



PREFERRED CHEMICAL NAME:		AMMONIA		CAS #:		7664-41-7
Molecular Wt.	17.03	Molecular Formula:	H ₃ N	Structural Molecular Formula:	NH ₃	
Alternate Chemical Names:		Anhydrous Ammonia				
DOT UN # :	1005	RTECS # :	BO0875000	NFPA 704: H-F-R-Special Hazard:	3 - 0 - 0	
Physical State - Description:		Colorless gas with a pungent, suffocating odor. [Note: Shipped as a liquefied compressed gas. Easily liquefied under pressure.]; Odor Threshold: 46.8 ppm				

PHYSICAL DATA					
Property	Value	Source	Property	Value	Source
Melting – Freezing Point:	-107.86°F (-77.7°C)	GENIUM	Boiling Point:	-28 °F (-33.35°C)	GENIUM
Critical Temperature:	270.3°F (132.4°C)	GENIUM	Critical Pressure:	111.5 atm	GENIUM
Autoignition Temperature:	1204°F (651°C)	GENIUM	Flash Point:	Indefinite <32°F (0°C)	GENIUM
Lower Flammability Limit:	16% v/v	GENIUM	Upper Flammability Limit:	25% v/v	GENIUM
Vapor Pressure:	1 mm Hg @ -164.4°F (-109.1°C)	GENIUM	Vapor Density (standard):	0.0482 lbs/cu. ft.	CHEM
Vapor Pressure (saturated):	128.8 psia @ 70°F (21.1°C)	CHEM	@ 32°F (0°C) and 1 atm		
Liquid Density (saturated):	42.2 lbs/cu. ft. @ -20°F (-28.9°C)	CHEM	Vapor Density (saturated):	0.0527 lbs/cu. ft. @ -30°F (-34.4°C)	CHEM
Vapor Density (air = 1):	0.5971	CHEM	Conversion:	1 ppm = 0.70 mg/m ³ 1 ppm = 0.0007 mg/l	NIOSH

HAZARD OVERVIEWS		
Hazard	Overview	Source
HEALTH	Corrosive causes burns to eyes/skin/respiratory tract. Also Causes: blindness; exposure to high levels may be fatal.	GENIUM
FIRE	Will burn. Stop flow of gas. Use carbon dioxide or dry chemical to extinguish flame at gas valve. Use water spray to protect personnel shutting off gas. Remove cylinders from fire.	GENIUM
REACTIVITY	Stable. Hazardous polymerization cannot occur. Incompatible with: acids; interhalogens; boron halides; 1,2-dichloroethane; ethylene oxide; chloroformamidinium nitrate; oxygen and platinum; magnesium perchlorate; nitrogen trichloride; strong oxidants; heavy metals and their compounds; chlorine azide; bromine; iodine; iodine and potassium; tellurium halides; pentaborane; silver oxide; silver chloride; silver nitrate; silver azide; hypochlorites; chlorine or chlorine bleach; air and hydrocarbons; germanium derivatives; stibine; 1-chloro-2,4-dinitrobenzene; ethanol and silver nitrate; 2-, or 4-chloronitrobenzene (above 160°C/30 bar); acetaldehyde; acrolein; boron; chlorosilane; hexachloromelamine; sulfur; hydrazine and alkali metals; potassium ferricyanide; potassium mercuric cyanide; nitrogen dioxide; phosphorus pentoxide; tetramethylammonium amide. Hazardous decomposition products: fumes of ammonia; nitrogen oxides.	GENIUM
SPECIAL HAZARD	None.	GENIUM

TOXICITY/EXPOSURE INFORMATION					
Data Term	Toxic Limit Value	Source	Data Term	Toxic Limit Value	Source
ERPG-1 :	25 ppm	AIHA	TLV TWA :	25 ppm	ACGIH
ERPG-2 :	150 ppm	AIHA	TLV STEL :	35 ppm	ACGIH
ERPG-3 :	750 ppm	AIHA	PEL TWA:	50 ppm (35 mg/m ³)	OSHA
IDLH :	300 ppm	NIOSH	PEL STEL:	None Listed	OSHA



TOXICITY/EXPOSURE INFORMATION (continued)					
Classification	10 Min Exposure	30 Min Exposure	1 Hour Exposure	4 Hour Exposure	8 Hour Exposure
AEGL-1 (interim):	30 ppm	30 ppm	30 ppm	30 ppm	30 ppm
AEGL-2 (interim):	220 ppm	220 ppm	160 ppm	110 ppm	110 ppm
AEGL-3 (interim):	2700 ppm	1600 ppm	1100 ppm	550 ppm	390 ppm

LISTING OF SUBSTANCE ON PERTINENT SAFETY/ENVIRONMENTAL PROGRAMS						
Y/N	Program	Statute	Regulation	Limits or Values		
Y	EPCRA EHS	Section 302 of SARA Title III Emergency Planning	40 CFR Part 355	TPQ:	500	lbs
				RQ:	100	lbs
Y	CERCLA	Section 304 of SARA Title III Emergency Notification	40 CFR Part 302	RQ:	100	lbs
Y	EPCRA Section 313	Section 313 of SARA Title III Toxic Release Inventory Reporting	40 CFR Part 372	MANUFACTURED/PROCESSED: 25,000 lbs OTHERWISE USED: 10,000 lbs		
Y	RMP	Section 112(r) of CAAA 1990 Risk Management Plan	40 CFR Part 68	TQ:	10,000	lbs
Y	PSM	Section 304 of CAAA 1990 Process Safety Management	29 CFR Part 1910.119	TQ:	10,000	lbs
Y	NDEP-CAPP	Nevada Revised Statutes 459.3816 Chemical Accident Prevention Program	NAC 459.9533	TQ:	5,000	lbs