

## **Monopotassium phosphate**

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

#### **1.1. Product identifier**

Product form	: Substance
Trade name	: Monopotassium phosphate; HI- M 235; HAIFA MKP
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	: KH <sub>2</sub> PO <sub>4</sub>
Synonyms	: monobasic potassium phosphate / monopotassium dihydrogen phosphate / monopotassium orthophosphate / monopotassium phosphate / phosphate monobasic / phosphate monobasic, potassium / phosphoric acid, monopotassium salt / potassium dihydrogen phosphate / potassium hydrogenphosphate / potassium phosphate, monobasic / primary-potassiumphosphate /
EC-FERTILISER	: B.4

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

##### **1.2.1. Relevant identified uses**

Main use category	: Industrial use Professional use Consumer use
Function or use category	: Fertilisers, food/feedstuff additives, flame retardants, laboratory chemicals, processing aids

##### **1.2.2. Uses advised against**

No additional information available

#### **1.3. Details of the supplier of the safety data sheet**

Haifa North West Europe NV  
Generaal de Wittelaan 17, bus 16  
B-2800 Mechelen - België  
T +32 15 270811 - F +32 15 27 08 15  
[NorthWestEurope@haifa-group.com](mailto:NorthWestEurope@haifa-group.com) - [www.haifa-group.com](http://www.haifa-group.com)

#### **1.4. Emergency telephone number**

Country	Official advisory body	Address	Emergency number
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241

### **SECTION 2: Hazards identification**

#### **2.1. Classification of the substance or mixture**

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

Not classified

##### **Classification according to Directive 67/548/EEC or 1999/45/EC**

Not classified

##### **Adverse physicochemical, human health and environmental effects**

No additional information available

#### **2.2. Label elements**

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP].

#### **2.3. Other hazards**

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

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

**Monopotassium phosphate**

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

Substance type : Mono-constituent

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Monopotassiumphosphate (Main constituent)	(CAS No.) 7778-77-0 (EC no) 231-913-4 (REACH-no) 01-2119490224-41	> 98	Not classified

  

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
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Full text of R-, H- and EUH-phrases: see section 16

**3.2. Mixtures**

Not applicable

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

- First-aid measures general : 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).  
Keep watching the victim.  
Give psychological aid.  
Keep the victim calm, avoid physical strain.  
Depending on the victim's condition: doctor/hospital
- First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.  
Artificial respiration and/or oxygen if necessary.
- First-aid measures after skin contact : Rinse with water. Soap may be used. Take victim to a doctor if irritation persists.  
Remove contaminated clothing immediately.  
Rinse skin with plenty of water or shower. Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists.
- First-aid measures after ingestion : Rinse mouth with water. Victim is fully conscious: immediately induce vomiting.  
If victim conscious and alert, give 1-2 glasses of water to drink.  
Consult a doctor/medical service if you feel unwell.

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

- Symptoms/injuries after inhalation : Coughing.Irritation of the nasal mucous membranes
- Symptoms/injuries after skin contact : Repeated or prolonged skin contact may cause irritation.
- Symptoms/injuries after eye contact : Redness of the eye tissue. Slight irritation.
- Symptoms/injuries after ingestion : After absorption of high quantities: Nausea. Vomiting.
- Chronic symptoms : On continuous/repeated exposure/contact: Possible inflammation of the respiratory tract.

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

Treat symptomatically. Follow the advices in chapter 4.1.

## ***Monopotassium phosphate***

### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

Suitable extinguishing media : Water, foam, powder, CO<sub>2</sub>.

#### **5.2. Special hazards arising from the substance or mixture**

Fire hazard : Direct fire hazard: Non combustible.

Explosion hazard : No direct explosion hazard.

Reactivity : Reacts violently with (strong) acids/bases.

#### **5.3. Advice for firefighters**

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

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety.

Protection during firefighting : 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.  
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### **SECTION 6: Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

General measures : Ensure adequate air ventilation.

##### **6.1.1. For non-emergency personnel**

Protective equipment : Wear protective gloves/protective clothing/eye protection as advised in section 8.  
Impervious footwear must be worn.

Emergency procedures : Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames.  
Wash contaminated clothes.

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**

Protective equipment : Wear suitable respiratory equipment in case of insufficient ventilation or in case of prolonged exposure. See also the information in "For non-emergency personnel".

#### **6.2. Environmental precautions**

Stop leaks if possible. Prevent uncontrolled discharges into the environment (rivers, water courses, sewers etc.).

#### **6.3. Methods and material for containment and cleaning up**

For containment : Stop leak if safe to do so.

Methods for cleaning up : Scoop solid spill into closing containers. Clean contaminated surfaces with an excess of water.  
Wash clothing and equipment after handling.

Other information : Do not wash out with water in a sensitive environment. Dispose the product, depending on the degree and type of contamination, either as fertilizer or in an authorized waste disposal site.

#### **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

**Monopotassium phosphate**

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

- Precautions for safe handling : Use sufficient ventilation. Avoid raising dust.  
Wear protective gloves/protective clothing/eye protection as advised in section 8.  
Avoid contact with skin and eyes. Clean contaminated clothing.  
Keep container tightly closed. Meet the legal requirements.
- Hygiene measures : Always wash hands after handling the product. Do not eat, drink or smoke during use.

**7.2. Conditions for safe storage, including any incompatibilities**

- Technical measures : Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.
- Storage conditions : Keep preferably in the original container.
- Heat-ignition : Keep substance away from: heat sources.
- Prohibitions on mixed storage : Keep substance away from: (strong) acids, (strong) bases, oxidizing agents, water/moisture.
- Storage area : Store in a dry area. Keep container in a well-ventilated place.  
Store at ambient temperature. Meet the legal requirements.
- Special rules on packaging : Special or additional requirements: closing. clean. correctly labelled. Meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : Suitable material: stainless steel, paper, synthetic material, glass.

**7.3. Specific end use(s)**

Not classified as dangerous. Exposure scenarios have not been made.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

<b>Monopotassium phosphate (7778-77-0)</b>	
DNEL/DMEL (Workers)	
Long-term - systemic effects, inhalation	4,07 mg/m <sup>3</sup>
DNEL/DMEL (General population)	
Long-term - systemic effects, inhalation	3,04 mg/m <sup>3</sup>
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.  
Care for eyewashstations and security showers at the workplace.

Personal protective equipment :



- Hand protection : Gloves.
- Material selection gloves : Good resistance gives: rubber  
Take advice to your gloves' supplier
- Eye protection : Safety glasses. In case of dust production: protective goggles.
- Skin and body protection : Wear suitable protective clothing. Impervious footwear must be worn.
- Respiratory protection : Dust production: dust mask with filter type P1.
- Environmental exposure controls : Do not allow to enter drains or water courses.

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**Monopotassium phosphate**

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

Physical state	: Solid
Appearance	: Crystalline solid. Crystalline powder. Grains.
Molecular mass	: 136,09 g/mol
Colour	: White.
Odour	: Odourless.
pH	: 4,5 (1 %)
Melting point	: ± 253 °C
Boiling point	: Not applicable
Flash point	: Not applicable
Vapour pressure	: < 1 mPa
Density	: 2,3 kg/l
Solubility	: Soluble in water. Water: 22 g/100ml
Self ignition temperature	: Not applicable
Decomposition temperature	: 400 °C
Explosive properties	: not explosive.
Oxidising properties	: not oxidising.

**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**

Reacts violently with (strong) acids/bases.

**10.2. Chemical stability**

Hygroscopic. The product is stable at normal handling- and storage conditions.

**10.3. Possibility of hazardous reactions**

Reacts with (some) bases.

**10.4. Conditions to avoid**

Avoid high temperatures. Prevent moisture contact.

**10.5. Incompatible materials**

Keep substance away from: alkalis.

**10.6. Hazardous decomposition products**

Decomposes on exposure to temperature rise: release of toxic/corrosive/combustible gases/vapours (phosphine).  
On burning: release of toxic and corrosive gases/vapours (phosphorus oxides).

**Monopotassium phosphate**

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

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

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

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)

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

Potential Adverse human health effects and symptoms : When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Other information : Information on Effects: refer to section 4.

**SECTION 12: Ecological information**

**12.1. Toxicity**

Ecology - general : Classification concerning the environment: not applicable.

Ecology - air : Not dangerous for the ozone layer (Council Regulation (EC) no 1005/2009).  
TA-Luft Klasse 5.2.1.

Ecology - water : Mild water pollutant (surface water). Slightly harmful to fishes.  
May cause eutrophication. pH shift.

<b>Monopotassium phosphate (7778-77-0)</b>	
LC50 fish 1	> 900 mg/l (48 Hours; Leuciscus idus)
EC50 other aquatic organisms 1	2 ppm (672 Hours; Potamogeton sp.; O2 EVOLUTION)
Threshold limit other aquatic organisms 1	1 ppm (672 Hours; Potamogeton sp.; O2 EVOLUTION)
Threshold limit algae 1	1 ppm (672 Hours; Elodea sp.; O2 EVOLUTION)

**12.2. Persistence and degradability**

<b>Monopotassium phosphate (7778-77-0)</b>	
Persistence and degradability	In accordance with column 2 of REACH Annex VII, the ready biodegradability test does not need to be conducted as the substance is inorganic.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

**12.3. Bioaccumulative potential**

<b>Monopotassium phosphate (7778-77-0)</b>	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

**12.4. Mobility in soil**

<b>Monopotassium phosphate (7778-77-0)</b>	
Ecology - soil	Soluble in water.

## **Monopotassium phosphate**

### **SECTION 12: Ecological information**

#### **12.5. Results of PBT and vPvB assessment**

This substance/mixture does not meet the PBT- and/or vPvB- criteria of REACH, annex XIII.

#### **12.6. Other adverse effects**

No additional information available

### **SECTION 13: Disposal considerations**

#### **13.1. Waste treatment methods**

EURLW code	: 06 03 14 - solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13 <i>Depending on branch of industry and production process, also other EURAL codes may be applicable</i>
Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: This material and its container must be disposed of in a safe way. Dispose the product, depending on the degree and type of contamination, either as fertilizer or in an authorized waste disposal site.
Waste disposal recommendations	: Recycle/reuse. Do not discharge into surface water. Remove waste in accordance with local and/or national regulations.
Additional information	: Non hazardous waste.

### **SECTION 14: Transport information**

No dangerous good in sense of transport regulations.

### **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

VOC content	: Not applicable
EURLW code	: 06 03 14

##### **15.1.2. National regulations**

Regional legislation : Ensure all national/local regulations are observed.

#### **15.2. Chemical safety assessment**

A chemical safety assessment has been carried out

### **SECTION 16: Other information**

Version	: 3.1
Revision date	: 18-12-2012
Date of issue	: 06-02-2009
Supersedes	: 09-01-2012
Indication of changes	: This safety data sheet is fully revised according to the CLP and REACH regulations.
Data sources	: BIG-database ECHA Website: Information on Registered Substances Handbook of Chemistry and Physics CRC Press Inc Information from suppliers REACH registration dossier.
Abbreviations and acronyms	: CLP = Classification, labelling and packaging DNEL = Derivative No Effect Level PNEC = Predicted No Effect Concentration REACH = Registration, evaluation and autorisation of chemicals.
Training advice	: Before using/handling the product one must read carefully the MSDS.

#### **Company disclaimer**

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