

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

1.1. Product identifier

Product form : Substance
 Trade name : Kalafos
 Chemical name : potassium dihydrogenorthophosphate
 IUPAC name : Potassium dihydrogen phosphate
 EC no : 231-913-4
 CAS No : 7778-77-0
 REACH registration No : 01-2119490224-41
 Formula : KH₂PO₄
 Synonyms : mono potassium phosphate / MKP / Kalafos
 Product group : Raw material
 BIG no : 14583

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

1.2.1. Relevant identified uses

Main use category : Professional use
 Industrial/Professional use spec : Fertilizer
 Use of the substance/mixture : Fertilizer
 Agriculture.

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 "Aglaiia. 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

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2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substance

| | |
|----------------|---------------------------|
| Substance type | : Mono-constituent |
| Name | : Monopotassium Phosphate |
| CAS No | : 7778-77-0 |
| EC no | : 231-913-4 |

| Name | Product identifier | % |
|-------------------------|--|-------|
| Monopotassium Phosphate | (CAS No) 7778-77-0 (EC no) 231-913-4 (REACH-no) 01-2119490224-41 | >= 80 |

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 | : Call a physician if irritation develops and persists. Never give anything by mouth to an unconscious person. |
| First-aid measures after inhalation | : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice. |
| First-aid measures after skin contact | : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. |
| First-aid measures after eye contact | : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion | : Rinse mouth. Drink plenty of water. Do NOT induce vomiting. Get medical advice/attention if you feel unwell. |

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

| | |
|---|---|
| Symptoms/injuries after inhalation | : May cause respiratory irritation. |
| Symptoms/injuries after skin contact | : May cause moderate irritation, including burning sensation, tearing, redness or swelling. |
| Symptoms/injuries after eye contact | : May cause slight irritation. |
| Symptoms/injuries upon intravenous administration | : Not expected to be a primary route of exposure. |

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. |
| Unsuitable extinguishing media | : No unsuitable extinguishing media known. |

5.2. Special hazards arising from the substance or mixture

| | |
|--|---|
| Hazardous decomposition products in case of fire | : Toxic fumes may be released. Phosphorus oxides/acids. |
|--|---|

5.3. Advice for firefighters

| | |
|--------------------------------|---|
| Precautionary measures fire | : Exposure to fire/heat: keep upwind. Exposure to heat: have neighbourhood close doors and windows. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| | |
|------------------|--|
| General measures | : Do not eat, drink or smoke in areas where product is used. |
|------------------|--|

6.1.1. For non-emergency personnel

| | |
|----------------------|---|
| Protective equipment | : Provide adequate ventilation. Wear personal protective equipment. |
| Emergency procedures | : Mark the danger area. Wash contaminated clothes. |

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Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal.
Methods for cleaning up : Large spills: scoop solid spill into closing containers. Recover mechanically the product. Stop dust cloud by covering with sand/earth or soda ash.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid dust formation. Provide good ventilation in process area to prevent formation of vapour. Wear personal protective equipment. General protective and hygienic measures.

7.2. Conditions for safe storage, including any incompatibilities

Storage temperature : 20 °C
Heat and ignition sources : Keep away from ignition sources. Heat sources.
Storage area : Store in a well-ventilated place. Store in a dry area. Store away from heat.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Kalafos (7778-77-0) | |
|--|------------------------|
| DNEL/DMEL (Workers) | |
| Long-term - systemic effects, inhalation | 4,07 mg/m ³ |
| DNEL/DMEL (General population) | |
| Long-term - systemic effects, inhalation | 3,04 mg/m ³ |
| Long-term - local effects, inhalation | 3,04 mg/m ³ |
| PNEC (Water) | |
| PNEC aqua (freshwater) | 0,05 mg/l |
| PNEC aqua (marine water) | 0,005 mg/l |
| PNEC aqua (intermittent, freshwater) | 0,5 mg/l |
| PNEC (STP) | |
| PNEC sewage treatment plant | 50 mg/l |

8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Personal protective equipment : In case of dust production: protective goggles. Gloves. Dustproof clothing. Dust formation: dust mask.
Hand protection : Nitrile rubber gloves
Eye protection : Safety glasses. In case of dust production: protective goggles
Skin and body protection : Wear suitable protective clothing
Respiratory protection : Dust/aerosol mask with filter type P1



Environmental exposure controls : Avoid release to the environment.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|--|
| Physical state | : Solid |
| Appearance | : Crystals. |
| Molecular mass | : 136,09 g/mol |
| Colour | : Colourless. white. |
| Odour | : odourless. |
| Odour threshold | : No data available |
| pH | : 4,5 (1 %) |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Melting point | : 253 °C |
| Freezing point | : No data available |
| Boiling point | : Not applicable |
| Flash point | : Not applicable |
| Auto-ignition temperature | : Not applicable |
| Decomposition temperature | : 400 °C |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : No data available |
| Relative vapour density at 20 °C | : No data available |
| Relative density | : 2,3 |
| Density | : 2338 kg/m ³ |
| Solubility | : Soluble in water. Water: 22 g/100ml |
| Log Pow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : No data available |

9.2. Other information

| | |
|-------------------------|---|
| Minimum ignition energy | : Not applicable |
| VOC content | : Not applicable |
| Other properties | : Hygroscopic. Substance has acid reaction. |

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reacts with oxidising compounds.

10.4. Conditions to avoid

Heat. Moisture.

10.5. Incompatible materials

Strong bases.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met)

| Monopotassium Phosphate (7778-77-0) | |
|-------------------------------------|-----------------------|
| LD50 oral rat | 7100 mg/kg (Rat) |
| LD50 dermal rabbit | > 4640 mg/kg (Rabbit) |

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| | |
|--|--|
| Skin corrosion/irritation | : Not classified (Based on available data, the classification criteria are not met) pH: 4,5 (1 %) |
| Serious eye damage/irritation | : Not classified (Based on available data, the classification criteria are not met) pH: 4,5 (1 %) |
| Respiratory or skin sensitisation | : Not classified (Based on available data, the classification criteria are not met) |
| Germ cell mutagenicity | : Not classified (Based on available data, the classification criteria are not met) |
| Carcinogenicity | : Not classified (Based on available data, the classification criteria are not met) |
| Reproductive toxicity | : Not classified (Based on available data, the classification criteria are not met) |
| Specific target organ toxicity (single exposure) | : Not classified (Based on available data, the classification criteria are not met) |
| Specific target organ toxicity (repeated exposure) | : Not classified (Based on available data, the classification criteria are not met) |

Monopotassium Phosphate (7778-77-0)

| | |
|----------------------------|------------------------|
| NOAEL (oral, rat, 90 days) | < mg/kg bodyweight/day |
|----------------------------|------------------------|

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

SECTION 12: Ecological information

12.1. Toxicity

| | |
|-------------------|--|
| Ecology - general | : Classification concerning the environment: not applicable. |
| Ecology - air | : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). TA-Luft Klasse 5.2.1. |
| Ecology - water | : Mild water pollutant (surface water). slightly harmful to fish. May cause eutrophication at high concentrations. pH shift. |

Monopotassium Phosphate (7778-77-0)

| | |
|--------------------------------|------------------------------|
| LC50 fish 1 | > 900 mg/l (LC50; 48 h) |
| EC50 other aquatic organisms 1 | 2 ppm 672 h potamogeton sp. |
| TLM other aquatic organisms 1 | 1 ppm 672 h; Potamogeton sp. |
| Threshold limit algae 1 | 1 ppm 672h; Elodea sp. |

12.2. Persistence and degradability

Monopotassium Phosphate (7778-77-0)

| | |
|---------------------------------|-----------------------------------|
| Persistence and degradability | Biodegradability. Not applicable. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |

12.3. Bioaccumulative potential

Monopotassium Phosphate (7778-77-0)

| | |
|---------------------------|--------------------------------|
| Bioaccumulative potential | Low bioaccumulation potential. |
|---------------------------|--------------------------------|

12.4. Mobility in soil

Monopotassium Phosphate (7778-77-0)

| | |
|----------------|-------------------|
| Ecology - soil | soluble in water. |
|----------------|-------------------|

12.5. Results of PBT and vPvB assessment

Component

| | |
|-------------------------------------|---|
| Monopotassium Phosphate (7778-77-0) | This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII |
|-------------------------------------|---|

12.6. Other adverse effects

Additional information : May cause eutrophication at high concentrations

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--------------------------------|--|
| Regional legislation (waste) | : Dispose in a safe manner in accordance with local/national regulations. |
| Waste treatment methods | : This material and its container must be disposed of in a safe way. Do not empty into drains; dispose of this material and its container in a safe way. |
| Waste disposal recommendations | : Discharging into rivers and drains is forbidden. Dispose in a safe manner in accordance with local/national regulations. |
| Additional information | : Non-hazardous waste. |

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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

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

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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

Kalafos is not on the REACH Candidate List

Contains no substance on the REACH candidate list

Kalafos is not on the REACH Annex XIV List

Contains no REACH Annex XIV substances

VOC content : Not applicable

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters

WGK remark : Internal classification water polluting based on standard worst-case evaluation points due to insufficient data

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 additional information available

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