SECTION 1. IDENTIFICATION

Product Identifier: Potassium Permanganate
Other Means of Identification: Permanganic acid (potassium salt)
Product Code(s): PO6210, PO6211, PO6220
Product Family: Inorganic Solid
Recommended Use: Laboratory and industrial use.
Restrictions on Use: None known.
Supplier Identifier: Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.: CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.: 0298

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada’s Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification:
Oxidizing solid - Category 2; Acute toxicity (Oral) - Category 4; Skin corrosion - Category 1; Serious eye damage - Category 1

Label Elements

Signal Word:
Danger

Hazard Statement(s):
May intensify fire; oxidizer.
Harmful if swallowed.
Causes severe skin burns and eye damage.

Precautionary Statement(s):
Keep or store away from clothing and other combustible materials.
Avoid release to the environment.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep or store away from clothing and other combustible materials.
Take any precaution to avoid mixing with combustibles.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
Wear protective gloves/protective clothing/eye protection/face protection. If SWALLOWED: Call a POISON CENTRE/doctor/ if you feel unwell. If SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Call a POISON CENTRE/doctor/ If eye irritation persists: Get medical advice/attention. 

Other Hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name</td>
<td>CAS No.</td>
</tr>
<tr>
<td>Potassium permanganate</td>
<td>7722-64-7</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation
Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. Immediately call a Poison Centre or doctor.

Skin Contact
Avoid direct contact. Wear chemical protective clothing if necessary. Immediately rinse skin with lukewarm, gently flowing water for at least 30 minutes. If skin irritation occurs, get medical advice or attention.

Eye Contact
Avoid direct contact. Wear chemical protective gloves if necessary. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion
Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Rinse mouth with water. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again. Immediately call a Poison Centre or doctor.

First-aid Comments
Some of the first-aid procedures recommended here require advanced first-aid training. Get medical advice or attention if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed
None known.

Immediate Medical Attention and Special Treatment

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

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media
Suitable Extinguishing Media
Use flooding quantities of water spray or fog.

Unsuitable Extinguishing Media
DO NOT use carbon dioxide, or other agents that smother the flames.

Specific Hazards ARISING FROM THE PRODUCT
Does not burn. Strong oxidizer. May intensify fire. Closed containers may rupture violently when heated releasing contents.
In a fire, the following hazardous materials may be generated: Oxygen. Manganese oxides.

Special Protective Equipment and Precautions for Fire-fighters
Evacuate area. Fight fire from a protected, explosion-resistant location or maximum distance possible. Approach fire from upwind to avoid hazardous vapours or gases. Oxidizer. Prevent contact with flammable and combustible materials. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles.
Before entry, especially into confined areas, use an appropriate monitor to check for: toxic gases or vapours. Dike and recover contaminated water for appropriate disposal.
Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures
Use the personal protective equipment recommended in Section 8 of this safety data sheet. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Eliminate all ignition sources. Use grounded, explosion-proof equipment.

Environmental Precautions
Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up
Stop or reduce leak if safe to do so. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal. Small spills or leaks: contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Flush spill area.
Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling
Wear personal protective equipment to avoid direct contact with this chemical. Do not breathe in this product. Do not get in eyes, on skin or on clothing. Only use where there is adequate ventilation. Avoid generating vapours or mists. Avoid generating dusts. Prevent accidental contact with incompatible chemicals. Keep containers tightly closed when not in use or empty. Never reuse empty containers, even if they appear to be clean.

Conditions for Safe Storage
Store in an area that is: cool, dry, well-ventilated. Protect from sunlight. Store in the original, labelled, shipping container. Protect from conditions listed in Conditions to Avoid in Section 10 (Stability and Reactivity). Keep amount in storage to a minimum. Comply with all applicable health and safety regulations, fire and building codes.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV®</th>
<th>OSHA PEL</th>
<th>AIHA WEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA</td>
<td>STEL</td>
<td>TWA</td>
</tr>
<tr>
<td>Potassium permanganate</td>
<td>0.1 mg/m³</td>
<td></td>
<td>5 mg/m³</td>
</tr>
</tbody>
</table>

Appropriate Engineering Controls
Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Use a corrosion-resistant exhaust ventilation system separate from other ventilation systems. Exhaust directly to the outside, taking any necessary precautions for environmental protection. Use only non-combustible, compatible materials for walls, floors,
ventilation system, air cleaning devices, pellets, shelving.

**Individual Protection Measures**

**Eye/Face Protection**
Wear chemical safety goggles and face shield when contact is possible.

**Skin Protection**
Wear chemical protective clothing e.g. gloves, aprons, boots.
Suitable materials are: Silver Shield/4H® (PE/EVAL/PE), polyethylene, Tychem® Responder.

**Respiratory Protection**
No specific guidelines are available. Contact chemical manufacturer/supplier for advice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Basic Physical and Chemical Properties**

- **Appearance**: Dark blue - black crystals.
- **Odour**: Odourless
- **Odour Threshold**: Not available
- **pH**: 10 (0.1 M solution) (estimated)
- **Melting Point/Freezing Point**: Not applicable (melting); Not applicable (freezing)
- **Initial Boiling Point/Range**: Not applicable
- **Flash Point**: Not applicable
- **Evaporation Rate**: Not applicable
- **Flammability (solid, gas)**: Will not burn.
- **Upper/Lower Flammability or Explosive Limit**: Not applicable (upper); Not applicable (lower)
- **Vapour Pressure**: ~ 0 kPa
- **Vapour Density (air = 1)**: Not applicable
- **Relative Density (water = 1)**: 2.7
- **Solubility**: 6.4 g/100 mL (Moderately soluble) in water; Soluble in all proportions in ketones (e.g. acetone).
- **Partition Coefficient, n-Octanol/Water (Log Kow)**: Not applicable
- **Auto-ignition Temperature**: Not applicable
- **Decomposition Temperature**: 200 - 300 °C (392 - 572 °F)
- **Viscosity**: Not applicable (kinematic); Not applicable (dynamic)

**Other Information**

- **Physical State**: Solid

### SECTION 10. STABILITY AND REACTIVITY

**Reactivity**
Strong oxidizer. May cause or intensify fire.

**Chemical Stability**
Normally stable.

**Possibility of Hazardous Reactions**
None known.

**Conditions to Avoid**
High temperatures. Temperatures above 200 °C

**Incompatible Materials**
Aldehydes (e.g. acetaldehyde), alcohols (e.g. ethanol), amines (e.g. triethylamine), ketones (e.g. acetone), glycols (e.g. ethylene glycol), strong acids (e.g. hydrochloric acid).

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**Product Identifier:** Potassium Permanganate  
**Date of Preparation:** January 06, 2016  
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Hazardous Decomposition Products
Oxygen (a strong oxidizer).
Manganese oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure
Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LC50</th>
<th>LD50 (oral)</th>
<th>LD50 (dermal)</th>
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</thead>
<tbody>
<tr>
<td>Potassium permanganate</td>
<td>Not available</td>
<td>750 mg/kg (rat)</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Skin Corrosion/Irritation
Corrosive based on information for closely related materials.

Serious Eye Damage/Irritation
Causes serious eye damage based on skin corrosion information.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation
May cause nose and throat irritation. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest.

Skin Absorption
No information was located.

Ingestion
Toxic, can cause death severe irritation or burns to the mouth, throat and stomach. Symptoms may include nausea, vomiting, stomach cramps and diarrhea.

Aspiration Hazard
No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure
If inhaled: causes effects on the central nervous system. Symptoms may include restlessness, reduced ability to think, muscle tremors, memory loss and personality changes. In severe cases, symptoms may include muscle weakness, loss of feeling or prickly sensation in the hands, feet, arms or legs, clumsiness and paralysis.

Respiratory and/or Skin Sensitization
No information was located.

Carcinogenicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>IARC</th>
<th>ACGIH®</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium permanganate</td>
<td>Not designated</td>
<td>A4</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

ACGIH®: A4 – Not classifiable as a human carcinogen.

Key to Abbreviations
IARC = International Agency for Research on Cancer.
ACGIH® = American Conference of Governmental Industrial Hygienists.
NTP = National Toxicology Program.
OSHA = US Occupational Safety and Health Administration.

Reproductive Toxicity

Development of Offspring
Not known to harm the unborn child.

Sexual Function and Fertility
Conclusions cannot be drawn from the limited studies available.

Effects on or via Lactation

Product Identifier: Potassium Permanganate
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No information was located.

Germ Cell Mutagenicity
No information was located.

Interactive Effects
No information was located.

SECTION 12. ECOLOGICAL INFORMATION
This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS
Disposal Methods
Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Regulation</th>
<th>UN No.</th>
<th>Proper Shipping Name</th>
<th>Transport Hazard Class(es)</th>
<th>Packing Group</th>
</tr>
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<tbody>
<tr>
<td>Canadian TDG</td>
<td>UN1490</td>
<td>Potassium Permanganate</td>
<td>5.1</td>
<td>II</td>
</tr>
</tbody>
</table>

Special Precautions Not applicable
Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

SECTION 15. REGULATORY INFORMATION
Safety, Health and Environmental Regulations
Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)
Listed on the DSL.

USA
Toxic Substances Control Act (TSCA) Section 8(b)
Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION
SDS Prepared By Alphachem Limited
Phone No. (905)-821-2995
Date of Preparation January 06, 2016
Date of Last Revision March 30, 2016

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.