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

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

1.1 Product identifiers

Product name: Potassium dihydrogen phosphate for analysis EMSURE® ISO

Product Number: 1.04873
Catalogue No.: 104873
Brand: Millipore
REACH No.: 01-2119490224-41-XXXX
CAS-No.: 7778-77-0

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

Identified uses: Reagent for analysis

1.3 Details of the supplier of the safety data sheet

Company: Sigma-Aldrich Ireland Limited
Vale Road
Arklow
CO WICKLOW
CO WICKLOW
IRELAND

Telephone: +353 402-20300
E-mail address: TechnicalService@merckgroup.com

1.4 Emergency telephone

Emergency Phone #: +(353)-19014670 (CHEMTREC)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Formula</th>
<th>KH2PO4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular weight</td>
<td>136.09 g/mol</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>7778-77-0</td>
</tr>
<tr>
<td>EC-No.</td>
<td>231-913-4</td>
</tr>
</tbody>
</table>

No components need to be disclosed according to the applicable regulations.

SECTION 4: First aid measures

4.1 Description of first-aid measures

- **If inhaled**
  After inhalation: fresh air.

- **In case of skin contact**
  In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

- **In case of eye contact**
  After eye contact: rinse out with plenty of water. Remove contact lenses.

- **If swallowed**
  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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting 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.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further information

Suppress (knock down) gases/vapors/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.
For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter 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 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
   Storage conditions
   Tightly closed. Dry.
   Recommended storage temperature see product label.

   Storage class
   Storage class (TRGS 510): 11: Combustible Solids

7.3 Specific end use(s)
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

   Ingredients with workplace control parameters
   Contains no substances with occupational exposure limit values.

8.2 Exposure controls

   Personal protective equipment

   Eye/face protection
   Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

   Skin protection
   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).
   Full contact
   Material: Nitrile rubber
   Minimum layer thickness: 0.11 mm
   Break through time: 480 min
Material tested: KCL 741 Dermatril® L

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).

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested: KCL 741 Dermatril® L

Respiratory protection
required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P1

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.

Control of environmental exposure
Do not let product enter drains.

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**SECTION 9: Physical and chemical properties**

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

<table>
<thead>
<tr>
<th></th>
<th>Form: solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Appearance</td>
<td>Color: colorless</td>
</tr>
<tr>
<td>b) Odor</td>
<td>odorless</td>
</tr>
<tr>
<td>c) Odor Threshold</td>
<td>Not applicable</td>
</tr>
<tr>
<td>d) pH</td>
<td>4.2 - 4.6 at 20.0 g/l at 20.0 °C</td>
</tr>
<tr>
<td>e) Melting point/freezing point</td>
<td>Melting point: 252.6 °C</td>
</tr>
<tr>
<td>f) Initial boiling point and boiling range</td>
<td>450 °C at 1,013 hPa - Regulation (EC) No. 440/2008, Annex A.2</td>
</tr>
<tr>
<td>g) Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>h) Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>i) Flammability (solid, gas)</td>
<td>The product is not flammable.</td>
</tr>
<tr>
<td>j) Upper/lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>k) Vapor pressure</td>
<td>&lt; 0.1 hPa at 25 °C - Regulation (EC) No. 440/2008, Annex, A.4</td>
</tr>
<tr>
<td>l) Vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>m) Density</td>
<td>2.34 g/cm³</td>
</tr>
</tbody>
</table>
n) Water solubility 208 g/l at 20 °C - Regulation (EC) No. 440/2008, Annex, A.6-
completely soluble
o) Partition coefficient: n-octanol/water - Not applicable for inorganic substances
p) Autoignition temperature No data available
q) Decomposition temperature No data available
r) Viscosity Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
s) Explosive properties No data available
t) Oxidizing properties none

9.2 Other safety information
Bulk density ca.1,200 kg/m3
Particle size < 0.045 mm - Mean particle size

SECTION 10: Stability and reactivity
10.1 Reactivity
No data available
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).
no information available
10.5 Incompatible materials
No data available
10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information
11.1 Information on toxicological effects
Acute toxicity
LD50 Oral - Rat - female - > 2,000 mg/kg
(OECD Test Guideline 420)
Remarks: The value is given in analogy to the following substances: dipotassium hydrogen phosphate
LC50 Inhalation - Rat - male and female - 4 h - > 0.83 mg/l - dust/mist

(OECD Test Guideline 403)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: sodium dihydrogen phosphate
LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h  
(Draize Test)
Remarks: (ECHA)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritation - 30 s
(Draize Test)
Remarks: (ECHA)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Micronucleus test
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 487
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Result: negative
Remarks: (ECHA)

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Additional Information

Endocrine disrupting properties

Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
irritant effects, Discomfort, Nausea, Diarrhea, Vomiting, gastric pain
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Inhalation of the dusts should be avoided as even inert dusts may impair respiratory organ functions.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Description</th>
<th>Toxicity Information</th>
<th>Literature Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>semi-static test LC50 - Oncorhynchus mykiss (rainbow trout)</td>
<td>&gt; 100 mg/l - 96 h</td>
<td>OECD Test Guideline 203</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>static test EC50 - Daphnia magna (Water flea)</td>
<td>&gt; 100 mg/l - 48 h</td>
<td>OECD Test Guideline 202</td>
</tr>
<tr>
<td>Toxicity to algae</td>
<td>static test ErC50 - Desmodesmus subspicatus (green algae)</td>
<td>&gt; 100 mg/l - 72 h</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td>Toxicity to bacteria</td>
<td>static test EC50 - activated sludge</td>
<td>&gt; 1,000 mg/l - 3 h</td>
<td>OECD Test Guideline 209</td>
</tr>
<tr>
<td></td>
<td>static test NOEC - activated sludge</td>
<td>&gt; 1,000 mg/l - 3 h</td>
<td>OECD Test Guideline 209</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability
The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential
Does not bioaccumulate.

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

**Product:**

**Assessment:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
12.7 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

**Product**
Notice Directive on waste 2008/98/EC. Waste material must be disposed of in accordance with the 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

14.1 UN number

<table>
<thead>
<tr>
<th>ADR/RID:</th>
<th>IMDG:</th>
<th>IATA:</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

14.2 UN proper shipping name

<table>
<thead>
<tr>
<th>ADR/RID:</th>
<th>IMDG:</th>
<th>IATA:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not dangerous goods</td>
<td>Not dangerous goods</td>
<td>Not dangerous goods</td>
</tr>
</tbody>
</table>

14.3 Transport hazard class(es)

<table>
<thead>
<tr>
<th>ADR/RID:</th>
<th>IMDG:</th>
<th>IATA:</th>
</tr>
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<tbody>
<tr>
<td>-</td>
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</table>

14.4 Packaging group

<table>
<thead>
<tr>
<th>ADR/RID:</th>
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<th>IATA:</th>
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</thead>
<tbody>
<tr>
<td>-</td>
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</table>

14.5 Environmental hazards

<table>
<thead>
<tr>
<th>ADR/RID:</th>
<th>IMDG:</th>
<th>IATA:</th>
</tr>
</thead>
<tbody>
<tr>
<td>no</td>
<td>IMDG Marine pollutant: no</td>
<td>no</td>
</tr>
</tbody>
</table>

14.6 Special precautions for user

**Further 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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

**Further information**
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of
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