Safety Data Sheet

Product Name: POTASSIUM CHROMATE

1. Identification

GHS Product Identifier: POTASSIUM CHROMATE
Company Name: CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)
Address: 38 - 50 Bedford Street GILLMAN SA 5013 Australia
Telephone/Fax Number: Tel: (08) 8440-2000
Fax: (08) 8440-2001
Emergency phone number: CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

Recommended use of the chemical and restrictions on use
Analytical reagent, laboratory reagent, aniline black, textile mordant, enamels, inks and chromate pigments.

Other Names
Name: POTASSIUM CHROMATE LR
Other Names: Chromic acid, dipotassium salt, Chromic acid, potassium salt, Potassium chromate (VI)

Other Information
Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture
Acute Toxicity - Oral: Category 3
Acute Toxicity - Dermal: Category 4
Acute Toxicity - Inhalation: Category 2
Carcinogenicity: Category 1A
Skin Corrosion/Irritation: Category 1
Toxic to Reproduction: Category 1
Eye Damage/Irritation: Category 1
Specific target organ toxicity - Repeated Exposure Category 1
Sensitization - Skin: Category 1
Hazardous to the Aquatic Environment - Acute Hazard: Category 1
Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1
Germ Cell Mutagenicity: Category 1B
Sensitization - Respiratory: Category 1

Signal Word (s)
DANGER

Hazard Statement(s)
H301 Toxic if swallowed.
H312 Harmful in contact with skin.
H330 Fatal if inhaled.
H350 May cause cancer.
H340 May cause genetic defects.
H314 Causes severe skin burns and eye damage.
H372 Causes damage to organs through prolonged or repeated exposure.
H360 May damage fertility or the unborn child.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

Pictogram (s)
Health hazard, Environment, Corrosion, Exclamation mark
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Classified as hazardous

Precautionary statement – Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P206 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P281 Use personal protective equipment as required.
P284 Wear respiratory protection.

Precautionary statement – Response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.
P360+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Precautionary statement – Storage

P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Chemical Characterization</th>
<th>Name</th>
<th>CAS</th>
<th>Proportion</th>
<th>Hazard Symbol</th>
<th>Risk Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredients</td>
<td>Potassium chromate</td>
<td>7789-00-6</td>
<td>100 %</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. First-aid measures

Inhalation
If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Consult a physician.

Ingestion
Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

Skin
Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice/attention depending on the severity.

Eye contact
Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.

First Aid Facilities
Maintain eyewash fountain and safety shower in work area.

Advice to Doctor
Treat symptomatically or consult a Poisons Information Centre. Treat symptomatically based on judgement of doctor and individual reactions of the patient.

Other Information
For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting measures
Classification as hazardous

May liberate toxic fumes in fire (release of oxygen upon decomposition).

Use extinguishing media most appropriate for the surrounding fire.
Small fire: Use dry chemical, CO2 or water spray.
If safe to do so, move undamaged containers from the fire area.
Large fire: Use water spray, fog or foam - Do NOT use water jets.
Cool containers with flooding quantities of water until well after the fire is out. Avoid getting water inside the containers.

Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases. Runoff may pollute waterways.

6. Accidental release measures

Spills & Disposal
Do NOT touch or walk through this product. Do NOT touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas. Cover with plastic sheet to minimize spreading. Absorb with earth, sand or other non-combustible material and transfer to container.

Personal Precautions
Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms. Evacuate the area of all non-essential personnel.

Personal Protection
Wear SCBA and chemical splash suit. Fully encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.

Clean-up Methods - Small Spillages
Seek expert advice on handling and disposal.

Clean-up Methods - Large Spillages
Prevent contamination of soil and water.

7. Handling and storage

Precautions for Safe Handling
Avoid generation or accumulation of dusts. Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. Wash hands and face thoroughly after working with material. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid exposure - obtain special instructions before use.

Conditions for safe storage, including any incompatibilities
Store away from oxidizing agents, incompatibles, direct sunlight, heat and sources of ignition. Keep container tightly closed and in a cool, well-ventilated place. Store away from combustible materials.

Storage Regulations
Refer Australian Standard AS/NZS 4452:1997 'The storage and handling of toxic substances'.

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Occupational exposure limit values</th>
<th>Name</th>
<th>STEL</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium chromate</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Footnote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium (VI) compounds</td>
</tr>
</tbody>
</table>

Other Exposure Information
These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

A time weighted average (TWA) has been established for Chromium (VI) compounds (as Cr), water soluble (Safe Work Australia) of 0.05 mg/m³. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.
Potassium Chromate

**Appropriate engineering controls**

In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. These methods should be used in preference to personal protective equipment.

**Respiratory Protection**

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

**Personal Protective Equipment**

Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.

**Footwear**

Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

**Body Protection**

Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

**Hygiene Measures**

Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

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**9. Physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form</strong></td>
<td>Solid</td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>Yellow crystals.</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Odourless</td>
</tr>
<tr>
<td><strong>Melting Point</strong></td>
<td>971 °C</td>
</tr>
<tr>
<td><strong>Solubility in Water</strong></td>
<td>Soluble (630 g/L @ 20 °C)</td>
</tr>
<tr>
<td><strong>Solubility in Organic Solvents</strong></td>
<td>Insoluble in alcohol.</td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>2.73</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>8.6 - 9.8 (50 g/l, H2O, 20 °C)</td>
</tr>
<tr>
<td><strong>Vapour Density</strong> (Air=1)</td>
<td>6.7 g/l</td>
</tr>
<tr>
<td><strong>Flammability</strong></td>
<td>Non combustible material.</td>
</tr>
<tr>
<td><strong>Molecular Weight</strong></td>
<td>194.20</td>
</tr>
</tbody>
</table>

**10. Stability and reactivity**

**Chemical Stability**

Stable under normal use conditions.

**Conditions to Avoid**

Incompatibles.

**Incompatible Materials**

Organic or other readily oxidisable material (paper, wood, sulfur, aluminium or plastic), finely powdered metals, strong oxidizing agents, reducing agents, hydrazine and derivatives, chlorates, phosphides, sulfides and flammable materials.

**Hazardous Decomposition Products**

Potassium and chrome oxides.

**Hazardous Polymerization**

Will not occur.

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**11. Toxicological Information**
Safety Data Sheet

Classified as hazardous

Ingestion
Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach, leading to coma and death. Lethal dose for man is 0.5 g. Symptoms may include sore throat, severe gastrointestinal pain, vomiting, diarrhea, violent gastroenteritis, peripheral vascular collapse, dizziness, intense thirst, muscle cramps, shock, coma, abnormal bleeding, fever, liver damage and acute renal failure.

Inhalation
Corrosive. Extremely destructive to tissues of the mucous membranes and upper respiratory tract leading to irritation, burns and inflammation. Symptoms may include sore throat, coughing, shortness of breath and labored breathing. May produce pulmonary sensitization or allergic asthma. May cause burns, ulceration and perforation of the nasal septum. Since the healing process of ulcers is poor, chromium substances penetration into the wound. Higher exposures may cause pulmonary edema.

Skin
Corrosive. Symptoms of redness, pain, irritation and severe burns can occur. May cause nausea and vomiting. Irritating to skin. Can be absorbed through cuts and abrasions causing ulcers (chrome sores), which may cause systemic poisoning, affecting kidney and liver functions. May cause sensitisation by skin contact.

Eye
Corrosive. Irritating to eyes. May cause blurred vision, redness, pain and severe tissue burns. May cause corneal injury, conjunctivitis, ulceration, or blindness.

Respiratory sensitisation
Skin Sensitisation
Sensitization - Respiratory: Category 1

Germ cell mutagenicity
Carcinogenicity: Category 1A - Safe Work Australia.
Chromium [VI] compounds - evaluated as a group - have been listed in the IARC Monographs as Group 1: Carcinogenic to humans.

Toxic to Reproduction: Category 1

Specific target organ toxicity - Repeated Exposure Category 1

Chronic Effects
Evidence from animal tests indicate that repeated or prolonged exposure to this chemical could result in liver, kidney and blood disorders. Chrome ulcers or skin sores are well known. Chromium salts are recognised carcinogens of the lungs, nasal cavity and paranasal sinus.

12. Ecological information

Persistence and degradability
Methods for the determination of biodegradability are not applicable to inorganic substances.

Environmental Protection
Do not allow product to enter drains, waterways or sewers. Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic organisms.

Acute Toxicity - Daphnia
EC50 (Daphnia magna) 15 mg/l/48h.

13. Disposal considerations

Disposal Considerations
Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information
Dangerous Goods of Class 6 (Toxic and Infectious Substances) are incompatible in a placard load with any of the following:
Class 1, Class 3, if the Class 3 dangerous goods are nitromethane, Class 8, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids; and are incompatible with food and food packaging in any quantity.

U.N. Number 3288
UN proper shipping name TOXIC SOLID, INORGANIC, N.O.S. - (Contains Potassium chromate)
Transport hazard class(es) 6.1
Hazchem Code 2X
Packaging Method 3.8.6.1
Packing Group II
IERG Number 34
Safety Data Sheet

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Product Name : POTASSIUM CHROMATE

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15. Regulatory Information

Regulatory Information

Poisons Schedule

Listed in the Australian Inventory of Chemical Substances (AICS). Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

16. Other Information

Literature References

'Standard for the Uniform Scheduling of Medicines and Poisons.', Commonwealth of Australia.
Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
Safe Work Australia, 'Hazardous Chemical Information System, 2005'.
Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.

Contact Person/Point

Paul McCarthy Ph. (08) 8440 2000

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Empirical Formula & Structural Formula

K2 CrO4

...End Of MSDS...