

NFPA Classification	DOT / TDG Pictograms	WHMIS Classification	HMIS		PROTECTIVE CLOTHING
			Health	0	
			Flammability	0	
			Reactivity	0	
			PPE	n	

## Section I. Chemical Product and Company Identification

**PRODUCT NAME/ TRADE NAME** Urea Ammonium Phosphate Potassium Liquid Fertilizers

**SYNONYM** This Material Safety Data Sheet is applicable to all Agrium Urea Ammonium Phosphate Potassium Liquid fertilizers including, but is not limited to:  
  
5-10-10 Urea Ammonium Phosphate Potassium Liquid

**MSDS NUMBER:** 12621

**CHEMICAL NAME** Not available.

**REVISION NUMBER** 4.7

**CHEMICAL FAMILY** Ammonium salt.

**MSDS prepared by** the Environment, Health and Safety Department on: December 6, 2006

**CHEMICAL FORMULA** Not available.

**24 HR EMERGENCY TELEPHONE NUMBER:**

**MATERIAL USES** Agricultural industry: Fertilizer.

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

### 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

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## Section II. Hazardous 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	
No regulated components.								

### 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

#### Ammonium Polyphosphate Solution TFI Product Testing Program:

Acute oral LD<sub>50</sub>, OECD 425 protocol: >2,000 mg/kg, rat

Acute dermal LD<sub>50</sub>, OECD 402 protocol: >5,000 mg/kg, rat

#### Ecotoxicity:

Acute fish toxicity, 96hr LC<sub>50</sub>, OECD 203 protocol, rainbow trout: >101 mg/L

#### Potash TFI Product Testing Program Results:

Acute oral toxicity: 2,600 mg/kg rat; 1,500 mg/kg mouse

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Ecotoxicity:  
 Acute toxicity to fish, species unspecified, LC<sub>50</sub>, 96hr: 2,010 mg/L  
 Acute toxicity to invertebrates, Daphnia, 48hr TLM 337mg/L

This product and its components are not considered hazardous according to WHMIS (Canada) HSC, (United States) and DSCL (Europe).

**Urea TFI Product Testing Program Results 46-0-0:**

Acute oral toxicity: 14,300 mg/kg rat; 11,500 mg/kg mouse; 510 mg/kg cattle  
 Chronic oral toxicity, NOAEL: 6,750 mg/kg mouse; 2,250 mg/kg rat

Ecotoxicity:  
 Acute toxicity to fish, Barillius barna, LC<sub>50</sub>, 96hr: >9,100 mg/L  
 Acute toxicity to invertebrates, Daphnia, 24Hr EC<sub>50</sub> >10,000 mg/L

**Section III. Hazards Identification.**

**POTENTIAL ACUTE HEALTH EFFECTS**

This product may irritate eyes and skin upon prolonged or repeated contact. Over-exposure by inhalation may cause respiratory tract irritation. Ingestion of this substance may produce irritation of the gastro-intestinal tract, characterized by burning and diarrhea.

**POTENTIAL CHRONIC HEALTH EFFECTS**

**CARCINOGENIC EFFECTS:** NONE by ACGIH, EPA, IARC, NTP, OSHA.  
**MUTAGENIC EFFECTS:** NONE by ACGIH, EPA, IARC, NTP, OSHA.  
**TERATOGENIC EFFECTS:** NONE by ACGIH, EPA, IARC, NTP, OSHA.  
 There is no known effect from chronic exposure to this product.

**Section IV. First Aid Measures**

**EYE CONTACT**

May cause eye irritation. Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Obtain medical attention if irritation persists.

**MINOR SKIN CONTACT**

May cause skin irritation. Wash contaminated skin with soap and water. Cover dry or irritated skin with a good quality skin lotion. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

**EXTENSIVE SKIN CONTACT**

No additional information.

**MINOR INHALATION**

Repeated or prolonged inhalation of mists may lead to respiratory irritation. Loosen tight clothing around the individual's neck and waist. Allow the person to rest in a well ventilated area. Obtain medical attention if irritation persists.

**SEVERE INHALATION**

No additional remark.

**SLIGHT INGESTION**

Do not induce vomiting. Low toxicity. May cause digestive tract irritation, with accompanying nausea, vomiting and diarrhea. If spontaneous vomiting does occur, lower the head so that the vomit will not reenter the mouth and throat.

If tolerated, give no more than 1 cup of milk or water for adults or 1/2 cup for children to rinse the mouth and throat, dilute the stomach contents, and minimize irritation. Obtain medical attention if irritation persists.

**EXTENSIVE INGESTION**

No additional information.

**Section V. Fire and Explosion Data**

THE PRODUCT IS	Non-flammable.
AUTO-IGNITION TEMPERATURE	Not applicable.
FLASH POINT	Not applicable.
FLAMMABILITY LIMITS	Not applicable.
PRODUCTS OF COMBUSTION	Material will not burn, but thermal decomposition may result in flammable/toxic gases being formed after material evaporated to dryness. These products are nitrogen oxides and ammonia (NO, NO <sub>2</sub> , NH <sub>3</sub> ).
FIRE HAZARD IN THE PRESENCE OF VARIOUS SUBSTANCES	Not applicable.
EXPLOSION HAZARD IN THE PRESENCE OF VARIOUS SUBSTANCES	This product is non-explosive.
FIRE FIGHTING MEDIA AND INSTRUCTIONS	Non-flammable. Use extinguishing media suitable for surrounding materials.
SPECIAL REMARKS ON FIRE HAZARDS	Non combustible. Flammable/toxic gases may form at elevated temperatures (>100 °C) by thermal decomposition (ammonia, phosphorus oxides, nitrogen oxides). Avoid temperatures above 100°C (212°F). On evaporation to dryness thermal decomposition may result. Fire fighters should wear self-contained breathing apparatus (SCBA) and full turnout gear.
SPECIAL REMARKS ON EXPLOSION HAZARDS	No additional remark.

**Section VI. Accidental Release Measures**

SMALL SPILL	Absorb with an inert material and place in an appropriate waste disposal container. Ensure disposal complies with local regulations.
LARGE SPILL	Stop leak if possible to do so without risk. Dike and contain spilled material. Ensure that the spilled material does not enter sewers, wells, or watercourses. Product will promote algae growth which may degrade water quality and taste. Notify downstream water users. Pump up spilled material and place in suitable containers for reuse or disposal. Ensure disposal complies with local regulations.

**Section VII. Handling and Storage**

PRECAUTIONS	After handling, always wash hands thoroughly with soap and water. Avoid contact with skin and eyes. Keep away from food, drink and animal feed. Avoid contact with incompatible substances. Keep out of reach of children.
STORAGE	Keep in a cool, well-ventilated location.

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

ENGINEERING CONTROLS	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate mists, use ventilation to keep exposure to airborne contaminants below the exposure limit.
PERSONAL PROTECTION	<p>The selection of personal protective equipment varies, depending upon conditions of use. Under well controlled conditions where contact with the substance is limited and exposures are below the occupational exposure limit, normal work clothing may suffice. Where skin and eye contact may occur as a result of brief periodic exposures, wear long sleeved clothing or coveralls and safety glasses with side shields.</p> <p>Wear appropriate respirator when ventilation is inadequate. A filtering facepiece dust mask is adequate for most applications. A NIOSH approved full facepiece or half mask dust respirator with N-100 or P-100 filters should be used under conditions where airborne concentrations may exceed occupational exposure limits. A respiratory protection program that meets OSHA</p>

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	29 CFR 1910.134 requirements must be followed whenever workplace conditions warrant a respirator's use.
<b>PERSONAL PROTECTION IN CASE OF LARGE RELEASE</b>	No additional information.
<b>EXPOSURE LIMITS</b>	<p>Alberta TWA: 10 mg/m<sup>3</sup> Inhalable, 3 mg/m<sup>3</sup> Respirable, for Particulate Not Otherwise Regulated.</p> <p>Fed OSHA PEL: 15 mg/m<sup>3</sup> Total dust, 5 mg/m<sup>3</sup> Respirable fraction, for Particulates Not Otherwise Regulated.</p> <p>Federal, State or Provincial exposure limits may vary by jurisdiction. Consult local authorities for acceptable exposure limits in your area.</p>

**Section IX. Physical and Chemical Properties**

<b>PHYSICAL STATE AND APPEARANCE</b>	Liquid. (Clear to slightly hazy liquid.)		
<b>MOLECULAR WEIGHT</b>	Not available.	<b>COLOR</b>	Clear green.
<b>pH (10% SOLN/WATER)</b>	6	<b>ODOR</b>	Odorless.
<b>BOILING POINT</b>	100 °C	<b>ODOR THRESHOLD</b>	17 PPM (Ammonia)
<b>MELTING POINT</b>	Approximate salt out temperature: -12°C (10°F) Values may differ by formulation.	<b>TASTE</b>	Acid. Saline.
<b>CRITICAL TEMPERATURE</b>	Not available.	<b>VOLATILITY</b>	Not available.
<b>SPECIFIC GRAVITY g/cc</b>	1.14 (Water = 1)	<b>SOLUBILITY</b>	Easily soluble in cold water, hot water.
<b>BULK DENSITY kg/m<sup>3</sup> ; lbs/ft<sup>3</sup></b>	~1140 kg/m <sup>3</sup> ; 71.2 lbs/ft <sup>3</sup> ; ~9.5 lbs/gal (US) Values may differ by formulation.	<b>DISPERSION PROPERTIES</b>	Easily dispersed in any proportion in cold water and hot water.
<b>VAPOR PRESSURE</b>	Not available.	<b>WATER/OIL DIST. COEFF.</b>	Not available.
<b>VAPOR DENSITY</b>	Not available.		

**Section X. Stability and Reactivity Data**

<b>STABILITY</b>	The product is stable.
<b>INSTABILITY TEMPERATURE</b>	Not available.
<b>CONDITIONS OF INSTABILITY</b>	No additional remark.
<b>INCOMPATABILITY WITH VARIOUS SUBSTANCES</b>	Very slightly reactive with oxidizing agents, reducing agents, metals, alkalis. Non-reactive with combustible materials, organic materials, acids, moisture.
<b>CORROSIVITY</b>	Slightly corrosive to mild steel, aluminum, zinc, and copper. Non-corrosive to stainless steel (304 or 316).
<b>SPECIAL REMARKS ON REACTIVITY</b>	No additional remark.
<b>SPECIAL REMARKS ON CORROSIVITY</b>	Incompatible with copper alloys. Corrosive to brass. Corrosive to ferrous metals and alloys. Contact your sales representative or a metallurgical specialist to ensure compatability with system equipment.

**Section XI. Toxicological Information**

<b>SIGNIFICANT ROUTES OF EXPOSURE</b>	Ingestion. Inhalation.
<b>TOXICITY TO ANIMALS</b>	See Section II.
<b>SPECIAL REMARKS ON TOXICITY TO ANIMALS</b>	The product itself and its products of degradation are not toxic under normal conditions of use. Will release ammonium ions. Ammonia is a toxic hazard to fish. The product itself and its products of degradation are not harmful under normal conditions of use. May be harmful to livestock and wildlife if ingested. Clean up all spilled material, especially where bulk fertilizer loading of equipment occurs to prevent animal exposure.
<b>OTHER EFFECTS ON HUMANS</b>	Our data base contains no additional remark on the toxicity of this product
<b>SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS</b>	No additional remark.
<b>SPECIAL REMARKS ON OTHER EFFECTS ON HUMANS</b>	No additional remark.


**Section XII. Ecological Information**

<b>ECOTOXICITY</b>	Very low toxicity for humans or animals. The product itself and its products of degradation are not toxic under normal conditions of use. Will release ammonium ions. Ammonia is a toxic hazard to fish. Non-persistent. Non-cumulative when applied using normal agricultural practises. The product itself and its products of degradation are not harmful under normal conditions of careful and responsible use. U.S. D.O.T.: This material is NOT listed as a Marine pollutant.
<b>BOD and COD</b>	Not available.
<b>PRODUCTS OF DEGRADATION</b>	Nitrogen oxides (NO,NO <sub>2</sub> ). Phosphates. Inorganic mineral salts and oxides.
<b>TOXICITY OF THE PRODUCTS OF DEGRADATION</b>	The product itself and its products of degradation are not harmful under normal conditions of use. Avoid spills or releases to watercourses.
<b>SPECIAL REMARKS ON THE PRODUCTS OF DEGRADATION</b>	Product will promote algae growth which may degrade water quality and taste. Notify downstream water users. Will disperse in water. Reclaiming material may not be viable.

**Section XIII. Disposal Considerations**

<b>WASTE DISPOSAL OR RECYCLING</b>	Pump up spilled material and place in suitable containers for reuse or disposal. Ensure disposal complies with government requirements and local regulations.
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**Section XIV. Transport Information**

<b>DOT / TDG CLASSIFICATION</b>	Not controlled under DOT (US) or TDG (Canada).
<b>PIN and Shipping Name</b>	Not applicable.
<b>SPECIAL PROVISIONS FOR TRANSPORT</b>	No additional remark.
<b>DOT (U.S.A) (Pictograms)</b>	

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

**OTHER REGULATIONS** CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): This product is on the Domestic Substances List (DSL), and acceptable for use under the provisions of CEPA.  
 TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.  
 CERCLA/SUPERFUND, 40 CFR 117,302: This product contains no Reportable Quantity (RQ) Substances.  
 This product is not considered as a priority pollutant as regulated under the Clean Water Act.  
 This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:  
 Aqueous ammonia from water dissociable ammonium ions, 10% of which is reportable under this listing, as CAS#7783-28-0 and/or as CAS#7722-76-1. Refer to the specific product analysis for your product, and EPA Document 745-R-00-005 to determine your reporting requirements under this regulation.  
 This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and is not subject to control under WHMIS (Canada), or the Hazcom Standard (US).

<b>OTHER CLASSIFICATIONS</b>	<b>HCS (U.S.A.)</b>	Not controlled under the HCS (United States).
	<b>DSCL (EEC)</b>	Not controlled under DSCL (Europe).

<b>National Fire Protection Association (U.S.A.)</b>	Hazards presented under acute emergency conditions only:		<b>Fire Hazard</b>
			<b>Reactivity</b>
			<b>Specific Hazard</b>

<b>TDG (Pictograms - Canada)</b>	
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<b>DSCL (Europe) (Pictograms)</b>	
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<b>ADR (Europe) (Pictograms)</b>	
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**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, 2006.
- 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
- TOMES® System: Heitland G & Hurlbut KM (Eds) (electronic version): MICROMEDEX, Greenwood Village, Colorado, USA. Available at: <http://csi.micromedex.com> (2006). The TOMES® System includes MEDITEXT® Medical Management; HAZARTEXT® Hazard Management; INFOTEXT® Documents; ERG2000 Emergency Response Guidebook

Documents; REPROTEXT®: Heitland G & Hurlbut KM (Eds); CHRIS Hazardous Chemical Data: U.S. Department of Transportation, U.S. Coast Guard, Washington, D.C. (2006); HSDB: Hazardous Substances Data Bank. National Library of Medicine, Bethesda, Maryland (2006); IRIS: Integrated Risk Information System. U.S. Environmental Protection Agency, Washington, D.C. (2006); NIOSH: Pocket Guide to Chemical Hazards. National Institute for Occupational Safety and Health, Cincinnati, Ohio (2006); OHM/TADS: Oil and Hazardous Materials Technical Assistance Data System. U.S. Environmental Protection Agency, Washington, D.C. (2006); REPROTOX®: Scialli A.R. Georgetown University Medical Center and Reproductive Toxicology Center, Columbia Hospital for Women Medical Center, Washington, D.C. (2006); RTECS®: Registry of Toxic Effects of Chemical Substances. National Institute for Occupational Safety and Health, Cincinnati, Ohio (2006); and SHEPARDS: Shepard T.H.: Shepard's Catalog of Teratogenic Agents (2006).  
-The Fertilizer Institute Product Testing Program Results, March 2003  
-Alberta Workplace Health and Safety, Occupational Health and Safety Code

**OTHER SPECIAL  
CONSIDERATIONS**

HMIS information added in this revision.

**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

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