

# REFRIGERATION AMMONIA

## Ammonia, Anhydrous Refrigeration Grade

### Technical Premium Grade

Technical  
Information



#### Product Description

REFRIGERATION AMMONIA is a colorless gas shipped under pressure as a liquid. It has a pungent characteristic odor that is highly irritating to the mucosal membranes of the eyes and lungs. Contact with the liquid can cause frostbite. It absorbs readily into water to form alkaline ammonium hydroxide solution which is corrosive to bodily tissue.

#### Application Recommendations

- REFRIGERATION AMMONIA is used as a refrigerant.
- With a boiling point of  $-28^{\circ}\text{F}$ , ammonia can be easily compressed into a liquid and vaporized back to a gas.
- REFRIGERATION AMMONIA is corrosive to aluminum, tin, copper, lead, silver, zinc and their alloys.

#### Transportation, Storage and Handling

- There are extensive documents that discuss all the procedures for the transportation, storage and safe handling of ammonia. Some of these publications include the following:
  - American National Standard Institute ANSI/CGA G-2.1 Safety Requirements for the Storage and Handling of Anhydrous Ammonia
  - Compressed Gas Association G-2 Anhydrous Ammonia
  - Consult the Compressed Gas Association ([www.cganet.com](http://www.cganet.com)) for publications.
- Ammonia trailers may only be filled to 82% of capacity to meet the DOT transportation standards.
- A spill of 100 pounds or more is a reportable release pursuant to CERCLA Section 311(b)(4) of the Clean Water Act.

#### Conforms to the following specifications:

- American National Standards Institute/International Institute of Ammonia Refrigeration - ANSI/IIAR-2-1984
- 1.4.2 Refrigeration grade REFRIGERATION AMMONIA shall contain 99.95 percent minimum pure ammonia and shall equal or exceed the minimum requirements of Federal Specification OA445b, Ammonia, Technical.
- NSF International Standard 60: Drinking Water Additives. Material/Ingredient Trade Designation = Refrigeration Grade REFRIGERATION AMMONIA. Material/Ingredient ID = I11911001. MUL 5 mg/L

## Properties

SDS  
#1129

	Cheyenne	St Helens
Ammonia, % by weight minimum	99.95	99.98
Water, % by weight maximum	0.05	0.02
Oil, ppm by weight maximum	3	2 to 5
Weight @ 60°F lbs/gallon	5.15	5.15

#### Physical Properties

Physical form (under pressure)	N/A	Liquified Gas
Color	N/A	Colorless
Vapor Pressure @115°F (psia)	N/A	266
Boiling Temperature (°F)	N/A	-28
Freezing Temperature (°F)	N/A	-108
Specific Gravity @ 60°F	N/A	0.618

#### Hazardous Shipping Description

- Trailers must be marked with the words "Anhydrous Ammonia, Inhalation Hazard and the acronym NQT" (Not for quenched and tempered steel trailers) to meet the DOT transport standards for anhydrous ammonia (< 0.2% water).
- The trailer must have a Nonflammable Gas placard (hazard classification 2.2) on both sides and both ends. The shipment may further be marked with international transportation number UN 1005 to identify it as ammonia which may be incorporated into the placard.
- A spill of 100 pounds or more is a reportable release pursuant to CERCLA Section 311(b)(4) of the Clean Water Act.
- Consult MSDS #1129 for more specific and comprehensive information about chemical hazards.



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NCSH-04-10-16-15

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