

# Potassium dihydrogenorthophosphate

## Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 11/11/2016

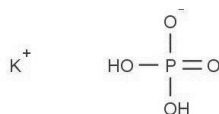
Doc No: SDS-960.063/0



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

#### 1.1. Product identifier

Substance name : Potassium dihydrogenorthophosphate  
EC no : 231-913-4  
CAS No : 7778-77-0  
Type of product : Pure substance, Hygroscopic substance. Preventive measures apply to the substance in dry state only  
Formula :  $\text{KH}_2\text{PO}_4$   
Chemical structure :



Synonyms : monobasic potassium phosphate / monopotassium dihydrogen phosphate / monopotassium orthophosphate / monopotassium phosphate / phosphate monobasic / phosphate monobasic, potassium / phosphoric acid, monopotassium salt / potassium acid phosphate / potassium dihydrogen phosphate / potassium hydrogenphosphate / potassium orthophosphate, di-H / potassium orthophosphate, di-hydrogen / potassium phosphate, monobasic / primary-potassiumphosphate / prim-potassium phosphate / Soerensen's buffer substances (potassium phosphate) / Sorensen's potassium phosphate / Sørensen's potassium phosphate

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Food industry: additive  
Laboratory chemical  
Chemical raw material  
Pharmaceutical product: auxiliary substance

##### 1.2.2. Uses advised against

No additional information available

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

ISOLAB GmbH  
Bahnhofstrasse 10, D-97877  
Wertheim - Germany  
T +49 93 42 912 355 - F +49 93 42 912 357  
[prodsafe@isolab.de](mailto:prodsafe@isolab.de)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf der Charité CBF, Haus VIII (Wirtschaftsgebäude), UG	Hindenburgdamm 30 12203 Berlin	+49 (0) 30 19240	

### SECTION 2: Hazards identification

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

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

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

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

No labelling applicable

# Potassium dihydrogenorthophosphate

## Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 11/11/2016

Doc No: SDS-960.063/0



### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Potassium dihydrogenorthophosphate	(CAS No) 7778-77-0 (EC no) 231-913-4	98 - 100	Not classified

Full text of H-statements: 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.
First-aid measures after skin contact	: Rinse with water. Soap may be used. Take victim to a doctor if irritation persists.
First-aid measures after eye contact	: Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Call Poison Information Centre ( <a href="http://www.big.be/antigif.htm">www.big.be/antigif.htm</a> ). Consult a doctor/medical service 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	: AFTER INHALATION OF DUST: Slight irritation.
Symptoms/injuries after skin contact	: No data available.
Symptoms/injuries after eye contact	: Slight irritation.
Symptoms/injuries after ingestion	: No specific information available. SIMILAR PRODUCTS CAUSE FOLLOWING SYMPTOMS: AFTER ABSORPTION OF HIGH QUANTITIES: Feeling of weakness. Vomiting. Nausea. Abdominal pain. Diarrhoea. Disturbances of heart rate. Sensorial disturbances.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Adapt extinguishing media to the environment.
Unsuitable extinguishing media	: No unsuitable extinguishing media known.

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

Fire hazard	: DIRECT FIRE HAZARD. Non combustible. INDIRECT FIRE HAZARD. Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	: DIRECT EXPLOSION HAZARD. No direct explosion hazard.

### 5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray.
Protection during firefighting	: Heat/fire exposure: compressed air/oxygen apparatus.

# Potassium dihydrogenorthophosphate

## Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 11/11/2016

Doc No: SDS-960.063/0



### SECTION 6: Accidental release measures

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

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

- Protective equipment : Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. See "Material-Handling" to select protective clothing.
- 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

No additional information available

#### 6.2. Environmental precautions

No additional information available

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

- For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. On heating: dilute combustible/toxic gases/vapours.
- Methods for cleaning up : Stop dust cloud by humidifying. Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Avoid raising dust. Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

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

- Storage temperature : 20 °C
- Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.
- Information on mixed storage : KEEP SUBSTANCE AWAY FROM: (strong) acids. (strong) bases. oxidizing agents. water/moisture.
- Storage area : Store in a dry area. Store at room temperature. Keep container in a well-ventilated place. Meet the legal requirements.
- Special rules on packaging : SPECIAL REQUIREMENTS: closing. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: paper. cardboard. polyethylene. textile. synthetic material. MATERIAL TO AVOID: steel. 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

##### Materials for protective clothing:

GIVE GOOD RESISTANCE: synthetic material. rubber

##### Hand protection:

Gloves

##### Eye protection:

# Potassium dihydrogenorthophosphate

## Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 11/11/2016

Doc No: SDS-960.063/0



Safety glasses. In case of dust production: protective goggles

### Skin and body protection:

Protective clothing

### Respiratory protection:

Dust production: dust mask with filter type P1

## 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	: Colourless or white.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 4.2 - 4.6 (20 g/l, H <sub>2</sub> O, 20 °C)
pH solution	: 2 %
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 253 °C (decomposition)
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	: 2.33 g/cm <sup>3</sup> (21.5 °C)
Solubility	: Soluble in water. Water: 20.8 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

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

### 10.2. Chemical stability

Hygroscopic.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

# Potassium dihydrogenorthophosphate

## Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 11/11/2016

Doc No: SDS-960.063/0



### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Potassium dihydrogenorthophosphate (7778-77-0)	
LD50 oral rat	> 2000 mg/kg (Rat)
LD50 dermal rabbit	> 4640 mg/kg (Rabbit)

Skin corrosion/irritation : Not classified  
pH: 4.5 (1 %)

Serious eye damage/irritation : Not classified  
pH: 4.5 (1 %)

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

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 fishes. May cause eutrophication. pH shift.

Potassium dihydrogenorthophosphate (7778-77-0)	
LC50 fish 1	> 900 mg/l (LC50; 48 h)

### 12.2. Persistence and degradability

Potassium dihydrogenorthophosphate (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

Potassium dihydrogenorthophosphate (7778-77-0)	
Bioaccumulative potential	No bioaccumulation data available.

### 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

# Potassium dihydrogenorthophosphate

## Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 11/11/2016

Doc No: SDS-960.063/0



### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Precipitate/make insoluble. Remove to an authorized dump. Do not discharge into surface water.

Additional information : LWCA (the Netherlands): KGA category 05. Can be considered as non hazardous waste according to Directive 2008/98/EC.

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

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

#### 14.6. Special precautions for user

##### - Overland transport

Not applicable

##### - Transport by sea

Not applicable

##### - Air transport

Not applicable

##### - Inland waterway transport

Not applicable

##### - Rail transport

Not applicable

#### 14.7. Transport in bulk according to Annex II of Marpol 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

Potassium dihydrogenorthophosphate is not on the REACH Candidate List

VOC content : Not applicable

##### 15.1.2. National regulations

###### Germany

# Potassium dihydrogenorthophosphate

## Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 11/11/2016

Doc No: SDS-960.063/0



VwVwS Annex reference	: Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 3; ID No. 8173)
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

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Data sources	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
--------------	---

SDS ISOLAB

*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*