

Common Name: **AMMONIA**

Synonyms: Anhydrous Ammonia

CAS No: 7664-41-7

 Molecular Formula: NH₃

RTK Substance No: 0084

Description: Colorless gas with a strong, sharp, irritating odor

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
3 - Health 1 - Fire 0 - Reactivity DOT#: UN 1005 ERG Guide #: 125 Hazard Class: 2.3 (Toxic Gases)	Non-flammable gas which can ignite and burn with explosive force. Stop the flow of gas or let burn. POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Nitrogen Oxides</i> . CONTAINERS MAY EXPLODE IN FIRE. Use water spray to keep fire-exposed containers cool, and to absorb and disperse vapors.	Ammonia reacts violently with HALOGENS (such as FLUORINE, CHLORINE and BROMINE); ACIDS (such as HYDROGEN CHLORIDE, HYDROGEN FLUORIDE and HYDROGEN BROMIDE); NITROSYL CHLORIDE; CHROMYL CHLORIDE; TRIOXYGEN DICHLORIDE; NITROGEN DIOXIDE; NITROGEN TRICHLORIDE; BROMINE PENTAFLUORIDE; CHLORINE TRIFLUORIDE; CALCIUM HYPOCHLORITE; and forms explosive compounds that are pressure and temperature sensitive with MERCURY; GOLD OXIDES; and SILVER SALTS and OXIDES. Ammonia is incompatible with CHLOROFORMATES; CYANIDES; OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES and NITRATES); DIMETHYL SULFATE; and MANY METALS and their ALLOYS (such as ZINC, COPPER and BRASS). Ammonia dissolves in WATER to release heat. Keep away from HEAT, MOISTURE and DIRECT SUNLIGHT.

SPILL/LEAKS
Isolation Distance:

Small spills – 30 meters (100 feet)

Large spills – 60 meters (200 feet)

Stop flow of gas.

Use water spray to absorb and disperse vapors.

Hazardous to the environment.

DO NOT wash into sewer.

PHYSICAL PROPERTIES

Odor Threshold:	Less than 5 ppm
Flash Point:	Non-flammable
LEL:	15%
UEL:	28%
Vapor Density:	0.6 (air = 1)
Vapor Pressure:	658 mm of Hg at 70°F (21°C)
Water Solubility:	Soluble
Boiling Point:	-28°F (-33.4°C)
Ionization Potential:	10.18 eV
Autoignition:	1,204°F (651°C)

EXPOSURE LIMITS

OSHA:	50 ppm (8-hr TWA)
NIOSH:	25 ppm (10-hr TWA), 35 ppm STEL
ACGIH:	25 ppm (8-hr TWA), 35 ppm STEL
IDLH LEVEL:	300 ppm
ERPG-1:	25 ppm
ERPG-2:	150 ppm
ERPG-3:	1,500 ppm

PROTECTIVE EQUIPMENT

Gloves:	Nitrile, Neoprene, Butyl, Butyl/Neoprene, Viton/Neoprene
Coveralls:	Dupont Tychem® CPE and Kappler Zytron® 500
Boots:	Butyl/Neoprene
Respirator:	> 25 ppm - APR with full-facepiece and cartridges for Ammonia >250 ppm - Supplied Air >300 ppm - SCBA

HEALTH EFFECTS

Eyes:	Irritation and burns
Skin:	Irritation and burns. Contact with liquid causes frostbite.
Acute:	Nose, throat and lung irritation with coughing and shortness of breath
Chronic:	An asthma-like allergy with shortness of breath, wheezing, coughing and/or chest tightness

FIRST AID AND DECONTAMINATION

Remove	the person from exposure.
Flush	eyes with large amounts of water for at least 30 minutes. Remove contact lenses if worn. Seek medical attention immediately.
Immerse	affected part in warm water if in contact with liquid.
Begin	artificial respiration if breathing has stopped and CPR if necessary.
Transfer	to a medical facility.