SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Revision Date 13.07.2011 Version 8.0

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

1.1 Product identifier
- Catalogue No. 104873
- Product name Potassium dihydrogen phosphate for analysis EMSURE® ISO
- REACH Registration Number A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

1.2 Relevant identified uses of the substance or mixture and uses advised against
- Identified uses Reagent for analysis
  For additional information on uses please refer to the Merck Chemicals portal (www.merck-chemicals.com).

1.3 Details of the supplier of the safety data sheet
- Company Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
- Responsible Department EQ-RS * e-mail: prodsafe@merck.de

1.4 Emergency telephone number
- Please contact the regional Merck representation in your country.

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture
- This substance is not classified as dangerous according to European Union legislation.

2.2 Label elements
- Labelling (REGULATION (EC) No 1272/2008) Not a dangerous substance according to GHS.
- Labelling (67/548/EEC or 1999/45/EC) The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 Other hazards
- None known.

SECTION 3. Composition/information on ingredients
- Formula KH₂PO₄ H₂KO₄P (Hill)
- CAS-No. 7778-77-0
- EC-No. 231-913-4
- Molar mass 136,08 g/mol
SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

After skin contact: wash off with plenty of water. Remove contaminated clothing.

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

4.2 Most important symptoms and effects, both acute and delayed

irritant effects, gastric pain, Diarrhoea, Nausea, Vomiting, Discomfort

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

 Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Not combustible.
Ambient fire may liberate hazardous vapours.
Fire may cause evolution of:
Oxides of phosphorus

5.3 Advice for firefighters

Special protective equipment for fire-fighters
In the event of fire, wear self-contained breathing apparatus.

Further information
Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Do not empty into drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7.2 and 10.5).
Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.
SECTION 7. Handling and storage

7.1 Precautions for safe handling
Observe label precautions.

7.2 Conditions for safe storage, including any incompatibilities
Tightly closed. Dry.
Store at +5°C to +30°C.

7.3 Specific end uses
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering measures
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures
Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Hygiene measures
Change contaminated clothing. Wash hands after working with substance.

Eye/face protection

Safety glasses

Hand protection
full contact:
Glove material: Nitrile rubber
Glove thickness: 0.11 mm
Break through time: > 480 min

splash contact:
Glove material: Nitrile rubber
Glove thickness: 0.11 mm
Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).
The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.
This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

**Respiratory protection**
- Required when dusts are generated.
- Recommended Filter type: Filter P 1 (acc. to DIN 3181) for solid particles of inert substances
- The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Environmental exposure controls**
- Do not empty into drains.

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## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form</strong></td>
<td>solid</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>colourless</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>odourless</td>
</tr>
<tr>
<td><strong>Odour Threshold</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>ca. 4.4 at 50 g/l 20 °C</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>ca. 253 °C (decomposition)</td>
</tr>
<tr>
<td><strong>Boiling point/boiling range</strong></td>
<td>not applicable, (decomposition)</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>does not flash</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Lower explosion limit</strong></td>
<td>not applicable</td>
</tr>
<tr>
<td><strong>Upper explosion limit</strong></td>
<td>not applicable</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Relative vapour density</strong></td>
<td>No information available.</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>2.34 g/cm³ at 20 °C</td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>222 g/l at 20 °C</td>
</tr>
</tbody>
</table>
SECTION 10. Stability and reactivity

10.1 Reactivity
See section 10.3.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions
Violent reactions possible with:
- Strong oxidizing agents, Bases, acids

10.4 Conditions to avoid
Strong heating (decomposition).

10.5 Incompatible materials
no information available

10.6 Hazardous decomposition products
in the event of fire: See chapter 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity
LDLO rat: 4.640 mg/kg (RTECS)
Symptoms: Nausea, Vomiting, gastric pain, Diarrhoea, Discomfort

Acute dermal toxicity
LD50 rabbit: > 4.640 mg/kg (RTECS)
Eye irritation
slight irritation

Specific target organ toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration hazard
Based on available data the classification criteria are not met.

11.2 Further information
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

12.1 Toxicity
Toxicity to fish
LC0 Leuciscus idus (Golden orfe): ca. 900 mg/l; 48 h (IUCLID)

12.2 Persistence and degradability
No information available.

12.3 Bioaccumulative potential
No information available.

12.4 Mobility in soil
No information available.

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects
Additional ecological information
Depending on the concentration, phosphates may contribute to the eutrophication of water supplies.
Discharge into the environment must be avoided.

SECTION 13. Disposal considerations
Waste treatment methods
Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information
Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulations
Major Accident Hazard 96/82/EC
Legislation Directive 96/82/EC does not apply
Storage class 10 - 13

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out.
SECTION 16. Other information

Training advice
Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet
Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation
This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.