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

1.1 Product identifiers

Product name : Potassium peroxodisulfate

Product Number : 60489
Brand : Fluka
Index-No. : 016-061-00-1
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. : 7727-21-1

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Chemie BV
Stationsplein 4
3331 LL ZWIJNDRECHT
NETHERLANDS

Telephone : +31 78-620-5411
Fax : +31 78-620-5421
E-mail address : eurtechserv@sial.com

1.4 Emergency telephone number

Emergency Phone # : 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Oxidizing solids (Category 3), H272
Acute toxicity, Oral (Category 4), H302
Skin irritation (Category 2), H315
Eye irritation (Category 2), H319
Respiratory sensitisation (Category 1), H334
Skin sensitisation (Category 1), H317
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Oxidising R 8
Xn Harmful R22
Xi Irritant R36/37/38

For the full text of the R-phrases mentioned in this Section, see Section 16.
2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Danger</th>
</tr>
</thead>
</table>

Hazard statement(s)
- H272: May intensify fire; oxidiser.
- H302: Harmful if swallowed.
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H319: Causes serious eye irritation.
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335: May cause respiratory irritation.

Precautionary statement(s)
- P220: Keep/Store away from clothing/ combustible materials.
- P261: Avoid breathing dust.
- P280: Wear protective gloves.
- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P342 + P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Supplemental Hazard Statements
- none

2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>Potassium persulfate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>( K_2O_8S_2 )</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>270.32 g/mol</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>7727-21-1</td>
</tr>
<tr>
<td>EC-No.</td>
<td>231-781-8</td>
</tr>
<tr>
<td>Index-No.</td>
<td>016-061-00-1</td>
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</table>

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipotassium peroxodisulphate</td>
<td></td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td>CAS-No. 7727-21-1</td>
<td>Ox. Sol. 3; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; Resp. Sens. 1; Skin Sens. 1; STOT SE 3; H272, H302, H315, H317, H319, H334, H335</td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td>EC-No. 231-781-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Index-No. 016-061-00-1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hazardous ingredients according to Directive 1999/45/EC

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipotassium peroxodisulphate</td>
<td></td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td>CAS-No. 7727-21-1</td>
<td>O, Xn, R 8 - R22 - R36/37/38 - R42/43</td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td>EC-No. 231-781-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Index-No. 016-061-00-1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16
SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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 water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Sulphur oxides, Potassium oxides
Container explosion may occur under fire conditions.

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition. No smoking. Keep away from heat and sources of ignition. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Moisture sensitive.

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
Components with workplace control parameters

8.2 Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

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

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

- **Full contact**
- **Material:** Nitrile rubber
- **Minimum layer thickness:** 0.11 mm
- **Break through time:** 480 min
- **Material tested:** Dermatril® (KCL 740 / Aldrich Z677272, Size M)

- **Splash contact**
- **Material:** Nitrile rubber
- **Minimum layer thickness:** 0.11 mm
- **Break through time:** 480 min
- **Material tested:** Dermatril® (KCL 740 / Aldrich Z677272, Size M)

**Body Protection**
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use
respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance
Form: powder
Colour: white

b) Odour
no data available

c) Odour Threshold
no data available

d) pH
2.5 - 4.5 at 27 g/l at 25 °C

e) Melting point/freezing point
100 °C

f) Initial boiling point and boiling range
no data available

g) Flash point
no data available

h) Evaporation rate
no data available

i) Flammability (solid, gas)
no data available

j) Upper/lower flammability or explosive limits
no data available

k) Vapour pressure
no data available

l) Vapour density
9.33 - (Air = 1.0)

m) Relative density
2,477 g/cm3

n) Water solubility
27 g/l at 20 °C - completely soluble

o) Partition coefficient: n-octanol/water
no data available

p) Auto-ignition temperature
no data available

q) Decomposition temperature
170 °C -

r) Viscosity
no data available

s) Explosive properties
no data available

t) Oxidizing properties
The substance or mixture is classified as oxidizing with the category 3.

9.2 Other safety information
Relative vapour density
9.33 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
no data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
no data available
10.4 **Conditions to avoid**
Exposure to moisture. Heat.

10.5 **Incompatible materials**
Organic materials, Strong reducing agents, Powdered metals, Strong bases, Alcohols, phosphorous, Anhydrides, Halogens, Acids

10.6 **Hazardous decomposition products**
Other decomposition products - no data available
In the event of fire: see section 5

---

**SECTION 11: Toxicological information**

11.1 **Information on toxicological effects**

**Acute toxicity**
LD50 Oral - rat - 825 mg/kg
LD50 Dermal - rabbit - > 10.000 mg/kg

**Skin corrosion/irritation**
no data available

**Serious eye damage/eye irritation**
no data available

**Respiratory or skin sensitisation**
no data available

**Carcinogenicity**
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**
no data available

**Specific target organ toxicity - single exposure**
May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**
no data available

**Aspiration hazard**
no data available

**Additional Information**
RTECS: SE0400000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

---

**SECTION 12: Ecological information**

12.1 **Toxicity**

Toxicity to fish
LC50 - Fish - 76,3 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia - 120 mg/l - 48 h

Toxicity to bacteria
EC50 - Bacteria - 83,7 mg/l - 72 h

12.2 **Persistence and degradability**
no data available

12.3 **Bioaccumulative potential**
no data available
12.4 **Mobility in soil**  
no data 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**  
Harmful to aquatic life.  
no data available

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

**Product**  
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**  
Dispose of as unused product.

### SECTION 14: Transport information

#### 14.1 UN number

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
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</thead>
<tbody>
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#### 14.2 UN proper shipping name

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<th>IATA</th>
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</thead>
<tbody>
<tr>
<td>POTASSIUM PERSULPHATE</td>
<td>POTASSIUM PERSULPHATE</td>
<td>Potassium persulphate</td>
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#### 14.3 Transport hazard class(es)

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#### 14.4 Packaging group

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

#### 14.6 Special precautions for user

no data available

### SECTION 15: Regulatory information

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

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

#### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

### SECTION 16: Other information

**Full text of H-Statements referred to under sections 2 and 3.**

- **Acute Tox.**  
  Acute toxicity
- **Eye Irrit.**  
  Eye irritation
- **H272**  
  May intensify fire; oxidiser.
- **H302**  
  Harmful if swallowed.
- **H315**  
  Causes skin irritation.
- **H317**  
  May cause an allergic skin reaction.
H319  Causes serious eye irritation.
H334  May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335  May cause respiratory irritation.
Ox. Sol.  Oxidizing solids
Resp. Sens.  Respiratory sensitisation
Skin Irrit.  Skin irritation

**Full text of R-phrases referred to under sections 2 and 3**

<table>
<thead>
<tr>
<th>O</th>
<th>Oxidising</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xn</td>
<td>Harmful</td>
</tr>
<tr>
<td>R 8</td>
<td>Contact with combustible material may cause fire.</td>
</tr>
<tr>
<td>R22</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>R36/37/38</td>
<td>Irritating to eyes, respiratory system and skin.</td>
</tr>
<tr>
<td>R42/43</td>
<td>May cause sensitisation by inhalation and skin contact.</td>
</tr>
</tbody>
</table>

**Further information**

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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 the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.