should be equipped with self-contained breathing apparatus. Victims should be removed to fresh air and be treated with supplemental oxygen. Quick removal from the contaminated area is most important. In cases of over exposure, delayed onset of life-threatening symptoms may occur.

**Section 6 - Reactivity**

Incompatibility: Ammonia is corrosive to copper and galvanized surfaces. Ammonia is incompatible with most acids, halogens, metals, oxidizers and salts of silver and zinc.  
Hazardous Decomposition Products: Will react with water and moist air to ammonium hydroxide mist. Thermal decomposition will produce toxic fumes of NH<sub>3</sub> and NO<sub>x</sub>  
Stability: Stable.  
Hazardous Polymerization: Will not occur.  
Other: None

**Section 7 - Environmental Information**

RCRA Code: N/A  
TSCA Registered: No  
Spill and Leak Procedures: Remove all personnel from affected areas. Attempt to close the main source valve prior to entering the area. If it is not possible to stop the release, monitor the surrounding area for the presence of ammonia and monitor oxygen levels. Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. If leak is in user's equipment, be certain to purge piping with inert gas prior to attempting repairs. If leak is in container or valve, contact the appropriate emergency telephone number listed on front page of this MSDS.  
Waste Disposal: Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container *properly labeled and with any valve plugs or caps secured as well as valve protection cap in place.*



**Section 8 - Protection Information**

Ventilation Requirement: Use hood with forced ventilation system. Use local exhaust to prevent accumulation above the exposure limit.  
Respiratory Protection: Positive pressure air line with mask and escape bottle or self-contained breathing apparatus should be available for emergency use.  
Protective Gloves: Gloves made of suitable material. Transfer of large quantities under pressure may require full body protective equipment appropriate to the task.  
Eye/Face Protection: Safety goggles and face shield.

**Section 9 - Special Precautions**

Handling and Storage: Use only in well ventilated areas. Do not drag, slide or roll cylinders. Always use a suitable hand truck for moving cylinders. Valve protection caps must remain in place unless container is secured with valve protection outlet piped to use point. When removing the plug to connect the cylinder to your system, face the outlet away from you and wear appropriate protective equipment. Store and handle in accordance with all current regulations and standards.  
Other Precautions: Do not heat cylinder by any means. Cylinder temperature should never exceed 125 F. Store cylinders upright and firmly secured to prevent falling or being knocked over. Protect cylinders from physical damage. It is recommended that eye wash fountains and instant-acting showers be available in the event of an emergency.

**Section 10 - Transportation Information - U.S. Department of Transportation**

Proper Shipping Name: Compressed gases, n.o.s.. (Nitrogen, Ammonia).  
Hazardous Class: 2.2.  
UN#: 1956.  
Shipping label: Non Flammable Gas  
Reportable Quantity: 100 lbs.

**Section 11 - Comments**

This data is offered in good faith as typical values and not as a product specification. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.