



Europe

SAFETY DATA SHEET

DIAMMONIUM PHOSPHATE (DAP) Granular 18-46-0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : DIAMMONIUM PHOSPHATE (DAP) Granular 18-46-0
EC number : 231-987-8
REACH Registration number

Registration number	Substance Identification
01-2119490974-22-XXXX	Diammonium hydrogenorthophosphate

Product code : 1527-27976; 3826-27976; 4466-27976
Product description : EC FERTILISER Compound fertiliser, granular NP 18-46
Product type : Solid.
Other means of identification : DAP

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Fertilisers. Fire protection systems.	
Uses advised against	Reason
None.	Not classified as dangerous

1.3 Details of the supplier of the safety data sheet

Agrium Europe SA
Avenue Louise 326/36
1050 Bruxelles
Belgium
Tel : +32 (0)2 646 70 00
Fax : +32 (0)2 646 68 60
agrium@agrium.eu

e-mail address of person responsible for this SDS : productsafety@agrium.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : Agrium Safety Data Sheets are available in many languages at <http://www.agrium.com/products/ae>
Physicians, Poison Centres, or the Public may contact Agrium's Global Emergency Response Number 24/7/365 for service in many languages at +1 303 389 1654

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AZERBAIJAN +994 125 979 924
BELARUS +375 17 287 00 92
BELGIUM +32 70 245 245
BULGARIA +359 2 9154 378; +359 887 435 325
CROATIA +358 1 2348 342
CZECH REPUBLIC +420 22 49 195 93
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ESTONIA 16662; +372 62 69 379
FINLAND +358 9 471977
FRANCE
Angers +33 (0)2 41 48 21 21
Bordeaux +33 (0)5 56 96 40 80

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Lille 0800 59 59 59 (national callers)
Lyon +33 (0)4 72 11 69 11
Marseille +33 (0)4 91 75 25 25
Nancy +33 (0)3 83 22 50 50
Paris +33 (0)1 40 05 48 48
Rennes +33 (0)2 99 59 22 22
Strasbourg +33 (0)3 88 37 37 37
Toulouse +33 (0)5 61 77 74 47
GEORGIA +995 99 53 33 20
GERMANY
Berlin +49 30 192 40
Bonn +49 228 192 40
Erfurt +49 361 730 730
Freiburg +49 761 192 40
Goettingen +49 551 192 40
Homburg (Saar) +49 6841 192 40
Mainz +49 6131 192 40
Munich +49 89 192 40
GREECE +30 21 07 79 37 77
HUNGARY +36 80 20 11 99
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Genoa +39 10 563 62 45
Milan +39 02 6610 1029
Padova +39 49 827 50 78
Pavia +39 38 224 444
Rome +39 06 305 43 43
Turin +39 011 663 7637
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NETHERLANDS +31 30 274 88 88
NORWAY +47 22 59 13 00
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Krakow +48 12 411 99 99
Lodz +48 42 63 14 724
Sosnowiec +48 32 266 11 45
Warszawa +48 22 619 66 54
Wroclaw +48 71 343 30 08
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Newcastle Upon Tyne +44 191 2606182; +44 191 2606180
Penarth 844 892 0111

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Supplier

Telephone number : Agrium Europe SA
EMERGENCY TELEPHONE NUMBERS:
Transportation: 00-1-303-389-1654
Medical: 00-1-303-389-1654

Hours of operation : 24/7/365

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mono-constituent substance

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

2.2 Label elements

Hazard pictograms :



Signal word : No signal word.

Hazard statements : Not applicable.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Avoid release to the environment.

Response : Collect spillage.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : Not available.

SECTION 3: Composition/information on ingredients

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
Europe Diammonium hydrogenorthophosphate	REACH #: 01-2119490974-22 EC No.: 231-987-8 CAS: 7783-28-0	70-100	Not classified.	[A]
Monoammonium phosphate	REACH #: 01-2119488166-29 EC: 231-764-5 CAS: 7722-76-1	0-<10	Not classified.	[B]
Ammonium sulphate	REACH Reg.#: 01-2119455044-46 EC: 231-984-1 CAS: 7783-20-2	0-<10	Not classified.	[B]
Calcium sulphate	REACH #: 01-2119444918-26 EC: 231-900-3 CAS: 10101-41-4	0-<10	Not classified.	[B]

Type

[A] Constituent

[B] Impurity

[C] Stabilising additive

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : No special measures are typically indicated. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed.
- Skin contact** : Wash with soap and water.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if adverse health effects persist or are severe.
- Protection of first-aiders** : No evidence of risk to humans.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
nitrogen oxides
phosphorus oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : May be harmful to the environment if released in large quantities. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. or Recover the material and use it for its intended purpose.

Large spill : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. or Recover the material and use it for its intended purpose.

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

If applicable: The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid breathing dust.

SECTION 7: Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. Absorbs moisture on long-term storage under high humidity conditions. Must be stored in a dry location. May form steep piles that can collapse without warning when stored in bulk. Avoid forming steep slopes when removing product.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Europe No exposure limit value known.	
Latvia Diammonium hydrogenorthophosphate	LV Nat. Standardisation and Meteorological Centre (Latvia, 5/2007). TWA: 6 mg/m ³ 8 hour(s).

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Diammonium hydrogenorthophosphate	DNEL	Long term Inhalation	6.1 mg/m ³	Workers	Systemic

DNEL/DMEL Summary : Very low toxicity to humans or animals.

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
Diammonium hydrogenorthophosphate	Fresh water	1.7 mg/l	Assessment Factors

PNEC Summary : Very low acute toxicity to fish.

8.2 Exposure controls

Appropriate engineering controls : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

SECTION 8: Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Possible: safety glasses with side-shields
- Skin protection**
- Hand protection** : Not recommended
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : Solid.
- Colour** : Not available.
- Odour** : Odourless.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : 155°C
- Initial boiling point and boiling range** : Decomposes.
- Flash point** : [Product does not sustain combustion.]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.
- Upper/lower flammability or explosive limits** : Not available.
- Vapour pressure** : 0.000076 kPa [20°C]
- Vapour density** : Not available.
- Relative density** : 1.6
- Solubility(ies)** : Easily soluble in the following materials: hot water.
Soluble in the following materials: cold water.
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : 155°C
- Viscosity** : Not available.
- Explosive properties** : Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.
- Oxidising properties** : Not available.

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SECTION 9: Physical and chemical properties

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : Not considered to be reactive.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Diammonium hydrogenorthophosphate	LC50 Inhalation Dusts and mists	Rat - Male, Female	>5 mg/l	4 hours
	LD50 Dermal	Rat - Male, Female	>5000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>2000 mg/kg	-

Conclusion/Summary : Very low toxicity to humans or animals.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Diammonium hydrogenorthophosphate	Skin - Oedema	Rabbit	0	72 hours	-
	Eyes - Cornea opacity	Rabbit	0	72 hours	-

Conclusion/Summary

Skin : Non-irritating to the skin.
Eyes : Non-irritating to the eyes.
Respiratory : Non-irritating (EU).

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
Diammonium hydrogenorthophosphate	skin	Mouse	Not sensitizing

Conclusion/Summary

Skin : Non-sensitiser to skin.
Respiratory : Non-sensitiser to lungs.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Diammonium hydrogenorthophosphate	471 Bacterial Reverse Mutation Test	Subject: Bacteria	Negative

Conclusion/Summary : Not available.

SECTION 11: Toxicological information

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Diammonium hydrogenorthophosphate	Negative	Negative	Negative	Rat - Male, Female	Oral: 1500 mg/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No teratogenic effect.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Diammonium hydrogenorthophosphate	Chronic NOAEL Oral	Rat - Male, Female	250 mg/kg	-

Conclusion/Summary : Not available.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

SECTION 11: Toxicological information

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Diammonium hydrogenorthophosphate	Acute LC50 120 ug/L Fresh water	Fish - Tilapia mossambica - Juvenile (Fledgling, Hatchling, Weanling) - 2 to 2.9 g	96 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : According to EC criteria: Readily biodegradable

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : No.

vPvB : No.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

If applicable: The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Hazardous waste : Non-hazardous waste

European waste catalogue (EWC)

Waste code	Waste designation
06 13 99	wastes not otherwise specified

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

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SECTION 13: Disposal considerations

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

14.6 Special precautions for user : Not available.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : This material is listed or exempted.

National regulations

Denmark

France

Reinforced medical surveillance : Act of July 11, 1977 determining the list of activities which require reinforced medical surveillance: not applicable

Italy

D.Lgs. 152/06 : Not classified.

SECTION 15: Regulatory information

Biocidal products regulation : Not applicable.

Ordinance on Thermoset Plastics : Not applicable.

Thermoset plastic waste : Not available.

Waste group : Not available.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

15.2 Chemical safety assessment : Not available.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified.	

Europe

Full text of abbreviated H statements : Not applicable.

Full text of classifications [CLP/GHS] : Not applicable.

Date of printing : 8/24/2016

Date of issue/ Date of revision : 8/24/2016

Date of previous issue : 9/22/2015

Version : 3.2

SECTION 16: Other information

Notice to reader

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