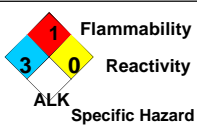

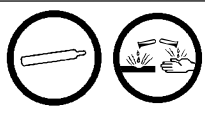



NFPA Classification	DOT / TDG Pictograms	WHMIS Classification	HMIS	PROTECTIVE CLOTHING
			Health 3 Flammability 1 Reactivity 1 PPE H	

## Section I. Chemical Product and Company Identification

**PRODUCT NAME/ TRADE NAME** Anhydrous Ammonia

**SYNONYM** This Material Safety Data Sheet applies to the following Agrium products:

Anhydrous Ammonia, Agricultural Grade 82-0-0 Borger Production, Carseland Production, Fort Saskatchewan Production, Joffre Production, Kenai Production, and Redwater Production

Anhydrous Ammonia, Fertilizer Grade, 82-0-0  
 Anhydrous Ammonia, Metallurgical Grade  
 Anhydrous Ammonia, Industrial Grade

Synonyms:  
 82-0-0  
 Anhydrous Ammonia  
 Liquefied ammonia  
 Ammonia, Anhydrous, Standard Grade  
 Ammonia, Anhydrous, Commercial Grade

**MSDS NUMBER:** 16003

**CHEMICAL NAME** Ammonia

**REVISION NUMBER** 1.2

**CHEMICAL FAMILY** Alkali

**MSDS prepared by** March 25, 2009  
 the Environment,  
 Health and Safety  
 Department on:

**CHEMICAL FORMULA** NH<sub>3</sub>

**MATERIAL USES** Agricultural industry: Fertilizer.  
 Industrial applications: Manufacture of chemicals, synthetic fibers, cleaning solutions, and specialty fertilizers.

### 24 HR EMERGENCY TELEPHONE NUMBER:

Transportation: 1-800-792-8311  
 Medical: 1-888-670-8123

#### MANUFACTURER

Agrium  
 North American Wholesale  
 13131 Lake Fraser Drive, S.E.  
 Calgary, Alberta, Canada, T2J 7E8

Agrium U.S. Inc.  
 Suite 1700, 4582 South Ulster St.  
 Denver, Colorado, U.S.A., 80237

#### SUPPLIER

Agrium  
 North American Wholesale  
 13131 Lake Fraser Drive, S.E.  
 Calgary, Alberta, Canada, T2J 7E8

Agrium U.S. Inc.  
 Suite 1700, 4582 South Ulster St.  
 Denver, Colorado, U.S.A., 80237

**Section II. Composition / Information on Ingredients**

NAME	CAS #	Exposure Limits (ACGIH)						% by Weight
		TLV-TWA mg/m <sup>3</sup>	TLV-TWA ppm	STEL mg/m <sup>3</sup>	STEL ppm	CEIL mg/m <sup>3</sup>	CEIL ppm	
Ammonia anhydrous Water	7664-41-7 7732-18-5	17	25	24	35			99.5-99.8 0.2-0.5

## ACGIH TLV notations:

---- No assigned TLV

(C) - Ceiling - the concentration not to be exceeded at any time

(I) - measured as the Inhalable fraction of the aerosol

(R) - measured as the Respirable fraction of the aerosol

(T) - measured as the Thoracic fraction of the aerosol

**TOXICOLOGICAL DATA ON INGREDIENTS Anhydrous Ammonia 82-0-0:**

TFI Product Testing Program Results:

GAS LC<sub>50</sub> Acute: 4,230-19,960 ppm Rat, Mouse 1 hour.

Ecotoxicity: Acute fish toxicity, LC<sub>50</sub>, 96 hr, various species, 0.09-3.51 mg un-ionized ammonia/L;  
Acute aquatic invertebrate toxicity, Daphnia magna, 48 hr ASTM E-729-80 protocol, LC<sub>50</sub>, 2.94 mg un-ionized ammonia N/L

Acute toxicity to terrestrial plants, various species, 4 min-16hrs, foliar injury: LOEC 3-250 ppm, species dependent.

**Section III. Hazards Identification.****POTENTIAL ACUTE HEALTH EFFECTS**

Ammonia gas or liquid is very corrosive to body tissues, reacting with body moisture on contact.

## Inhalation:

The odour recognition threshold for ammonia ranges from 0.7 PPM for persons with an acute sense of smell to over 50 PPM for acclimatized individuals. Generally, concentrations of up to 25 PPM are tolerated although unpleasant and pungent. Above this concentration, irritation of the eyes, nose and throat may begin. The extent of irritation increases with increasing ammonia concentration, and decreases with acclimatization.

NIOSH has established 300 PPM as the concentration immediately dangerous to life and health (IDLH), which is defined as the concentration above which self-rescue may be difficult or impossible due to physiological effects. At concentrations above 1000 PPM increasing chest tightness, bronchospasm and severe eye and skin irritation may result. Delayed effects such as chemical pneumonitis and pulmonary edema may develop several hours after exposure. Exposure to high concentrations (5,000 ppm) may cause death. Effects may be more pronounced at lower concentrations in children, the elderly, and persons with impaired lung function.

## Eyes:

Exposure to high gas concentrations may cause temporary or permanent eye damage. Direct contact of the eyes with liquid ammonia will produce serious eye burns. Excessive exposure to gaseous or liquid ammonia may result in permanent blindness.

## Skin:

Contact with liquid or high concentrations of gas may cause severe skin irritation, chemical burns, and blistering. Contact with vaporizing liquid may cause frostbite due to rapid evaporative cooling. Cooling effect may mask the extent of the corrosive injury received.

## Ingestion:

Ingestion is not a likely route of exposure due to the physical state of the substance (a compressed, liquified gas).

**POTENTIAL CHRONIC HEALTH EFFECTS**

**CARCINOGENIC EFFECTS:** NONE by ACGIH, EPA, IARC, OSHA.

**MUTAGENIC EFFECTS:** NONE by ACGIH, EPA, IARC, OSHA.

**TERATOGENIC EFFECTS:** NONE by ACGIH, EPA, IARC, OSHA.

The substance is harmful to the lungs and mucous membranes. Repeated or prolonged exposure to the substance can produce target organ damage. Sub-acute and chronic exposures to concentrations of 100-200 ppm may result in eye irritation while concentrations of 200-1000 ppm may produce eye damage.

Continued on Next Page

**Section IV. First Aid Measures**

<b>EYE CONTACT</b>	Immediately flush eyes with water for 60 minutes or longer keeping eyelids open. Obtain immediate medical attention. Continue to flush eyes, if possible, while transporting to medical care.
<b>MINOR SKIN CONTACT</b>	Dermal contact may freeze tissue and cause severe skin irritation or chemical burns. Immediately flush with water for a minimum of 60 minutes while removing contaminated clothing. Obtain immediate medical attention. Continue to flush, if possible, while being transported to medical care. Safety showers, dunk tanks or other methods may be used to flush.
<b>EXTENSIVE SKIN CONTACT</b>	No additional information.
<b>MINOR INHALATION</b>	Loosen tight clothing. Allow to rest in a well ventilated area. Give artificial respiration if breathing has stopped. Obtain immediate medical attention.
<b>SEVERE INHALATION</b>	<p>If gases or vapors are present, rescuers must wear self-contained breathing apparatus and an impervious (Level A) encapsulating suit if subject to US OSHA requirements. (29CFR 1910.120 has been deemed to overrule the lesser protection requirements given in 1910.111) In other jurisdictions or if responding under D.O.T. rules (49CFR) full bunker gear or Level B clothing may suffice.</p> <p>Evacuate affected persons to a safe area as soon as possible. Loosen tight clothing around the neck and waist. If the person is not breathing, perform artificial respiration. If breathing is difficult, administer oxygen. Maintain an open airway. Obtain immediate medical attention. Observation may be warranted. Pulmonary edema may occur several hours after exposure.</p>
<b>SLIGHT INGESTION</b>	<p>If anhydrous ammonia has entered the mouth or throat, begin resuscitation or artificial respiration avoiding mouth to mouth contact and continue until the person is breathing. Administer oxygen if available.</p> <p>Do not induce vomiting. Quickly transport the person to an emergency care facility. Removal of the substance from the stomach must be done by medical personnel. If tolerated, give no more than 1 cup of milk or water to rinse the mouth and throat and dilute the stomach contents. No more than 8 ounces (1 cup) in adults and 4 ounces (1/2 cup) in children is recommended to minimize the risk of vomiting. If spontaneous vomiting does occur, lower the head so that the vomit will not reenter the mouth and throat. Rinse mouth with water.</p>
<b>EXTENSIVE INGESTION</b>	No additional information.

**Section V. Fire and Explosion Data**

<b>THE PRODUCT IS</b>	Combustible. Product will burn with difficulty if kept between the LEL of 16% and UEL of 25%. This gas is generally regarded as non-flammable due to the difficulty of ignition. However, the presence of oil or other combustible materials will increase the fire hazard, and may ignite with explosive force under favorable conditions.
<b>AUTO-IGNITION TEMPERATURE</b>	651.1°C (1204°F)
<b>FLASH POINT</b>	Not applicable. Material exists as a gas unless confined under pressure.
<b>FLAMMABILITY LIMITS</b>	LOWER: 16% UPPER: 25%
<b>PRODUCTS OF COMBUSTION</b>	Nitrogen oxides (NO, NO <sub>2</sub> ...).
<b>FIRE HAZARD IN THE PRESENCE OF VARIOUS SUBSTANCES</b>	May ignite in the presence of open flames and sparks. Narrow lower to upper flammability limits (16-25%) makes ignition difficult but not impossible. The presence of oil or other combustible materials will increase the fire hazard.
<b>EXPLOSION HAZARD IN THE PRESENCE OF VARIOUS SUBSTANCES</b>	Slightly explosive in the presence of reducing materials (hypochlorites or other halogenated compounds). Ammonia is not readily ignited but a mixture of ammonia and air will explode when ignited under favorable conditions.

Continued on Next Page

**FIRE FIGHTING MEDIA AND INSTRUCTIONS**

Corrosive. If gases or vapours are present, rescuers must wear self-contained breathing apparatus and an impervious (Level A) encapsulating suit if subject to US OSHA requirements. (29CFR 1910.120 has been deemed to overrule the lesser protection requirements given in 1910.111) In other jurisdictions or if responding under D.O.T. rules (49CFR) full bunker gear or Level B clothing may suffice.

Approach from upwind. If anhydrous ammonia catches fire, stop flow of gas or liquid if it may be done safely. Cool containing vessels with water in order to prevent pressure build-up, autoignition or explosion. Move containing vessels from fire if without risk. Use water fog to suppress vapors. Do not direct water into spilled ammonia. Ammonia is a cryogenic liquid which will cool with evaporation thereby limiting vapour release. Fire water at supply temperature will increase liquid ammonia's temperature resulting in greater evaporation. Contain run-off water for treatment.

**SPECIAL REMARKS ON FIRE HAZARDS**

When heated to decomposition it emits toxic fumes. Hazardous Combustion Products: Nitrogen oxides

**SPECIAL REMARKS ON EXPLOSION HAZARDS**

Explosive when mixed with chlorinated materials such as hypochlorites. Will form nitrogen trichloride which explodes spontaneously in air. Ammonia reacts similarly with other halogenated materials.

**Section VI. Accidental Release Measures****SMALL SPILL**

Warn personnel to move away. Keep unprotected personnel upwind of spill area. DO NOT APPROACH LIQUID OR VAPOR CLOUD WITHOUT ENCAPSULATING SUIT AND SCBA. If possible to do so without hazard, isolate leak by shutting off supply of ammonia from containing vessel. Use water fog to suppress airborne vapors from leak or spill.

DO NOT DIRECT WATER INTO SPILLED LIQUID! ANHYDROUS AMMONIA WILL AUTOREFRIGERATE REDUCING VAPOR RELEASE. ADDITION OF WATER WILL WARM CRYOGENIC LIQUID RESULTING IN GREATER GASIFICATION. Contain run-off water for later recovery and treatment. Call emergency number on this MSDS sheet for assistance.

**LARGE SPILL**

Follow precautions for small release, and refer to Emergency Response Guidebook ERG2004, Guide 125 for further information regarding spill control and Isolation/Protective Action Distances Guidelines.

Community Emergency Response Instructions for Sheltering-in-Place:

- \* Stay indoors (unless evacuation has been called by local authorities)
- \* Close all windows and doors, seal with duct tape or wet towels
- \* Shut off furnace, exhaust fans, fireplaces, and air conditioners
- \* Wait for and follow advice from local police or authorities
- \* If smell is very strong, breath through a wet cloth

**Section VII. Handling and Storage****PRECAUTIONS**

Keep ammonia handling facilities and containers locked. Protect against physical damage. Keep storage vessels away from direct heat. Ground all equipment. Keep away from incompatible materials such as oxidizing agents, reducing agents, metals, and acids. Keep children away from ammonia storage and handling equipment.

**STORAGE**

Keep away from combustible materials, heat, and incompatible materials, especially dry or liquid bleach. Ensure facilities are well maintained and emergency response and first aid equipment is readily available. Always ensure there is a nearby source of water for first aid purposes and spill response. Facilities storing or handling ammonia should be equipped with an eyewash and safety shower, or other equipment for emergency decontamination. See requirements under 29 CFR 1910.111.

**Section VIII. Exposure Controls/Personal Protection**

<b>ENGINEERING CONTROLS</b>	Workers must be trained in the safe handling and use of ammonia. Adequate, well engineered systems must be provided for storage, transfer and use. Process block valves, equipment enclosures and other isolation facilities may be necessary. Provide adequate general or local exhaust systems to maintain concentrations within exposure guidelines.
<b>PERSONAL PROTECTION</b>	The personal protective equipment required varies, depending upon your risk assessment.  Respiratory Protection: Use a NIOSH approved chemical cartridge respirator with full facepiece for ammonia concentrations up to 300 PPM. Use a positive pressure (pressure demand) SCBA for concentrations above 300 PPM, for emergency response, or for entry into unknown concentrations.  Eye Protection: Ensure adequate eye protection for your specific work conditions. Use chemical goggles and a face shield or full facepiece air purifying or air supplied respirator.  Skin Protection Ensure splash protection where your risk assessment indicates this hazard. Use butyl rubber, polyurethane, nitrile or gortex coveralls, aprons, suits, boots, or gloves as needed.
<b>PERSONAL PROTECTION IN CASE OF LARGE RELEASE</b>	Under emergency conditions, where contact with liquid anhydrous ammonia or high concentration gas is probable, chemically resistant, gastight totally encapsulating suits with 60 minute positive pressure SCBA are required. For U.S. work sites where respiratory protection is required, ensure that a respiratory protection program meeting 29 CFR 1910.134 requirements is in place.
<b>EXPOSURE LIMITS</b>	ACGIH TLV-TWA: 25 ppm, TLV-STEL: 35 ppm. ALBERTA OEL: TWA: 25 ppm, STEL: 35 ppm U.S. OSHA PEL: 8H TWA 50 ppm (35 mg/m <sup>3</sup> ) NIOSH REL, AMMONIA in air: 10H TWA 25 ppm; STEL 35 ppm; IDLH 300 ppm  AIHA Emergency Response Planning Guidelines: * ERPG-1: <25 PPM for 1 hour. Objectionable odor. * ERPG-2: 25- 150 PPM for 1 hour. Strong objectionable odor, some eye, nose and throat irritation. * ERPG-3: 150-750 PPM for 1 hour. Severe eye and respiratory irritation, without development of life threatening health effects.  National Advisory Committee Acute Exposure Guideline Levels (AEGs): AEG-1 (level above which notable discomfort, irritation could be experienced): 30PPM - all exposure durations AEG-2 (level above which there may be irreversible injury or impaired ability to escape): 10 & 30 minutes - 220ppm, 1hr - 160ppm, 4hr & 8hr - 110ppm AEG-3 (level above which there could be life threatening health effects): 10min - 2700ppm, 30 min - 1600ppm, 1 hr - 1100ppm, 4hrs - 550ppm, 8hrs - 390ppm  Federal, State or Provincial exposure limits may vary by jurisdiction. Consult local authorities for acceptable exposure limits in your area.

**Section IX. Physical and Chemical Properties**

<b>PHYSICAL STATE AND APPEARANCE</b>	Colorless cryogenic liquid or gas.		
<b>MOLECULAR WEIGHT</b>	17.03	<b>COLOR</b>	Colorless.
<b>pH (10% SOLN/WATER)</b>	12	<b>ODOR</b>	Ammoniacal. (Strong.)
<b>BOILING POINT</b>	-33.35°C (-28°F)	<b>ODOR THRESHOLD</b>	~17 ppm (recognition)
<b>MELTING POINT</b>	-77.7°C (-107.9°F)	<b>TASTE</b>	Burning. (Strong.)
<b>CRITICAL TEMPERATURE</b>	Not available.	<b>VOLATILITY</b>	100% (w/w).
<b>SPECIFIC GRAVITY g/cc</b>	0.62 (Water = 1)	<b>SOLUBILITY</b>	Easily soluble in cold or hot water.
<b>BULK DENSITY kg/m<sup>3</sup> ; lbs/ft<sup>3</sup></b>		<b>DISPERSION PROPERTIES</b>	See solubility in water, methanol.

Continued on Next Page

	620 kg/m <sup>3</sup> ; 5.04 lbs/gal (US)		
VAPOR PRESSURE	125 psi at 68°F (20°C)	WATER/OIL DIST. COEFF.	The product is more soluble in water.
VAPOR DENSITY	0.6 (Air = 1)		

**Section X. Stability and Reactivity Data**

STABILITY	The product is stable.
INSTABILITY TEMPERATURE	Not available.
CONDITIONS OF INSTABILITY	No additional information.
INCOMPATIBILITY WITH VARIOUS SUBSTANCES	Extremely reactive or incompatible with acids. Highly reactive with oxidizing agents and reducing agents. Do not use copper, brass, bronze, or galvanized steel in contact with ammonia. Do not use brazed joints in ammonia service. Forms explosive compounds with many heavy metals such as mercury or silver. Reacts explosively with chlorine, hypochlorites (such as bleach or dry chlorinating chemicals) and other halogens (bromine, iodine, fluorine).
CORROSIVITY	Highly corrosive to copper and its alloys. Slightly corrosive to aluminum and zinc. Very slightly corrosive to mild steel. Non-corrosive to glass or stainless steel (304 or 316).
SPECIAL REMARKS ON REACTIVITY	Incompatible with halogens, aluminum, copper, brass, and zinc. Incompatible with strong acids.
SPECIAL REMARKS ON CORROSIVITY	Corrosive to brass. Incompatible with copper alloys (stress cracking). Will corrode a wide variety of metals. Contact your sales representative or a metallurgical specialist to ensure compatibility with your equipment.

**Section XI. Toxicological Information**

SIGNIFICANT ROUTES OF EXPOSURE	Inhalation. Eye contact. Skin contact.
TOXICITY TO ANIMALS	See Section II.
SPECIAL REMARKS ON TOXICITY TO ANIMALS	Hazardous for humans or animal life. Corrosive to skin and eyes on contact. Severe over-exposure can produce lung damage, choking, unconsciousness or death. May cause severe eye irritation.
OTHER EFFECTS ON HUMANS	Slightly to very dangerous in case of skin contact, eye contact, or inhalation. Material may be irritating or corrosive.
SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS	Exposure can cause coughing, chest pains, difficulty in breathing. Repeated significant overexposure can cause permanent lung function damage, edema and chemical pneumonitis. May cause serious damage to the eyes.
SPECIAL REMARKS ON OTHER EFFECTS ON HUMANS	No additional remark.

**Section XII. Ecological Information**

ECOTOXICITY	Hazardous for humans or animal life. Ammonia is a toxic hazard to fish. In low concentrations in water and soil, ammonia acts as a fertilizer to promote plant growth. Under aerobic conditions ammonia will oxidize to nitrate and is neither persistent nor bioaccumulative in the environment. Sub-lethal concentrations in water can have adverse physiological effects on marine species. Free ammonia concentrations of 2.5 mg per litre at pH 7.4 to 8.5 are considered harmful to marine life. In water, free NH <sub>3</sub> is considered to be the primary toxic form while the much more prevalent NH <sub>4</sub> OH form is much less harmful.
BOD and COD	Not available.
PRODUCTS OF DEGRADATION	Nitrogen oxides (NO,NO <sub>2</sub> ...), nitrates.



Continued on Next Page

<b>TOXICITY OF THE PRODUCTS OF DEGRADATION</b>	The products of degradation are less toxic than the original product.
<b>SPECIAL REMARKS ON THE PRODUCTS OF DEGRADATION</b>	Product may degrade water quality and taste. Notify downstream water users. Will dissolve and disperse in water.

**Section XIII. Disposal Considerations**

<b>WASTE DISPOSAL OR RECYCLING</b>	Call for assistance on treatment and disposal. Recover and place material in a suitable container for intended use or disposal. Ensure disposal complies with government requirements and local regulations.
------------------------------------	--

**Section XIV. Transport Information**

<b>DOT / TDG CLASSIFICATION</b>	<p>Canada: TDG (Clear Language Regulations) Class 2.3: Toxic compressed gas. Subsidiary Class 8 Corrosive.</p> <p>U.S. DOT Classification under §172.101 for shipments originating in the United States for U.S. domestic destinations only: DOT Class 2.2: Non-flammable compressed gas.</p> <p>DOT Classification for International Shipments, including empties being returned is: DOT Class 2.3: Poison Gas</p> <p>Shipping documents must have the words "Inhalation Hazard" entered in association with the shipping description, and each bulk package shall have the words "Inhalation Hazard" marked on two opposite sides of the package. Size of the markings must conform to the requirements of §172.302(b).</p> <p><b><u>For shipments between Canada and the United States:</u></b></p> <p>Ammonia shipments between both countries, including empty or residue railcars or trucks is regulated under DOT Special Permit 14755. Recent changes in Transport Canada's Transportation of Dangerous Goods Regulations has changes the classification of Anhydrous Ammonia from Class 2.2 to Class 2.3. Shipment of anhydrous ammonia within Canada using the DOT green 2.2 Placard are prohibited.</p> <p>Shipments originating within Canada going to the United States will be placarded with the new Transport Canada White UN 1005 Anhydrous Ammonia Placard. DOT Special Permit 14755 allows shipments to proceed from Canada to destinations in the United States with this placard. DOT Special Permit 14755 also allows shipments to proceed from the United States to Canada using the new UN 1005 Anhydrous Ammonia Placard. Carriers must have a current copy of the the Special Permit on board. A copy of the Special Permit must also be maintained at the place of shipment origin.</p> <p>Domestic shipments within the U.S. must continue to use the green DOT 2.2 Non-flammable compressed gas placard.</p>
<b>PIN and Shipping Name</b>	Shipping name: AMMONIA, ANHYDROUS PIN: UN1005
<b>SPECIAL PROVISIONS FOR TRANSPORT</b>	49 CFR 172.102: (I) 4, N87, T50 (D) 13, T50
<b>DOT (U.S.A) (Pictograms)</b>	 

**Section XV. Other Regulatory Information and Pictograms**

**OTHER REGULATIONS**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).  
 TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.  
 CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): This product is on the Domestic Substances List (DSL), and acceptable for use under the provisions of CEPA.  
 CERCLA: If the reportable quantity of this product is accidentally spilled, the incident is subject to the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and must be reported to the National Response Centre by calling (800) 424-8802. The reportable spill quantity of this product is 100 lbs.  
 SARA HAZARD CATEGORY: This product has been revised according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:  
     Immediate Health, Delayed Health, Fire, Sudden Release of Pressure, Reactive  
 This product contains the following Section 313 reportable ingredient:  
     Ammonia Cas # 7664-41-7 Maximum %: 100.0  
 Subject to the provisions of 40 CFR Part 68 Subpart G - Risk Management Plan if stored in quantities in excess of 10,000 lbs.  
 CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986 (CA Health and Safety Code Sec 25249.5):  
     This product contains no chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.  
 This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations:  
     WHMIS CLASS A: Compressed gas.  
     WHMIS CLASS E: Corrosive gas.

**OTHER CLASSIFICATIONS**

<b>HCS (U.S.A.)</b>	HCS CLASS: Toxic.
<b>DSCL (EEC)</b>	R10- Flammable. R23- Toxic by inhalation. R34- Causes burns. R50- Very toxic to aquatic organisms.

**National Fire Protection Association (U.S.A.)**

Hazards presented under acute emergency conditions only:

Health



**Fire Hazard  
Reactivity**

**Specific Hazard**

**TDG (Pictograms - Canada)**



**DSCL (Europe) (Pictograms)**



**ADR (Europe) (Pictograms)**



**Section XVI. Other Information****REFERENCES**

-Transportation of Dangerous Goods Act and Clear Language Regulations, current revision.  
 -Canada Gazette Part II, Vol. 122, No. 2 Registration SOR/88-64 31 December, 1987  
 Hazardous Products Act "Ingredient Disclosure List".  
 -Domestic Substances List, Canadian Environmental Protection Act.  
 -29 CFR Part 1910  
 -33 CFR Parts 151, 153, 154, 156  
 -40 CFR Parts 1-799  
 -46 CFR Part 153  
 -49 CFR Parts 1-199  
 -American Conference of Governmental Industrial Hygienists, Threshold Limit Values for  
 Chemical Substances, 2009.  
 -NFPA 704, National Fire Codes Online, National Fire Protection Association, current edition at  
 time of MSDS preparation.  
 -Corrosion Data Survey, Sixth Edition, 1985, National Association of Corrosion Engineers  
 -ERG2008 Emergency Response Guidebook;  
 -CHRIS: Hazardous Chemical Data: U.S. Department of Transportation, U.S. Coast Guard,  
 Washington, D.C.;  
 -HSDB: Hazardous Substances Data Bank. National Library of Medicine, Bethesda, Maryland;  
 -IRIS: Integrated Risk Information System. U.S. Environmental Protection Agency, Washington,  
 D.C.;  
 -NIOSH: Pocket Guide to Chemical Hazards. National Institute for Occupational Safety and  
 Health, Cincinnati, Ohio;  
 -OHM/TADS: Oil and Hazardous Materials Technical Assistance Data System. U.S.  
 Environmental Protection Agency, Washington, D.C.;  
 -RTECS®: Registry of Toxic Effects of Chemical Substances. National Institute for Occupational  
 Safety and Health, Cincinnati, Ohio

**OTHER SPECIAL  
CONSIDERATIONS**

Transportation information revised, Sec 14, Sec 15.  
 Copies of DOT Special Permit 14755 are available on the web at:  
[http://hazmat.dot.gov/sp\\_app/special\\_permits/docs/14000/SP14755.pdf](http://hazmat.dot.gov/sp_app/special_permits/docs/14000/SP14755.pdf)

**FOR FURTHER SAFETY, HEALTH, OR  
ENVIRONMENTAL INFORMATION ON  
THIS PRODUCT, CONTACT**

**AGRIUM**  
**Wholesale Environment, Health and Safety**  
**Telephone (780) 998-6906 or Fax (780) 998-6677**

**NOTICE TO READER**

**The buyer assumes all risk in connection with the use of this material. The buyer assumes all responsibility for ensuring this material is used in a safe manner in compliance with applicable environmental, health and safety laws, policies and guidelines. Agrium assumes no responsibility or liability for the information supplied on this sheet, including any damages or injury caused thereby. Agrium does not warrant the fitness of this material for any particular use and assumes no responsibility for injury or damage caused directly or indirectly by or related to the use of the material. The information contained in this sheet is developed from what Agrium believes to be accurate and reliable sources, and is based on the opinions and facts available on the date of preparation.**