

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

## Section I. Chemical Product and Company Identification

**PRODUCT NAME/ TRADE NAME** Monoammonium Phosphate, MAP 11-52-0

**SYNONYM** This Material Safety Data Sheet applies to the following Agrium products:  
  
11-52-0 Ammonium Phosphate Fertilizer  
10-49-0 Ammonium Phosphate Fertilizer  
10-50-0 Ammonium Phosphate Fertilizer

**MSDS NUMBER:** 16006

**CHEMICAL NAME** Ammonium phosphate

**REVISION NUMBER** 1.3

**CHEMICAL FAMILY** Ammonium salt.

**MSDS prepared by** August 31, 2013  
the Environment,  
Health and Safety  
Department on:

**CHEMICAL FORMULA** NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub>

**MATERIAL USES** Agricultural industry: Fertilizer. Manufacture of specialty fertilizers. Active agent in Type A, B, C, dry powder fire extinguishers.

### 24 HR EMERGENCY TELEPHONE NUMBER:

Transportation: 1-800-792-8311  
Medical: 0-303-389-1653 Collect

**MANUFACTURER**

Various

**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. 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**

**Monoammonium Phosphate TFI Product Testing Program:**

Acute oral LD<sub>50</sub>, rat, OECD 425 protocol: >2,000 mg/kg. MAP is not acutely toxic by the oral route of exposure.

Acute dermal LD<sub>50</sub>, rat, OECD 402 protocol: >5,000 mg/kg. MAP is not acutely toxic by the dermal route of exposure.

**Ecotoxicity:**

Acute fish toxicity, 96hr LC<sub>50</sub>, rainbow trout, OECD 203 protocol: >85.9 mg/L. The acute toxicity of

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MAP to fish is low.

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

### Section III. Hazards Identification.

#### POTENTIAL ACUTE HEALTH EFFECTS

This product may irritate eyes and skin upon prolonged or repeated contact due to mechanical 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.

#### 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 by mechanical abrasion. 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 due to mechanical abrasion and salt effects. Wash contaminated skin with soap and water. Cover dry or irritated skin with a good quality skin lotion. If irritation persists, seek medical attention.

#### EXTENSIVE SKIN CONTACT

No additional information.

#### MINOR INHALATION

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.

#### 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. 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 to rinse the mouth and throat, dilute the stomach contents, and minimize irritation. 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. Obtain medical attention.

#### 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, and phosphorus oxides.

#### FIRE HAZARD IN THE PRESENCE OF VARIOUS SUBSTANCES

Not applicable.

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<b>EXPLOSION HAZARD IN THE PRESENCE OF VARIOUS SUBSTANCES</b>	This product is non-explosive.
<b>FIRE FIGHTING MEDIA AND INSTRUCTIONS</b>	Non combustible. Used as a component in Type ABC fire extinguishers. Material will not burn. Melts at temperatures above 190 °C. Under prolonged high temperature conditions, the product may undergo thermal decomposition to release toxic and combustible gases. Use extinguishing media suitable for surrounding materials.
<b>SPECIAL REMARKS ON FIRE HAZARDS</b>	Non combustible. Flammable and toxic gases may form upon prolonged exposure to elevated temperatures (>190 °C) by thermal decomposition (ammonia, phosphorus oxides, nitrogen oxides). A self contained breathing apparatus should be used to avoid inhalation of toxic fumes.
<b>SPECIAL REMARKS ON EXPLOSION HAZARDS</b>	No additional remark.

**Section VI. Accidental Release Measures**

<b>SMALL SPILL</b>	Use appropriate tools to put the spilled solid in a suitable container for intended use or disposal.
<b>LARGE SPILL</b>	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 which may degrade water quality and taste. Notify downstream water users. 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**

<b>PRECAUTIONS</b>	Avoid contact with skin and eyes. Do not breathe dust. Avoid contact with incompatible substances. Keep out of reach of children.
<b>STORAGE</b>	Store in a dry, cool and well ventilated area.

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

<b>ENGINEERING CONTROLS</b>	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.
<b>PERSONAL PROTECTION</b>	The selection of personal protective equipment varies, depending upon conditions of use. Wear appropriate respiratory protection for dust/mist when ventilation is inadequate. A filtering facepiece dust mask is recommended for most applications if respiratory protection is needed. 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. If the use of respirators is warranted, a respiratory protection program that meets OSHA 29 CFR 1910.134 requirements must be followed.
<b>PERSONAL PROTECTION IN CASE OF LARGE RELEASE</b>	No additional information.
<b>EXPOSURE LIMITS</b>	Fed OSHA PEL: 15 mg/m <sup>3</sup> Total dust, 5 mg/m <sup>3</sup> Respirable fraction, for Particulates Not Otherwise Regulated.  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>	A granular solid.		
<b>MOLECULAR WEIGHT</b>	115.02	<b>COLOR</b>	Light green, brown or grey, depending on source of supply.
<b>pH (10% SOLN/WATER)</b>	5	<b>ODOR</b>	Odorless.
<b>BOILING POINT</b>	Decomposes.	<b>ODOR THRESHOLD</b>	Not applicable
<b>MELTING POINT</b>	190°C	<b>TASTE</b>	Acid. Saline.
<b>CRITICAL TEMPERATURE</b>	Not available.	<b>VOLATILITY</b>	Not applicable.
<b>SPECIFIC GRAVITY g/cc</b>	Not available	<b>SOLUBILITY</b>	Easily soluble in hot water. Slightly soluble in cold water.
<b>BULK DENSITY kg/m<sup>3</sup> ; lbs/ft<sup>3</sup></b>	Variable depending supply source.	<b>DISPERSION PROPERTIES</b>	See solubility in water.
<b>VAPOR PRESSURE</b>	Not applicable.	<b>WATER/OIL DIST. COEFF.</b>	Not available.
<b>VAPOR DENSITY</b>	Not applicable.		

**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>INCOMPATIBILITY WITH VARIOUS SUBSTANCES</b>	Very slightly reactive with oxidizing agents, reducing agents, metals, alkalis, moisture. Non-reactive with combustible materials, organic materials, acids.
<b>CORROSIVITY</b>	Highly corrosive to steel and aluminum. Slightly corrosive to zinc and copper. Non-corrosive to stainless steel (304 or 316).
<b>SPECIAL REMARKS ON REACTIVITY</b>	Avoid contact with moisture. Hydrolysis will slowly produce acids corrosive to metals.
<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 compatibility with your equipment.

**Section XI. Toxicological Information**

<b>SIGNIFICANT ROUTES OF EXPOSURE</b>	Ingestion. Inhalation.
<b>TOXICITY TO ANIMALS</b>	See Section II. Ammonium phosphate is approved as a feed additive in controlled quantities in animal husbandry.
<b>SPECIAL REMARKS ON TOXICITY TO ANIMALS</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. May be harmful to livestock and wildlife if ingested in uncontrolled quantities. Clean up all spilled material, especially where bulk fertilizer loading of equipment occurs to prevent uncontrolled 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.

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SPECIAL REMARKS ON OTHER EFFECTS ON HUMANS	No additional remark.
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**Section XII. Ecological Information**

ECOTOXICITY	<p>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.</p> <p>Aquatic/Marine Toxicity: Will release ammonium ions. Ammonia is a toxic hazard to fish. Will release phosphate. Phosphates will result in algae growth which may increase turbidity and deplete oxygen resulting in a hazard to fish or other marine organisms. Will disperse with the current. Release to watercourses may cause effects down stream from the point of release. Avoid spills or release to watercourses. 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 <sub>2</sub> ...). Phosphates. Inorganic mineral salts and oxides.
TOXICITY OF THE PRODUCTS OF DEGRADATION	The product itself and its products of degradation are not harmful under normal conditions of use. Avoid spills or releases to watercourses.
SPECIAL REMARKS ON THE PRODUCTS OF DEGRADATION	Product will promote algae growth which may degrade water quality and taste. Notify downstream water users. Will slowly 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.
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**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	<p>CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): This product is on the Domestic Substances List (DSL), and is acceptable for use under the provisions of CEPA.</p> <p>TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.</p> <p>CERCLA/SUPERFUND, 40 CFR 117,302: This product contains no Reportable Quantity (RQ) Substances.</p> <p>This product is not considered as a priority pollutant as regulated under the Clean Water Act.</p> <p>FDA Requirements:</p> <ol style="list-style-type: none"> <li>1. Substance added directly to human food affirmed as generally recognized as safe (GRAS). [21 CFR 184.1141a (4/1/91)]</li> <li>2. Ammonium phosphate (mono-, and dibasic) used as a general purpose food additive in animal drugs, feeds, and related products is generally recognized as safe when used in accordance with good manufacturing or feeding practice. [21 CFR 582.1141 (4/1/90)]</li> <li>3. Ammonium phosphate (mono-, and dibasic) used as a general purpose food additive in animal</li> </ol>
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drugs, feeds, and related products is generally recognized as safe when used in accordance with good manufacturing or feeding practice. [21 CFR 582.1141 (4/1/90)]

This product contains the following chemical subject to the reporting requirements of SARA Section 313 and 40 CFR 372:

Aqueous ammonia from water dissociable ammonium ions; 10% of total aqueous ammonia is reportable under this listing), CAS# 7722-76-1: 14.8 wt% , see EPA doc 745-R-95-012)

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).

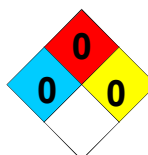
**OTHER CLASSIFICATIONS**

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

**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, 2012.
- 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; and  
-The Fertilizer Institute Product Testing Program Results, March 2003

**OTHER SPECIAL  
CONSIDERATIONS**

Three year review. References updated.

**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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