1. Identification

Product Name: Potassium persulfate

Cat No.: BP180-100; P281-500; P282-100; P282-500

Synonyms: Dipotassium peroxydisulfate (Crystals/Crystalline Powder/Certified/Certified ACS)

Recommended Use: Laboratory chemicals.

Uses advised against: No Information available

Company: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number:
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxidizing solids</td>
<td>Category 3</td>
</tr>
<tr>
<td>Acute oral toxicity</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Respiratory Sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Skin Sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Target Organs - Respiratory system.</td>
<td></td>
</tr>
</tbody>
</table>

Label Elements

Signal Word: Danger

Hazard Statements
May intensify fire; oxidizer
Potassium persulfate

Harmful if swallowed
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause respiratory irritation

Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep/Store away from clothing/ other combustible materials
Take any precaution to avoid mixing with combustibles
Inhalation
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Fire
In case of fire: Use CO2, dry chemical, or foam for extinction
Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
None identified

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium persulfate</td>
<td>7727-21-1</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

4. First-aid measures
Eye Contact  Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact  Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

Inhalation  Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Obtain medical attention.

Ingestion  Do not induce vomiting. Call a physician or Poison Control Center immediately.

Most important symptoms/effects  May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Notes to Physician  Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media  CO₂, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable Extinguishing Media  Water

Flash Point  No information available
Method -  No information available

Autoignition Temperature  No information available

Explosion Limits  Upper - No data available
                Lower - No data available

Sensitivity to Mechanical Impact  No information available
Sensitivity to Static Discharge  No information available

Specific Hazards Arising from the Chemical
Oxidizer: Contact with combustible/organic material may cause fire.

Hazardous Combustion Products
Sulfur oxides Oxides of potassium

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA  

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>2</td>
<td>OX</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions  Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.
Environmental Precautions  Should not be released into the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean Up  Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep away from clothing and other combustible materials. Avoid dust formation.

7. Handling and storage

Handling  Use only under a chemical fume hood. Wear personal protective equipment. Keep away from clothing and other combustible materials. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation. Wash hands before breaks and immediately after handling the product.
8. Exposure controls / personal protection

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium persulfate</td>
<td>TWA: 0.1 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWAEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium persulfate</td>
<td></td>
<td>TWA: 0.1 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State: Solid
Appearance: White
Odor: Odorless
Odor Threshold: No information available
pH: 4-5  50 g/l aq.sol
Melting Point/Range: 100 °C / 212 °F
Boiling Point/Range: No information available
Flash Point: No information available
Evaporation Rate: No information available
Flammability (solid,gas): No information available
Flammability or explosive limits
Upper: No data available
Lower: No data available
Vapor Pressure: No information available
Vapor Density: No information available
Relative Density: No information available
Solubility: Slightly soluble in water
Partition coefficient; n-octanol/water: No data available
Autoignition Temperature: No information available
Decomposition temperature: 100 °C
Viscosity: No information available
Molecular Formula: K2 O8 S2
Molecular Weight: 270.3

10. Stability and reactivity

Reactive Hazard

None known, based on information available

Stability

Oxidizer: Contact with combustible/organic material may cause fire. Hygroscopic.
Potassium persulfate

Revision Date 24-Sep-2014

Conditions to Avoid
Incompatible products. Excess heat. Combustible material. Avoid dust formation. Exposure to moist air or water.

Incompatible Materials

Hazardous Decomposition Products
Sulfur oxides. Oxides of potassium

Hazardous Polymerization
Hazardous polymerization does not occur.

Hazardous Reactions
None under normal processing.

11. Toxicological information

Acute Toxicity

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral (Rat)</th>
<th>LD50 Dermal (Rabbit)</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium persulfate</td>
<td>802 mg/kg</td>
<td>10000 mg/kg</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products
No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation
Irritating to eyes, respiratory system and skin

Sensitization
May cause sensitization by inhalation and skin contact

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
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</thead>
<tbody>
<tr>
<td>Potassium persulfate</td>
<td>7727-21-1</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects
No information available

Reproductive Effects
No information available.

Developmental Effects
No information available.

Teratogenicity
No information available.

STOT - single exposure
Respiratory system

STOT - repeated exposure
None known

Aspiration hazard
No information available

Symptoms / effects, both acute and delayed
Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Endocrine Disruptor Information
No information available

Other Adverse Effects
The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium persulfate</td>
<td>Not listed</td>
<td>LC50: 100 mg/L/96h (P. reticulata)</td>
<td>Not listed</td>
<td>EC50: 357 mg/L/24H (Daphnia magna)</td>
</tr>
</tbody>
</table>

Persistence and Degradability
No information available

Bioaccumulation/ Accumulation
No information available.
Potassium persulfate

Mobility
No information available.

13. Disposal considerations
Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

<table>
<thead>
<tr>
<th>UN-No</th>
<th>POTASSIUM PERSULFATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>5.1</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
</tbody>
</table>

TDG

<table>
<thead>
<tr>
<th>UN-No</th>
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IATA

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</table>

IMDG/IMO

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</thead>
<tbody>
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<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
</tbody>
</table>

15. Regulatory information

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium persulfate</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>231-781-8</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
- Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable
SARA 313 Not applicable

SARA 311/312 Hazardous Categorization

| Acid Health Hazard | Yes |
| Chronic Health Hazard | Yes |
Potassium persulfate

Fire Hazard  
Sudden Release of Pressure Hazard  
Reactive Hazard  

None known, based on information available

Clean Water Act  Not applicable
Clean Air Act  Not applicable

OSHA Occupational Safety and Health Administration  Not applicable

CERCLA  Not applicable

California Proposition 65  This product does not contain any Proposition 65 chemicals

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium persulfate</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation

Reportable Quantity (RQ):  N
DOT Marine Pollutant  N
DOT Severe Marine Pollutant  N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade  No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class  C  Oxidizing materials
D2A Very toxic materials
D2B  Toxic materials

16. Other information

Prepared By  Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date  26-Jan-2010
Revision Date  24-Sep-2014
Print Date  24-Sep-2014
Revision Summary  This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)
Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS