

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		Diammonium Phosphate, DAP, 18-46-0	
SYNONYM	18-46-0, Diammonium hydrogen phosphate, DAP, Phosphoric acid diammonium salt.	MSDS NUMBER:	03026
CHEMICAL NAME	Ammonium phosphate dibasic	REVISION NUMBER	4.6
CHEMICAL FAMILY	Ammonium salt.	MSDS prepared by the Environment, Health and Safety Department on:	September 15, 2006
CHEMICAL FORMULA	(NH ₄) ₂ HPO ₄	24 HR EMERGENCY TELEPHONE NUMBER: Transportation: 1-800-792-8311 Medical: 1-888-670-8123	
MATERIAL USES	Agricultural use: Fertilizer.		
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 ³	TLV-TWA ppm	STEL mg/m ³	STEL ppm	CEIL mg/m ³	CEIL ppm	
Diammonium phosphate	7783-28-0	---						100

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 phosphate dibasic

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.

Section III. Hazards Identification.

POTENTIAL ACUTE HEALTH EFFECTS	May cause eye and skin irritation. Over-exposure by inhalation may cause respiratory tract irritation. Over-exposure to large quantities may result in nausea and gastro-intestinal irritation. However, the U.S. FDA have determined that the substance, added directly to human food is affirmed as "generally recognized as safe" (GRAS).
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. 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 person'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	Low order of toxicity on ingestion. May be irritating to the digestive tract and bowels resulting in nausea and diarrhea. Have affected person drink several glasses of water to assist in purging system. Obtain medical advice if irritation or ill feelings persist.
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. These products are nitrogen and phosphorus oxides, and ammonia (NO, NO ₂ , NH ₃ , PO _x).
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 combustible. Use extinguishing media suitable for surrounding materials. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH approved (or equivalent), and full protective gear.
SPECIAL REMARKS ON FIRE HAZARDS	DAP is commonly found as a fire extinguishing agent in dry chemical extinguishers.
SPECIAL REMARKS ON EXPLOSION HAZARDS	

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No additional information.

Section VI. Accidental Release Measures

SMALL SPILL	Use appropriate tools to put 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 which may degrade water quality and taste. Notify downstream water users. Product will dissolve over a period of hours to days, depending on conditions. Recover and place material in suitable containers for recycle, reuse, or disposal. Ensure disposal complies with local regulations.

Section VII. Handling and Storage

PRECAUTIONS	Good general ventilation should be sufficient to control airborne levels. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
STORAGE	Store in a cool, dry, and well ventilated area away from incompatible materials.

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 adequate local exhaust or general ventilation to keep exposure to airborne contaminants below the exposure limits.
PERSONAL PROTECTION	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. A respiratory protection program that meets OSHA 29 CFR 1910.134 requirements must be followed whenever workplace conditions warrant a respirator's use.
PERSONAL PROTECTION IN CASE OF LARGE RELEASE	No additional information.
EXPOSURE LIMITS	OSHA PEL: 15 mg/m ³ for Particulates Not Otherwise Regulated (nuisance particulates) as total dust. 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

PHYSICAL STATE AND APPEARANCE	Solid. (Crystalline granules.)		
MOLECULAR WEIGHT	132.07	COLOR	Variable depending on supplier.
pH (10% SOLN/WATER)	7.5 [Basic]	ODOR	Odorless.
BOILING POINT	155°C (311°F) Decomposes	ODOR THRESHOLD	Not available.
MELTING POINT	Not available.	TASTE	Not available.
CRITICAL TEMPERATURE	Not available.	VOLATILITY	0% (v/v). 0% (w/w).
SPECIFIC GRAVITY g/cc	1.619 (Water = 1)	SOLUBILITY	57.5 g/100cc Easily soluble in cold water, hot water.
BULK DENSITY ka/m³ ; lbs/ft³	Loose: ~897 kg/m ³ ; 56 lbs/ft ³ ; Packed: ~913 kg/m ³ ; 57 lb/ft ³ ;	DISPERSION PROPERTIES	See solubility in water.
VAPOR PRESSURE	Not available.	WATER/OIL DIST. COEFF.	Not available.
VAPOR DENSITY	Not available.		

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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	Highly reactive with oxidizing agents, acids, alkalis.
CORROSIVITY	Corrosive to iron and mild steel, aluminum, zinc, and copper.
SPECIAL REMARKS ON REACTIVITY	Possible violent reaction with magnesium metal and sodium hypochlorite. Avoid contact with moisture. 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 compatability 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	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 and feeding practice. 21 CFR 582.1141
OTHER EFFECTS ON HUMANS	No additional information.
SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS	No additional information.
SPECIAL REMARKS ON OTHER EFFECTS ON HUMANS	No additional information.

Section XII. Ecological Information

ECOTOXICITY	See Section II. 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 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.
BOD and COD	Not available.
PRODUCTS OF DEGRADATION	Inorganic mineral salts and oxides.
TOXICITY OF THE PRODUCTS OF DEGRADATION	The product itself and its products of degradation are not toxic.
SPECIAL REMARKS ON THE PRODUCTS OF DEGRADATION	No additional information.

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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.

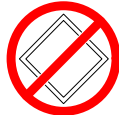
Section XIV. Transport Information

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 None specified under 49 CFR

DOT (U.S.A) (Pictograms)



Section XV. Other Regulatory Information and Pictograms

OTHER REGULATIONS FDA Requirements:

Diammonium phosphate may be safely used in ruminant feed in accordance with the following prescribed conditions: (21 CFR 573.320)

(a) The food additive is the product resulting from the neutralization of feeding phosphoric acid or defluorinated wet process phosphoric acid with anhydrous ammonia, contains not less than 106.25% equivalent crude protein (nitrogen X 6.25) and 20% phosphorus ... contains not more than 1 part fluorine to 100 parts phosphorus, 75 ppm arsenic (as As), 30 ppm heavy metals, as lead (Pb);

(b) It is used in ruminant feeds as a source of phosphorus and nitrogen in an amount that supplies not more than 2% of equivalent crude protein in the total daily ration.

Ammonium phosphate 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)

This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Dibasic ammonium phosphate CAS# 7783-28-0, ammonia equivalent wt % = 25.79

Ammonia (includes anhydrous and aqueous ammonia from water dissociable ammonium salts and other sources, 10% of which is reportable under this listing). 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).

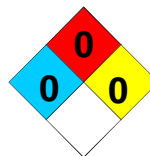
OTHER CLASSIFICATIONS **HCS (U.S.A.)** Not controlled under the HCS (United States).

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, 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; HAZARDTEXT® 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

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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