1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th><strong>Product name</strong></th>
<th>Potassium persulfate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Number</strong></td>
<td>216224</td>
</tr>
<tr>
<td><strong>Brand</strong></td>
<td>Sigma-Aldrich</td>
</tr>
<tr>
<td><strong>Supplier</strong></td>
<td>Sigma-Aldrich</td>
</tr>
<tr>
<td></td>
<td>3050 Spruce Street</td>
</tr>
<tr>
<td></td>
<td>SAINT LOUIS MO 63103 USA</td>
</tr>
<tr>
<td><strong>Telephone</strong></td>
<td>+1 800-325-5832</td>
</tr>
<tr>
<td><strong>Fax</strong></td>
<td>+1 800-325-5052</td>
</tr>
<tr>
<td><strong>Emergency Phone # (For both supplier and manufacturer)</strong></td>
<td>(314) 776-6555</td>
</tr>
</tbody>
</table>

Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

**OSHA Hazards**
Oxidizer, Harmful by ingestion., Skin and respiratory sensitizer, Irritant

**GHS Classification**
Oxidizing solids (Category 3)
Acute toxicity, Oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Respiratory sensitization (Category 1)
Skin sensitization (Category 1)
Specific target organ toxicity - single exposure (Category 3)

**GHS Label elements, including precautionary statements**

- Pictogram

- Signal word: Danger

- 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/ fume/ gas/ mist/ vapours/ spray.
  - 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.

**HMIS Classification**

- **Health hazard:** 3
- **Flammability:** 0
- **Physical hazards:** 3

**NFPA Rating**

- **Health hazard:** 3
- **Fire:** 0
- **Reactivity Hazard:** 3

**Potential Health Effects**

- **Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.
- **Skin** Harmful if absorbed through skin. Causes skin irritation.
- **Eyes** Causes eye irritation.
- **Ingestion** Harmful if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms** : Potassium peroxodisulfate

**Formula** : K₂O₈S₂

**Molecular Weight** : 270.32 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipotassium peroxydisulfate</td>
<td></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>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**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.

### 5. FIREFIGHTING MEASURES

**Conditions of flammability**

Not flammable or combustible.

**Suitable extinguishing media**

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

**Specific hazards arising from the chemical**

Container explosion may occur under fire conditions.

**Special protective equipment for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.
**Hazardous combustion products**
Hazardous decomposition products formed under fire conditions. - Sulphur oxides
Hazardous decomposition products formed under fire conditions. - Sulphur oxides, Potassium oxides

**Further information**
Use water spray to cool unopened containers.

6. **ACCIDENTAL RELEASE MEASURES**

**Personal precautions**
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Environmental precautions**
Do not let product enter drains.

**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.

7. **HANDLING AND STORAGE**

**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.

**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place.
Moisture sensitive. Keep in a dry place.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Components with workplace control parameters**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dipotassium peroxodisulphate</td>
<td>7727-21-1</td>
<td>TWA</td>
<td>0.1 mg/m3</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
</tbody>
</table>

**Personal protective equipment**

**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).

**Hand 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.

**Eye 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 and 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.

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of
9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
- Form: powder
- Colour: white

**Safety data**
- pH: 2.5 - 4.5 at 27 g/l at 25 °C (77 °F)
- Melting point/freezing point: 100 °C (212 °F)
- Boiling point: no data available
- Flash point: no data available
- Ignition temperature: no data available
- Autoignition temperature: no data available
- Lower explosion limit: no data available
- Upper explosion limit: no data available
- Vapour pressure: no data available
- Density: 2.477 g/cm³
- Water solubility: 27 g/l at 20 °C (68 °F) - completely soluble
- Partition coefficient: n-octanol/water: no data available
- Relative vapour density: 9.33 - (Air = 1.0)
- Odour: no data available
- Odour Threshold: no data available
- Evaporation rate: no data available

10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of hazardous reactions**
no data available

**Conditions to avoid**
Exposure to moisture. Heat.

**Materials to avoid**
Organic materials, Strong reducing agents, Powdered metals, Strong bases, Alcohols, phosphorous, Anhydrides, Halogens, Acids

**Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Sulphur oxides
Hazardous decomposition products formed under fire conditions. - Sulphur oxides, Potassium oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

**Acute toxicity**
- Oral LD50
  - LD50 Oral - rat - 802 mg/kg
Inhalation LC50
Dermal LD50
no data available

Other information on acute toxicity
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
May cause allergic respiratory and skin reactions

Germ cell mutagenicity
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.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

Teratogenicity
no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
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<td>Inhalation</td>
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<td>Eyes</td>
<td>Causes eye irritation.</td>
</tr>
</tbody>
</table>

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects
no data available

Additional Information
RTECS: SE0400000

12. ECOLOGICAL INFORMATION
Toxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

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. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1492  Class: 5.1  Packing group: III
Proper shipping name: Potassium persulfate
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN number: 1492  Class: 5.1  Packing group: III  EMS-No: F-A, S-Q
Proper shipping name: POTASSIUM PERSULPHATE
Marine pollutant: No

IATA
UN number: 1492  Class: 5.1  Packing group: III
Proper shipping name: Potassium persulphate

15. REGULATORY INFORMATION

OSHA Hazards
Oxidizer, Harmful by ingestion., Skin and respiratory sensitizer, Irritant

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Reactivity Hazard, Acute Health Hazard

Massachusetts Right To Know Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
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<tbody>
<tr>
<td>Dipotassium peroxodisulphate</td>
<td>7727-21-1</td>
<td>2007-03-01</td>
</tr>
</tbody>
</table>
Pennsylvania Right To Know Components

Dipotassium peroxodisulphate  CAS-No. 7727-21-1  Revision Date 2007-03-01

New Jersey Right To Know Components

Dipotassium peroxodisulphate  CAS-No. 7727-21-1  Revision Date 2007-03-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

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.