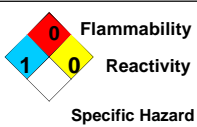





NFPA Classification	DOT / TDG Pictograms	WHMIS Classification	HMIS		PROTECTIVE CLOTHING
			Health Flammability Reactivity PPE	1 0 0 A	

Section I. Chemical Product and Company Identification

PRODUCT NAME/ TRADE NAME Super Rainbow Plant Food 10-30-5

SYNONYM This MSDS is applicable to all Agrium Rainbow Plant Foods containing Ammonium Phosphate (MAP or DAP), Ammonium Sulfate, and depending on formulation, Potash and/or Urea with greater than 1% by weight of compounds containing Zinc.

MSDS NUMBER: 16033c

CHEMICAL NAME Not applicable. A homogenously granulated product.

REVISION NUMBER 1.0

CHEMICAL FAMILY Ammonium salt.

MSDS prepared by March 29, 2008
the Environment,
Health and Safety
Department on:

CHEMICAL FORMULA Not applicable.

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

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 ³	TLV-TWA ppm	STEL mg/m ³	STEL ppm	CEIL mg/m ³	CEIL ppm	
Monoammonium phosphate	7722-76-1	----						0-70
Diammonium phosphate	7783-28-0	---						0-70
Ammonium sulfate	7783-20-2	----						10-30
Potassium chloride	7447-40-7	---						5 as K ₂ O
Zinc oxide	1314-13-2	2 (R)						2 as Zn
Calcium sulfate	10101-41-4	10 (I)						5-10

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

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TOXICOLOGICAL DATA ON INGREDIENTS	<p>Monoammonium Phosphate (MAP) TFI Product Testing Program Results: Acute oral LD₅₀, rat, OECD 425 protocol: >2,000 mg/kg. MAP is not acutely toxic by the oral route of exposure. Acute dermal LD₅₀, rat, OECD 402 protocol: >5,000 mg/kg. MAP is not acutely toxic by the dermal route of exposure.</p> <p>Dibasic Ammonium phosphate (DAP) TFI Product Testing Results, OECD 402 acute dermal toxicity: LD₅₀: > 5,000 mg/kg rat, not acutely toxic TFI Product Testing Results, OECD 425 acute oral toxicity: LD₅₀: > 2,000 mg/kg rat, not acutely toxic TFI Product Testing Results, OECD 201 green algae acute toxicity testing, no toxicity observed at up to 97.1 mg/L (highest conc tested); growth stimulated at 6.4 mg/L and higher. Ecotoxicity: Acute fish toxicity, 96hr LC₅₀, rainbow trout, OECD 203 protocol: >85.9 mg/L. The acute toxicity of MAP to fish is low.</p> <p>Ammonium Sulfate TFI Product Testing Program Results: Acute oral LD₅₀: 640-4,250 mg/kg (rat, mouse) Acute dermal LD₅₀: >2,000 mg/kg (rat, mouse) Ecotoxicity: Acute toxicity to fish, various species, 96 hr LC₅₀: >13.6-159.8 mg total NH₃/L Acute toxicity to aquatic invertebrates, Daphnia, 96 hr LC₅₀: >27 mg total NH₃/L</p> <p>Potash TFI Product Testing Program Results: Acute oral toxicity: 2,600 mg/kg rat; 1,500 mg/kg mouse Ecotoxicity: Acute toxicity to fish, species unspecified, LC₅₀, 96hr: 2,010 mg/L Acute toxicity to invertebrates, Daphnia, 48hr TLm 337mg/L</p> <p>Zinc oxide Mouse oral LD50, Acute: 7950 mg/kg, RTECS.</p> <p>Calcium sulfate LC₅₀/LD₅₀: not available - RTECS</p>
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Section III. Hazards Identification.

POTENTIAL ACUTE HEALTH EFFECTS	<p>This product may irritate eyes and skin upon prolonged or repeated contact due to mechanical or desiccant action. 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.</p>
POTENTIAL CHRONIC HEALTH EFFECTS	<p>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.</p>

Section IV. First Aid Measures

EYE CONTACT	<p>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.</p>
MINOR SKIN CONTACT	<p>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.</p>
EXTENSIVE SKIN CONTACT	<p>No additional information.</p>
MINOR INHALATION	<p>Repeated or prolonged inhalation of dust 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.</p>

SEVERE INHALATION	In emergency situations use proper respiratory protection to evacuate affected individuals to a safe area as soon as possible. Loosen tight clothing around the person's neck and waist. Oxygen may be administered if breathing is difficult. If the person is not breathing, perform artificial respiration. Obtain immediate medical attention.
SLIGHT INGESTION	Do not induce vomiting. 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. Undergoes thermal decomposition at elevated temperatures to release toxic and combustible gases: ammonia, nitrogen oxides, sulfur oxides, phosphorous oxides.
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	Material will not burn. Undergoes thermal decomposition at elevated temperatures to release toxic and combustible gases. Use extinguishing media suitable for surrounding materials. Fire fighters should wear self-contained breathing apparatus (SCBA) and full turnout gear.
SPECIAL REMARKS ON FIRE HAZARDS	Non combustible. Flammable/toxic gases will form at elevated temperatures (>190 °C) by thermal decomposition (ammonia, sulfur oxides, nitrogen oxides, phosphorus oxides). A self contained breathing apparatus should be used to avoid inhalation of toxic fumes.
SPECIAL REMARKS ON EXPLOSION HAZARDS	No additional remark.

Section VI. Accidental Release Measures

SMALL SPILL	Use appropriate tools to put the spilled solid in a suitable container for intended use or disposal.
LARGE SPILL	Prevent additional discharge of material, if possible to do so without hazard. Prevent spills from entering sewers, watercourses, wells, etc. Product will promote algae growth and may degrade water quality and taste. Notify downstream water users. Sulfate in potable drinking water should be maintained below 250 mg/L. Will dissolve and disperse in water. Reclaiming material may not be viable. Recover and place material in suitable containers for recycle, reuse, or disposal. Ensure disposal complies with government requirements and local regulations.

Section VII. Handling and Storage

PRECAUTIONS	Avoid contact with skin and eyes. After handling, always wash hands thoroughly with soap and water. Do not breathe dust. Keep away from food, drink and animal feed. Avoid contact with incompatible substances. Keep out of reach of children.
STORAGE	Store in a dry, cool and well ventilated area.

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 dust, 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. Where skin and eye contact may occur as a result of brief periodic exposures, wear long sleeved clothing, coveralls, chemical resistant gloves, and safety glasses with side shields.</p> <p>Wear appropriate respiratory protection for dust/mist when ventilation is inadequate. A filtering facepiece dust mask is appropriate 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.</p> <p>If the use of non-disposable half or full facepiece respirators is warranted, a respiratory protection program that meets OSHA 29 CFR 1910.134 requirements must be followed.</p>
PERSONAL PROTECTION IN CASE OF LARGE RELEASE	No additional information.
EXPOSURE LIMITS	<p>Calcium sulfate: ACGIH TLV-TWA 2 mg/m³ as inhalable dust.</p> <p>Zinc oxide: ACGIH TLV-TWA 2 mg/m³; STEL 10 mg/m³ as respirable dust Fed OSHA Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 15 mg/m³ as total dust</p> <p>OSHA PEL: 15 mg/m³ for Particulates Not Otherwise Regulated (nuisance particulates) as total dust.</p> <p>Federal, State, and Provincial exposure limits may vary. Consult local officials for acceptable exposure limits in your jurisdiction.</p>

Section IX. Physical and Chemical Properties

PHYSICAL STATE AND APPEARANCE	Solid granules.		
MOLECULAR WEIGHT	Not applicable.	COLOR	Grey.
pH (10% SOLN/WATER)	5-8	ODOR	Odorless.
BOILING POINT	Decomposes.	ODOR THRESHOLD	Not applicable
MELTING POINT	Not available	TASTE	Acrid and saline.
CRITICAL TEMPERATURE	Not available.	VOLATILITY	Not applicable.
SPECIFIC GRAVITY g/cc	<1 (Water = 1)	SOLUBILITY	Easily soluble in hot water. Soluble in cold water.
BULK DENSITY kg/m³ ; lbs/ft³	Variable depending on formulation	DISPERSION PROPERTIES	See solubility in water.
VAPOR PRESSURE	Not applicable.	WATER/OIL DIST. COEFF.	Not available.
VAPOR DENSITY	Not applicable.		

Section X. Stability and Reactivity Data

STABILITY	The product is stable.
INSTABILITY TEMPERATURE	Not available.
CONDITIONS OF INSTABILITY	No additional remark.
INCOMPATABILITY WITH VARIOUS SUBSTANCES	Slightly reactive with oxidizing agents, metals, alkalis, and moisture.
CORROSIVITY	Corrosive to aluminum, zinc, and copper. Slightly corrosive to steel, and 304 stainless steel. Non-corrosive to 316 stainless steel.
SPECIAL REMARKS ON REACTIVITY	Avoid contact with moisture. Hygroscopic. Material will absorb moisture impairing flowability. Hydrolysis will slowly produce acids corrosive to metals.
SPECIAL REMARKS ON CORROSIVITY	Incompatible with copper alloys. Corrosive to brass. Corrosive to ferrous metals and alloys. Contact your sales representative or a metallurgical specialist to ensure compatibility with your equipment.

Section XI. Toxicological Information

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

Section XII. Ecological Information

ECOTOXICITY	<p>Low toxicity for humans or animals 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.</p> <p>Aquatic/Marine Toxicity: Will release ammonium ions. Ammonia is a toxic hazard to fish. Avoid spills or release to watercourses. Will disperse with current. Release to watercourses may cause effects down stream from the point of release. U.S. D.O.T.: This material NOT listed as a Marine pollutant.</p>
BOD and COD	Not available.
PRODUCTS OF DEGRADATION	Nitrogen oxides (NO, NO ₂ ...), sulfur oxides (SO ₂ , SO ₃ ...), phosphates, inorganic mineral salts and oxides.
TOXICITY OF THE PRODUCTS OF DEGRADATION	The products of biodegradation are not harmful under normal conditions.

Continued on Next Page

SPECIAL REMARKS ON THE PRODUCTS OF DEGRADATION Product will promote algae growth which may degrade water quality and taste. Notify downstream water users. Sulfate in potable drinking water should be maintained below 250 mg/L. Nitrate in potable drinking water should be maintained below 10mg/L. Will dissolve and disperse in water. Reclaiming material may not be viable.

Section XIII. Disposal Considerations

WASTE DISPOSAL OR RECYCLING Recover and place material in a suitable container for intended use or disposal. Ensure disposal complies with government requirements and local regulations.

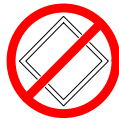
Section XIV. Transport Information

DOT / TDG CLASSIFICATION Not controlled under TDG (Canada) or D.O.T. (U.S.A.)

PIN and Shipping Name Not applicable.

SPECIAL PROVISIONS FOR TRANSPORT Not applicable.

DOT (U.S.A) (Pictograms)



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 as CAS#7783-20-2 and as CAS#7722-76-1 and/or 7783-28-0. Refer to EPA documents 745-R-00-005 and 745-R-00-006, and the specific product analysis for your product 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).

OTHER CLASSIFICATIONS **HCS (U.S.A.)** Not controlled under the HCS (United States).

DSCL (EEC) Not available.

National Fire Protection Association (U.S.A.) Hazards presented under acute emergency conditions only:

Health



Fire Hazard Reactivity

Specific Hazard

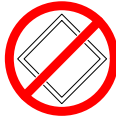
TDG (Pictograms - Canada)



DSCL (Europe)
(Pictograms)

Not Available
No Disponible
Pas Disponible

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, 2007.
- 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
- Expert Publishing, LLC (ExPub on-line version): Denver, Colorado, USA. Available at: <http://www.expub.com/index.aspx>. The EXPUB System includes a collection of over seventy National and International Databases including but not limited to the ATSDR; California and U.S.EPA; CDC; U.S. Department of Transportation; U.S. Coast Guard; European Chemicals Bureau; National Library of Medicine; National Institute for Occupational Safety and Health; Georgetown University Medical Center and Reproductive Toxicology Center; United Nations Environmental Program; World Health Organization; and U.S. OSHA.
- The Fertilizer Institute Product Testing Program Results, March 2003

OTHER SPECIAL CONSIDERATIONS

New product MSDS.

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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