

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

1.1. Product identifier

Product form : Substance
 Trade name : Monafos
 EC no : 231-764-5
 CAS No : 7722-76-1
 REACH registration No : 01-2119488166-29
 Type of product : Pure substance
 Formula : NH₄H₂PO₄
 Synonyms : ADP / ammonium acid phosphate / ammonium biphosphate / ammonium dihydro orthophosphate / MAP
 Product group : Raw material
 BIG no : 14612

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
 Use of the substance/mixture : Fertilizer
 Food industry: additive
 Function or use category : Fertilisers

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Anorel NV
 Lintsesteenweg 632
 2540 Hove
 T +3234880233
anorel@anorel.net - www.anorel.net

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Greece	Poisons Information Centre Children's Hospital "Aglaia. Kyriakou"	11527 Athens	+30 10 779 3777	
Iceland	Eitrunarmiðstöð Landspítali	Fossvogi 108 Reykjavik	+354 543 22 22	
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2166 (public, 8am - 10pm, 7/7)	
Israel	Israel Poison Information Center Rambam Health Care Campus	6 Ha'Aliya Street 31096 Haifa	+972 4 854 1900	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD Msida	+356 2545 6504	
United Kingdom	National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0844 892 0111	UK only, Monday to Friday, 08.00 to 18.00 hours

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

2.2. Label elements

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

Security closing plug for children : No
 Tactile warning : No

2.3. Other hazards

Adverse physicochemical, human health and environmental effects : To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : Mono-constituent
Name : ammonium dihydrogen phosphate
CAS No : 7722-76-1
EC no : 231-764-5

Name	Product identifier	%
ammonium dihydrogen phosphate	(CAS No) 7722-76-1 (EC no) 231-764-5 (REACH-no) 01-2119488166-29	100

Full text of H-statements: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Get medical advice/attention if you feel unwell. Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up).

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Wash skin with plenty of water. Soap may be used. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse eyes with water as a precaution. Consult an ophthalmologist if irritation persists.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell. Rinse mouth out with water. Drink plenty of water as a precaution. Do not induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. Ingestion of large quantities: immediately to hospital.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : Inhalation of dust. Coughing. Irritation of the nasal mucous membranes.

Symptoms/injuries after eye contact : Slight irritation. Redness of the eye tissue.

Symptoms/injuries after ingestion : On ingestion in large quantities : nausea, vomiting.

Chronic symptoms : Repeated contact. Possible inflammation of the respiratory tract.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Non combustible.

Explosion hazard : No reliable data available.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire : Exposure to heat: have neighbourhood close doors and windows. Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation.

Firefighting instructions : Dilute toxic gases with water spray.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Protective clothing. Gloves. Dust cloud production: compressed air/oxygen apparatus. Reactivity hazard: compressed air/oxygen apparatus. Reactivity hazard: gas-tight suit.
- Emergency procedures : Ventilate spillage area. Mark the danger area. Avoid formation of dust. No naked flames. Wash contaminated clothes. Keep upwind. Exposure to fire/heat: consider evacuation.
- Measures in case of dust release : Dust production: have neighbourhood close doors and windows. In case of dust production: keep upwind.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Contain leaking substance, pump over in suitable containers. Knock down/dilute dust cloud with water spray. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. If reacting: dilute toxic gas/vapour with water spray.
- Methods for cleaning up : Recover mechanically the product. See "Material-handling" for suitable container materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. Scoop solid spill into closing containers.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid dust formation. Comply with applicable regulations. Keep container tight closed. Thoroughly clean/dry the installation before use. Keep away from naked flames/heat. Carry out operations in the open/under local exhaust/ventilation or with respiratory protection. Observe normal hygiene standards.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a well-ventilated place. Keep cool.
- Heat and ignition sources : Keep away from ignition sources. heat sources.
- Prohibitions on mixed storage : Keep away from. Strong acids, strong bases and oxidation agents.
- Storage area : Store in a well-ventilated place. Store in a dry area. meet the legal requirements. Store at ambient temperature.
- Special rules on packaging : closing. Clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: stainless steel. paper. synthetic material. glass. MATERIAL TO AVOID: steel. iron. aluminium.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

- Appropriate engineering controls : Ensure good ventilation of the work station.

Monafos

Safety Data Sheet

according to Regulation (EU) 2015/830

Materials for protective clothing	: GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: No data available. GIVE LESS RESISTANCE: No data available. GIVE POOR RESISTANCE: No data available
Hand protection	: Gloves
Eye protection	: Safety glasses. In case of dust production: protective goggles. Safety glasses
Skin and body protection	: Protective clothing
Respiratory protection	: Dust production: dust mask with filter type P1
Environmental exposure controls	: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline powder.
Molecular mass	: 115,03 g/mol
Colour	: white.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 3,6 - 4,0 (1 %)
pH solution	: 1 %
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 190 °C
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: > 190 °C
Flammability (solid, gas)	: Non flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: Not applicable
Density	: 1803 kg/m ³ (19 °C)
Solubility	: Soluble in water. Water: 38 g/100ml
Log Pow	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable

9.2. Other information

Minimum ignition energy	: >=
VOC content	: Not applicable
Other properties	: Substance has acid reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

On heating/burning: release of toxic and corrosive gases/vapours (ammonia, nitrous vapours, phosphorus oxides). Reacts with (strong) oxidizers: (increased) risk of fire/explosion. Reacts violently with (some) acids. Reacts with (some) bases: release of corrosive gases/vapours (ammonia).

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

Monafos

Safety Data Sheet

according to Regulation (EU) 2015/830

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 : Not classified

Monafos (7722-76-1)	
LD50 oral rat	5750 mg/kg (Rat)
LD50 dermal rabbit	> 7940 mg/kg (Rabbit)

Skin corrosion/irritation : Not classified
pH: 3,6 - 4,0 (1 %)

Serious eye damage/irritation : Not classified
pH: 3,6 - 4,0 (1 %)

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Ecology - air : Not dangerous for the ozone layer.

Ecology - water : Mild water pollutant (surface water). slightly harmful to fish. pH shift. May cause eutrophication at very low concentration. Insufficient data available on ecotoxicity.

Monafos (7722-76-1)	
LC50 fish 1	155 ppm (LC50; 96 h)

12.2. Persistence and degradability

Monafos (7722-76-1)	
Persistence and degradability	Biodegradability in water: no data available.

12.3. Bioaccumulative potential

Monafos (7722-76-1)	
Bioaccumulative potential	Low bioaccumulation potential.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Waste disposal recommendations : Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber. Do not discharge into surface water.

Additional information : Non-hazardous waste.

European List of Waste (LoW) code : 06 03 14 - solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

Monafos

Safety Data Sheet

according to Regulation (EU) 2015/830

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Transport regulations (ADR) : Not subject

- Transport by sea

Transport regulations (IMDG) : Not subject

- Air transport

Transport regulations (IATA) : Not subject

- Inland waterway transport

No data available

- Rail transport

Transport regulations (RID) : Not subject

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
Monafos is not on the REACH Candidate List
Monafos is not on the REACH Annex XIV List

VOC content : Not applicable

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters
WGK remark : Classification water polluting based on the R-phrases in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 3)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed
SZW-lijst van mutagene stoffen : The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product