1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: POTASSIUM DICHROMATE

Other name(s): Potassium bichromate; Red potassium chromate; Dichromic acid, dipotassium salt.

Recommended Use: General chemical.

Supplier: Orica Australia Pty Ltd
ABN: 99 004 117 828
Street Address: 1 Nicholson Street, Melbourne 3000 Australia

Telephone Number: +61 3 9665 7111
Facsimile: +61 3 9665 7937
Emergency Telephone: 1 800 033 111 (ALL HOURS)

2. HAZARDS IDENTIFICATION

This material is hazardous according to criteria of Safe Work Australia; HAZARDOUS SUBSTANCE.

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

Risk Phrases: Contact with combustible material may cause fire. Harmful in contact with skin. Toxic if swallowed. Very toxic by inhalation. Causes burns. May cause sensitisation by inhalation and skin contact. May cause cancer. May cause heritable genetic damage. Toxic: danger of serious damage to health by prolonged exposure through inhalation. Very toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment. May impair fertility. May cause harm to the unborn child.

Safety Phrases: Keep away from combustible material. Do not breathe dust. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of insufficient ventilation, wear suitable respiratory equipment. In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible). Avoid exposure - obtain special instructions before use. Avoid release to the environment. Refer to special instructions safety data sheets.

Poisons Schedule: S6 Poison.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS Number</th>
<th>Proportion</th>
<th>Risk Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium dichromate</td>
<td>7778-50-9</td>
<td>&gt;=99.7%</td>
<td>R8, R21, R25, R26, R34, R42/43, Carc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cat. 2 R45, Muta. Cat. 2 R46, R48/23Repr.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cat. 2 R60, Repr. Cat. 2 R61, R50/53</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

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Inhalation:
Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

Skin Contact:
If spilt on large areas of skin or hair, immediately drench with running water and remove clothing. Continue to wash skin and hair with plenty of water (and soap if material is insoluble) until advised to stop by the Poisons Information Centre or a doctor. This material can be absorbed through the skin with resultant toxic effects. For skin burns, cover with a clean, dry dressing until medical help is available. Seek immediate medical assistance.

Eye Contact:
Immediately wash in and around the eye area with large amounts of water for at least 15 minutes. Eyelids to be held apart. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to hospital or medical centre. Continue to wash with large amounts of water until medical help is available.

Ingestion:
Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Get to a doctor or hospital quickly.

Medical attention and special treatment:
Treat symptomatically. Can cause corneal burns.

5. FIRE FIGHTING MEASURES

Hazards from combustion products:
Oxidizing substance. Non combustible, but will support combustion of other materials.

Precautions for fire fighters and special protective equipment:
Decomposes on heating emitting toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition. Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire.

Suitable Extinguishing Media:
Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

Hazchem Code: 2X

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures:
Shut off all possible sources of ignition. Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Methods and materials for containment and clean up:
Wear protective equipment to prevent skin and eye contact and breathing in vapours/dust. Air-supplied masks are recommended to avoid inhalation of toxic material. Vacuum solid spills instead of sweeping. Collect and seal in properly labelled containers.

7. HANDLING AND STORAGE
Safety Data Sheet

This material is a Scheduled Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.

Conditions for safe storage:
Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for spills.

Precautions for safe handling:
Avoid skin and eye contact and breathing in dust. Avoid handling which leads to dust formation. Keep out of reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits: No value assigned for this specific material by the National Occupational Health and Safety Commission. However, Exposure Standard(s) for constituent(s):

Chromium (VI) compounds (as Cr), water soluble: 8hr TWA = 0.05 mg/m³, Sen

As published by the National Occupational Health and Safety Commission.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

`Sen' Notice - sensitiser. The substance can cause a specific immune response in some people. An affected individual may subsequently react to exposure to minute levels of that substance.

These 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 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.

Biological Limit Values In Australia the following substance is on a list for which health surveillance is required:

Inorganic chromium.

Biological Exposure Index (BEI): CHROMIUM (IV), water soluble fume: Total Chromium in urine (end of shift at end of workweek) = 25 µg/L, Total Chromium in urine (increase during shift) = 10 µg/L (2)

Engineering controls:
Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Exposure Standards. Avoid generating and breathing in dusts. Use with local exhaust ventilation or while wearing dust mask. Keep containers closed when not in use.

Personal Protective Equipment:
The selection of PPE is dependant on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

Orica Personal Protection Guide No. 1, 1998: F - OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, DUST MASK.
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Wear overalls, chemical goggles and impervious gloves. Avoid generating and inhaling dusts. If dust exists, wear dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Crystals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>Red - Orange</td>
</tr>
<tr>
<td>Odour:</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odour Threshold:</td>
<td>Not available</td>
</tr>
<tr>
<td>Molecular Formula:</td>
<td>Cr2O7.2K</td>
</tr>
<tr>
<td>Solubility:</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>2.68 @25°C</td>
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<tr>
<td>Relative Vapour Density (air=1):</td>
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<tr>
<td>Vapour Pressure (20 °C):</td>
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</tr>
<tr>
<td>Flash Point (°C):</td>
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</tr>
<tr>
<td>Flammability Limits (%):</td>
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<tr>
<td>Autoignition Temperature (°C):</td>
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<tr>
<td>Melting Point/Range (°C):</td>
<td>398</td>
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<tr>
<td>Boiling Point/Range (°C):</td>
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<td>Decomposition Point (°C):</td>
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<tr>
<td>pH:</td>
<td>4.0 (1% aqueous solution)</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Partition Coefficient:</td>
<td>Not available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Chemical stability: Stable if stored and handled under recommended conditions.

Conditions to avoid: Avoid exposure to heat, sources of ignition, and open flame. Avoid contact with combustible substances. Avoid contact with foodstuffs. Avoid dust generation.

Incompatible materials: Incompatible with combustible materials, organic chemicals, acids, reducing agents, amines, carbides, cyanides and hydrazine.

Hazardous decomposition products: Chromium compounds. Oxides of potassium.

Hazardous reactions: Reacts violently with hydrazine, amines, carbides and cyanides. Hazardous polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion: Swallowing can result in nausea, vomiting, diarrhea, abdominal pain and chemical burns to the gastrointestinal tract. Swallowing can result in nausea, vomiting, diarrhea, abdominal pain, convulsions and loss of consciousness. Death may occur if large amounts are ingested.

Eye contact: A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.

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Skin contact: Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns. A skin sensitisier. Repeated or prolonged skin contact may lead to allergic contact dermatitis.

Inhalation: Material is irritant to the mucous membranes of the respiratory tract (airways). A respiratory sensitiser. Can cause possible allergic reactions, producing asthma-like symptoms.

Long Term Effects:
May cause cancer. May cause heritable genetic damage. May impair fertility. May cause harm to the unborn child. Danger of serious damage to health by prolonged exposure through inhalation. Available evidence from animal studies indicate that repeated or prolonged exposure to this material could result in effects on the liver and kidneys.

Toxicological Data:
Oral LD50 (rat): 25 mg/kg (1)
EYES: Severe irritant (rabbit). (1)

12. ECOLOGICAL INFORMATION

Ecotoxicity: Avoid contaminating waterways.
Aquatic toxicity: Very toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.
Terrestrial toxicity: Very toxic to terrestrial species.

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Refer to Waste Management Authority. Dispose of material through a licensed waste contractor. Normally suitable for incineration by an approved agent. Empty containers must be decontaminated and destroyed.

14. TRANSPORT INFORMATION

Road and Rail Transport
Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

Marine Transport
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No: 3288
Class-primary: 6.1 Toxic
Packing Group: II
Proper Shipping Name: TOXIC SOLID, INORGANIC, N.O.S. (POTASSIUM DICHROMATE)
Hazchem Code: 2X

Product Name: POTASSIUM DICHROMATE
Substance No: 00031029001

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Class-primary: 6.1 Toxic
Packing Group: II
Proper Shipping Name: TOXIC SOLID, INORGANIC, N.O.S. (POTASSIUM DICHROMATE)

IMDG EMS Fire: F-A
IMDG EMS Spill: S-A
Air Transport
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No: 3288
Class-primary: 6.1 Toxic
Packing Group: II
Proper Shipping Name: TOXIC SOLID, INORGANIC, N.O.S. (POTASSIUM DICHROMATE)

15. REGULATORY INFORMATION

Classification: This material is hazardous according to criteria of Safe Work Australia; HAZARDOUS SUBSTANCE.

Hazard Category:
O: Oxidising
T+: Very Toxic
Xi: Irritant

Risk Phrase(s):
R8: Contact with combustible material may cause fire.
R21: Harmful in contact with skin.
R25: Toxic if swallowed.
R26: Very toxic by inhalation.
R34: Causes burns.
R42/43: May cause sensitisation by inhalation and skin contact.
Carc. Cat. 2. R45: May cause cancer.
Muta. Cat 2. R46: May cause heritable genetic damage.
R48/23: Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Repr. Cat. 2. R60: May impair fertility.
Repr. Cat. 2. R61: May cause harm to the unborn child.

Safety Phrase(s):
S17: Keep away from combustible material.
S22: Do not breathe dust.
S24/25: Avoid contact with skin and eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S38: In case of insufficient ventilation, wear suitable respiratory equipment.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible).
S53: Avoid exposure - obtain special instructions before use.
S61: Avoid release to the environment. Refer to special instructions Safety Data Sheets.

Poisons Schedule: S6 Poison.

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16. OTHER INFORMATION

(2) ‘TLV’s and BEI’s Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices’, ACGIH Worldwide, 2005

This safety data sheet has been prepared by SH&E Shared Services, Orica.

Reason(s) for Issue:
5 Yearly Revised Primary SDS

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Orica Limited cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Orica representative or Orica Limited at the contact details on page 1.

Orica Limited's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.