

## ANHYDROUS AMMONIA SAFETY & HANDLING

### EMPLOYEE SAFETY

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Each employee that will handle ammonia should be well trained in:

- Safe Handling Techniques
- Potential Hazards
- Safety Equipment
- Emergency Procedures
- First Aid

Safety equipment is no substitute for careful handling. Since accidents are unpredictable, safety equipment should be readily available, regularly inspected and carefully maintained to insure operable condition. This list of protective safety equipment is required at each storage facility:

- Goggles/full face shield
- NH<sub>3</sub> resistant gloves, boots, coat and apron
- Quick acting shower and fountain or minimum 50 gallons water
- Respiratory devices
- Fire extinguisher
- First aid kit

### HEALTH HAZARD

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The liquid and vapor are both strong irritants to the skin, eyes, mucous membranes and respiratory system. Direct exposure will cause severe burns. Inhalation of as low as 400 ppm will cause irritation. Stronger concentrations cause more severe irritation that may result in death by asphyxiation.

### FIRST AID

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- **EYE CONTACT** - For direct contact, immediately flush the affected eyes with clean water for at least 30 minutes. Hold eyelids open to assure complete flushing. Call a physician immediately.
- **SKIN CONTACT** - Immediately flush affected areas with large amounts of water for 30 minutes; remove contaminated clothing. If the skin surface is damaged, apply a clean dressing and seek immediate medical attention. Do not apply salves or ointments. If skin surface isn't damaged, cleanse affected area thoroughly by washing with mild soap and water. If irritation or redness develops, seek immediate medical attention.
- **INHALATION** - Immediately move victim away from the exposure and into fresh air. If victim is not breathing or if breathing, difficulties develop, artificial respiration or oxygen should be administered by qualified personnel. Seek immediate medical attention.
- **INGESTION** - ***DO NOT INDUCE VOMITING.*** Ammonia is a corrosive material which will cause alkaline burns. If the victim has any breathing difficulties, call emergency assistance immediately.

### FIRE HAZARD INFORMATION & TRANSPORTATION CLASSIFICATION

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- Liquid is not combustible
- Gas has flammable limits of 16 - 25% in air. This situation is normally not encountered; however, if storage is exposed to high heat, ammonia will volatilize causing vapor and pressure build-up.
- Proper protective equipment should be worn by anyone fighting the fire.
- Anhydrous ammonia is classified as **NON FLAMMABLE GAS**. Placarding and product identification on vessels and bill of lading is required. Contact Hill Brothers for specifics.

### INSTALLATIONS

Ammonia is stored and piped with iron or steel only. Brass, copper, silver, zinc, bronze and many others alloys should not be used. Use only trained, experienced personnel for installations or repair of ammonia systems or equipment.

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