Section 1 - Product and Company Information

Product Name: POTASSIUM CHLORATE, 98%
Product Number: 224863
Brand: ALDRICH
Company: Sigma-Aldrich
Street Address: 3050 Spruce Street
City, State, Zip, Country: SAINT LOUIS MO 63103 US
Technical Phone: 314 771 5765
Emergency Phone: 414 273 3850 Ext. 5996
Fax: 800 325 5052

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 313</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTASSIUM CHLORATE</td>
<td>3811-04-9</td>
<td>No</td>
</tr>
</tbody>
</table>

Formula: KClO3
Synonyms:
- Anforstan
- Berthollet salt
- Berthollet's salt
- Chlorate de potassium (French)
- Chlorate of potash
- Fekabit
- Oxymuriate of potash
- Potassio (chlorato di) (Italian)
- Potassium chlorate
- Potassium (chlorate de) (French)
- Potassium oxymuriate
- Potcrate
- Salt of tarter

RTECS Number: FO0350000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
- Oxidizing. Harmful.
- Explosive when mixed with combustible material. Harmful by inhalation and if swallowed.

HMIS RATING
- HEALTH: 1*
- FLAMMABILITY: 0
- REACTIVITY: 3

NFPA RATING
- HEALTH: 1
- FLAMMABILITY: 0
- REACTIVITY: 3

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
- If swallowed, wash out mouth with water provided person is
conscious. Call a physician.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

EXPLOSION HAZARDS
May explode when heated.

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions. Contact with other material may cause fire. May accelerate combustion.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame. Store in a cool dry place.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Use only in a chemical fume hood. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling. Remove and wash contaminated clothing promptly.

Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Color: White</td>
<td></td>
</tr>
<tr>
<td>Form: Fine crystals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>122.55 AMU</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>5 - 6.5</td>
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</tr>
<tr>
<td>BP/BP Range</td>
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</tr>
<tr>
<td>MP/MP Range</td>
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<tr>
<td>Freezing Point</td>
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<tr>
<td>Vapor Pressure</td>
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<tr>
<td>Vapor Density</td>
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<tr>
<td>Saturated Vapor Conc.</td>
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<tr>
<td>Bulk Density</td>
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</tr>
<tr>
<td>Odor Threshold</td>
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</tr>
<tr>
<td>Volatile%</td>
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<tr>
<td>VOC Content</td>
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<tr>
<td>Water Content</td>
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<tr>
<td>Solvent Content</td>
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<tr>
<td>Evaporation Rate</td>
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<tr>
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<tr>
<td>Decomposition Temp.</td>
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<td>Flash Point</td>
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<tr>
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<tr>
<td>Autoignition Temp</td>
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<tr>
<td>Refractive Index</td>
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<td>Optical Rotation</td>
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<td>Miscellaneous Data</td>
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<tr>
<td>Solubility</td>
<td>Solubility in Water: 0.5 M in H2O, 20°C complete, colorless</td>
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<tr>
<td>N/A = not available</td>
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</tbody>
</table>

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Materials to Avoid: Strong reducing agents, Finely powdered
metals, Strong acids, Alcohols, Organic materials.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Oxygen.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: May be harmful if inhaled. Harmful if inhaled.
Ingestion: Harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

SIGNS AND SYMPTOMS OF EXPOSURE
Anemia. Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. Symptoms of overexposure to potassium chlorate include nausea, vomiting, abdominal pain, diarrhea, anemia (hemolytic) and hemorrhage. Methemoglobin formation results from catalytic oxidation of the blood. Anuria, damage to the liver, convulsions due to central nervous system effects, and coma may also occur. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA
Oral
Rat
1870 mg/kg
LD50

Section 12 - Ecological Information
No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Potassium chlorate
UN#: 1485
Class: 5.1
Packing Group: Packing Group II
Hazard Label: Oxidizer
PIH: Not PIH

IATA
Proper Shipping Name: Potassium chlorate
Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION
Symbol of Danger: O Xn
R: 9 20/22
Risk Statements: Explosive when mixed with combustible material. Harmful by inhalation and if swallowed.
S: 13 16 27
Safety Statements: Keep away from food, drink, and animal feeding stuffs. Keep away from sources of ignition – no smoking. Take off immediately all contaminated clothing.

US CLASSIFICATION AND LABEL TEXT
Risk Statements: Explosive when mixed with combustible material. Harmful by inhalation and if swallowed.
Safety Statements: Keep away from food, drink, and animal feeding stuffs. Keep away from sources of ignition – no smoking. Take off immediately all contaminated clothing.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER
For R&D use only. Not for drug, household or other uses.

WARRANTY
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.