Potassium Phosphate Monobasic
Safety Data Sheet
according to Regulation (EC) No. 453/2010

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

1.1. Product identifier
   Product form: Substance
   Substance name: Potassium Phosphate Monobasic
   EC-No.: 231-913-4
   CAS-No.: 7778-77-0
   Formula: KH₂PO₄

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: Laboratory Reagent
   Buffering Agent
   Nutritional Supplements; Pharmaceutical Buffers

1.2.2. Uses advised against
   No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer: Jost Chemical Co.
8150 Lackland Rd.
63114 Saint Louis, Missouri
T 314-428-4300 - F 314-428-4366
sds@jostchemical.com - www.jostchemical.com

Distributor: Jost Chemical Co.
8150 Lackland Rd.
63114 Saint Louis, Missouri
T 314-428-4300 - F 314-428-4366
sds@jostchemical.com - www.jostchemical.com

1.4. Emergency telephone number
   Emergency number: For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident
   Call CHEMTREC Day or Night
   United States and Canada: 1-800-424-9300 / +1 703-527-3887
   Global: +1 703-741-5970

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
   Not classified

   Adverse physicochemical, human health and environmental effects
   No additional information available

2.2. Label elements
   According to EC directives or the corresponding national regulations there is no labelling obligation for this product.

2.3. Other hazards
   PBT: not yet assessed
   vPvB: not yet assessed

SECTION 3: Composition/information on ingredients

3.1. Substances
   Substance type: Mono-constituent

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Phosphate Monobasic</td>
<td>(CAS-No.) 7778-77-0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>(EC-No.) 231-913-4</td>
<td></td>
</tr>
</tbody>
</table>

3.2. Mixtures
   Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures
Potassium Phosphate Monobasic
Safety Data Sheet
according to Regulation (EC) No. 453/2010

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. 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. Wash skin with plenty of water.

First-aid measures after eye contact: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.

First-aid measures after ingestion: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/effects: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation: AFTER INHALATION OF DUST: Slight irritation.
Symptoms/effects after skin contact: Slight irritation.
Symptoms/effects after eye contact: Slight irritation.

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

SECTION 5: Firefighting measures
5.1. Extinguishing media

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.
Hazardous decomposition products in case of fire: On burning: release of toxic and corrosive gases/vapours (phosphorus oxides).

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.

SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
Emergency procedures: Ventilate spillage area. 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: 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 released product, pump into suitable 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: Mechanically recover the product. Stop dust cloud by humidifying. Scoop solid spill into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
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.
Potassium Phosphate Monobasic
Safety Data Sheet
according to Regulation (EC) No. 453/2010

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 raising dust. Keep away from naked flames/heat. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use.

Hygiene measures: Observe normal hygiene standards. Keep container tightly closed. 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 clean, dry warehouse in the original unopened containers. Store in a well-ventilated place. Keep cool.
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
Potassium Phosphate Monobasic (7778-77-0)
DNEL/DMEL (Workers)
Long-term - systemic effects, inhalation 4.07 mg/m³
PNEC (Water)
PNEC aqua (freshwater) 0.05 mg/l
PNEC aqua (marine water) 0.005 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:

Materials for protective clothing:
GIVE GOOD RESISTANCE: synthetic material. rubber. nitrile rubber

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
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Powder, Crystals.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>136.09 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless or white.</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>4.5 (1 %)</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>253 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>400 °C</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>2.34 (20 °C)</td>
</tr>
<tr>
<td>Density</td>
<td>2338 kg/m³</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Water: 22 g/100ml</td>
<td></td>
</tr>
</tbody>
</table>

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: Not applicable

9.2. Other information

Minimum ignition energy: Not applicable
VOC content: 0 %
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.

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
Strong oxidisers.

10.6. Hazardous decomposition products
Decomposes on exposure to temperature rise: release of toxic/corrosive/combustible gases/vapours (phosphine).

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral): Not classified (Based on available data, the classification criteria are not met)
### Acute toxicity (dermal)
Not classified (Based on available data, the classification criteria are not met)

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

### Toxicity

<table>
<thead>
<tr>
<th>Substance</th>
<th>LD50 oral rat</th>
<th>LD50 dermal rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Phosphate Monobasic (7778-77-0)</td>
<td>7100 mg/kg (Rat)</td>
<td>&gt; 4640 mg/kg (Rabbit)</td>
</tr>
</tbody>
</table>

Causes serious eye damage.
Serious eye damage/irritation
Respiratory or skin sensitisation
Germ cell mutagenicity
Carcinogenicity
Reproductive toxicity
STOT-single exposure
STOT-repeated exposure
Aspiration hazard
Potential adverse human health effects and symptoms

Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Practically non-toxic through skin (LD50 skin 2000/5000 mg/kg). Slightly harmful by inhalation. Slightly irritant to respiratory organs. Slightly irritant to eyes.

### Ecological information

12.1. Toxicity
Ecology - general
Ecology - air
Ecology - water
Dangerous for the environment
Chronic aquatic toxicity

Potassium Phosphate Monobasic (7778-77-0)

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 fish 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Phosphate Monobasic (7778-77-0)</td>
<td>&gt; 900 mg/l (48 h, Leuciscus idus)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

Potassium Phosphate Monobasic (7778-77-0)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Persistence and degradability</th>
<th>Biochemical oxygen demand (BOD)</th>
<th>Chemical oxygen demand (COD)</th>
<th>ThOD</th>
<th>BOD (% of ThOD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Phosphate Monobasic (7778-77-0)</td>
<td>Biodegradability: not applicable.</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

Potassium Phosphate Monobasic (7778-77-0)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Phosphate Monobasic (7778-77-0)</td>
<td>No bioaccumulation data available.</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment

Potassium Phosphate Monobasic (7778-77-0)

<table>
<thead>
<tr>
<th>Substance</th>
<th>PBT</th>
<th>vPvB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Phosphate Monobasic (7778-77-0)</td>
<td>not yet assessed</td>
<td>not yet assessed</td>
</tr>
</tbody>
</table>

12.6. Other adverse effects
No additional information available

### Disposal considerations

13.1. Waste treatment methods
Regional legislation (waste)
Waste treatment methods

<table>
<thead>
<tr>
<th>Substance</th>
<th>Regional legislation (waste)</th>
<th>Waste treatment methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Phosphate Monobasic (7778-77-0)</td>
<td>LWCA (the Netherlands): KGA category 05.</td>
<td>Dispose of contents/container in accordance with licensed collector’s sorting instructions.</td>
</tr>
</tbody>
</table>
Product/Packaging disposal recommendations: Do not discharge into surface water. Remove waste in accordance with local and/or national regulations. Remove to an authorized dump. Precipitate/make insoluble.


SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR): Not applicable
UN-No. (IMDG): Not applicable
UN-No. (IATA): Not applicable
UN-No. (ADN): Not applicable
UN-No. (RID): Not applicable

14.2. UN proper shipping name
Proper Shipping Name (ADR): Not regulated for transport
Proper Shipping Name (IMDG): Not regulated for transport
Proper Shipping Name (IATA): Not regulated for transport
Proper Shipping Name (ADN): Not regulated for transport
Proper Shipping Name (RID): Not regulated for transport

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
Transport regulations (ADN): Not subject

Rail transport
Transport regulations (RID): Not subject

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
Potassium Phosphate Monobasic
Safety Data Sheet
according to Regulation (EC) No. 453/2010

No REACH Annex XVII restrictions
Potassium Phosphate Monobasic is not on the REACH Candidate List
Potassium Phosphate Monobasic is not on the REACH Annex XIV List

VOC content : 0 \%

Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

<table>
<thead>
<tr>
<th>Indication of changes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>This sheet was updated (refer to the date at the top of this page).</td>
</tr>
</tbody>
</table>

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.