Safety Data Sheet

Infosafe No™ 1CH5A  Issue Date: August 2021  RE-ISSUED by CHEMSUPP

Product Name: POTASSIUM DICHROMATE

Classified as hazardous

1. Identification

GHS Product Identifier
Company Name: CHEMSUPPLY AUSTRALIA PTY LTD (ABN 19 008 264 211)
Address: 38 - 50 Bedford Street GILLMAN SA 5013 Australia
Telephone/Fax Number: Tel: (08) 8440-2000
Emergency phone number: CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)
E-mail Address: www.chemsupply.com.au

Recommended use of the chemical and restrictions on use:
Oxidising agent (chemicals, dyes, intermediates); analytical reagent; brass pickling compositions; electroplating; pyrotechnics; explosives; safety matches; textiles; dyeing and printing; chrome glues and adhesives; chrome tanning leather; wood stains; poison fly paper; process engraving and lithography; synthetic perfumes; chrome alum manufacture; pigments; alloys, ceramic products; depolarizer in dry cell batteries; bleaching fats and waxes; and laboratory reagent.

Other Names:
- Name: POTASSIUM DICHROMATE AR
- Product Code: PA018
- Name: Potassium bichromate

Other Information:
ChemSupply Australia 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 ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of 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 ChemSupply Australia 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:
- Carcinogenicity: Category 1B
- Acute Toxicity - Dermal: Category 4
- Eye Damage/Irritation: Category 1
- Germ Cell Mutagenicity: Category 1B
- Hazardous to the Aquatic Environment - Acute Hazard: Category 1
- Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1
- Acute Toxicity - Inhalation: Category 2
- Oxidizing Solids: Category 2
- Acute Toxicity - Oral: Category 3
- Specific target organ toxicity - Repeated Exposure Category 1 (inhalation)
- Sensitization - Respiratory: Category 1
- Skin Corrosion/Irritation: Category 1A
- Sensitization - Skin: Category 1
- Toxic to Reproduction: Category 1B

Signal Word (s): DANGER

Hazard Statement (s):
- H272 May intensify fire; oxidiser.
- H301 Toxic if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H330 Fatal if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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H340 May cause genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Corrosion, Flame over circle, Health hazard, Skull and crossbones, Environment

Precautionary statement – Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P220 Keep/Store away from clothing/.../combustible materials.
P221 Take any precaution to avoid mixing with combustibles.
P260 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.
P280 Wear protective gloves/protective clothing/eye protection/face 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 CENTRE or doctor/physician if you feel unwell.
P363 Wash contaminated clothing before reuse.
P363+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 Immediately call a POISON CENTER or doctor/physician.
P335+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.
P370+P378 In case of fire: Use flooding quantities of water for extinction.

Precautionary statement – Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Precautionary statement – Disposal

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

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Name</th>
<th>CAS</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Potassium dichromate</td>
<td>7778-50-9</td>
<td>100 %</td>
</tr>
</tbody>
</table>

4. First-aid measures

Inhalation

If inhaled, remove from contaminated area to fresh air immediately, avoid breathing a contaminated area. Make patient comfortable. keep warm and at rest until fully recovered. If breathing is difficult (or develops a bluish skin discoulouration), supply oxygen by a qualified person. Apply artificial respiration with a respiratory medical device if not breathing. Do not use mouth to mouth resuscitation. Immediately medical attention is required.

Ingestion

Rinse mouth thoroughly with water immediately. 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

If in eyes, hold eyelids apart and flush the eye continuously with running...
CS: 3.4.22

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First Aid Facilities

Maintain eyewash fountain and safety shower in work area.

Advice to Doctor

Treat symptomatically based on judgement of doctor and individual reactions of the patient.

Other Information

For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor at once.

5. Fire-fighting measures

Hazardous Combustion Products

Oxygen, irritating and toxic fumes and gases, oxides of potassium, chrome oxides.

Specific Methods

SMALL FIRE: Use flooding quantities of water. DO NOT use dry chemical, CO2 or foam. If safe to do so, move undamaged containers from fire area. Do NOT move cargo if cargo has been exposed to heat.

LARGE FIRE: Flood fire area with water from a protected position. Cool containers with flooding quantities of water until well after the fire is out. If impossible, withdraw from area and let fire burn. Avoid getting water inside containers; a violent reaction may occur. Dam fire control water for later disposal. ALWAYS stay away from tank ends.

Specific hazards arising from the chemical

Will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, clothing, and so on). Fire may produce irritating, toxic, and/or corrosive gases. Containers may explode when heated. Runoff may create fire or explosion hazard.

Hazchem Code

2W

Decomposition Temp.

500 °C

Precautions in connection with Fire

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.

6. Accidental release measures

Spills & Disposal

Do not contaminate. Keep combustibles (wood, paper, clothing, oil, and so on) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to knock down vapours or divert vapour clouds. Prevent entry into waterways, drains or confined areas. Prevent exposure to heat.

Dry spill: Use clean non-sparking tools to transfer material to a clean, dry plastic container and cover loosely. Move container from spill area.

Small liquid spill: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place in a loosely-covered container for later disposal.

Large liquid spill: SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

Personal Precautions

Evacuate the area of all non-essential personnel. Avoid substance contact.

Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

Personal Protection

Wear protective clothing specified for normal operations (see Section 8)

7. Handling and storage

Precautions for Safe Handling

Avoid contact with eyes, skin or clothing. Avoid breathing dust, vapour, or spray mist. Do not ingest. If ingested seek immediate medical advice. Avoid prolonged or repeated exposure. Minimize dust generation and accumulation. Ensure good ventilation/exhaustion at the workplace. In case of insufficient ventilation, wear suitable respiratory equipment. Wear special protective equipment (Sec. 8) when handling. If you feel unwell, seek medical attention and show the label when possible. Under no circumstances eat, drink or smoke while handling this material. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid cross-contamination of street clothes. Discard contaminated shoes. Use only in a chemical fume hood.
Open and handle container with care. Keep container dry. Keep away from heat and all sources of ignition. Keep away from combustible material. Substance/product can reduce the ignition temperature of flammable substances.

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Keep away from incompatibles such as reducing agents, combustible materials, organic materials. Remove and dispose of any spilled dichromates; do not return to original containers. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Store in a cool, dry, well-ventilated area in suitable tightly closed containers. Keep well closed and protected from direct sunlight and moisture. Keep away from heat, sparks, open flame and all sources of ignition. Store separate from combustible, organic or other readily oxidizable materials, flammables and reducing substances, food and feedstuffs. Protect against physical damage. Oxidizing materials should be stored in a separate safety storage cabinet or room. Store in an area without drain or sewer access. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Store at room temperature (15 to 25 °C recommended).

Refer Australian Standard AS/NZS 4452:1997 'The storage and handling of toxic substances'. Refer Australian Standard AS 4326-1995 'The storage and handling of oxidizing agents'.

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.

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.

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Wear gloves of impervious material conforming to AS/NZS 2161: Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments. Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste.

Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures
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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**

Flame retardant antistatic protective clothing. 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.

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>Orange-red crystals or powder.</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Odourless.</td>
</tr>
<tr>
<td><strong>Decomposition Temperature</strong></td>
<td>500 °C</td>
</tr>
<tr>
<td><strong>Melting Point</strong></td>
<td>398 °C</td>
</tr>
<tr>
<td><strong>Boiling Point</strong></td>
<td>500 °C, decomposes.</td>
</tr>
<tr>
<td><strong>Solubility in Water</strong></td>
<td>Very soluble (12 g/100 ml at 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>2.676 @ 25 °C</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Weakly acidic in water: pH of 1% soln: 4.04; pH of 10% soln: 3.57.</td>
</tr>
<tr>
<td><strong>Explosion Properties</strong></td>
<td>Risk of fire and explosion on contact with combustible substances. Reacts explosively with hydrazine, and anhydrous hydroxylamine.</td>
</tr>
<tr>
<td><strong>Molecular Weight</strong></td>
<td>294.18</td>
</tr>
<tr>
<td><strong>Oxidising Properties</strong></td>
<td>Strong oxidiser.</td>
</tr>
</tbody>
</table>

10. **Stability and reactivity**

**Chemical Stability**

Stable under ordinary conditions of use and storage.

**Conditions to Avoid**

Heat, incompatibles, dust generation.

**Incompatible Materials**

Reducing agents, acids, acetone + sulfuric acid, boron + silicon, ethylene glycol + heat, hydrazine and derivatives, hydroxylamine, combustible, organic or other readily oxidizable material (paper, wood, sulfur, aluminium or plastics), finely powdered metals, boron, iron, magnesium, tungsten, anhydrides, anhydrous base, alkalis, glycerol, sulfides/water, conc. sulfuric acid, sulfuric acid + acetone, boron + silicon.

**Hazardous Decomposition Products**

Irritating and toxic fumes and gases, oxides of potassium, chrome oxides.

**Possibility of hazardous reactions**

Reacts with reducing agents. Reacts with flammable substances. Reacts explosively with hydrazine. When in powdered form, reacts violently or explosively with anhydrous hydroxylamine. Reacts and ignites with acetone when splashed into a sulfuric acid-dichromate solution. Reacts explosively with sulfuric acid after several months in storage. Reacts explosively when in contact with air above 70 °C. Reacts violently or explosively with anhydrous base. Reacts violently or ignites with ethylene glycol (above 100 °C). Reacts with sulfuric acid to form the strong oxidant chromic acid.
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Hazardous Polymerization

11. Toxicological Information

Acute Toxicity - Oral
LD50 (rat) : 90.5 mg/kg.

Acute Toxicity - Inhalation
LC50 (rat) : 0.083 mg/l / 4 h.

Ingestion
Toxic if swallowed. Corrosive. Swallowing can cause severe burns of the mouth, throat, gastrointestinal tract and stomach, leading to death. May cause severe and permanent damage to the digestive tract. May cause perforation of the digestive tract. Can cause sore throat, vomiting, diarrhea. May cause violent gastroenteritis, peripheral vascular collapse, dizziness, intense thirst, muscle cramps, shock, coma, abnormal bleeding, fever, liver damage and acute renal failure. May cause methaemoglobinemia, convulsions, and death. Methaemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discolouration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown coloured blood. Highly absorbed through the membrane in the digestive system.

Inhalation
Fatal if inhaled. Corrosive. Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Causes chemical burns to the respiratory tract. Symptoms may include sore throat, coughing, shortness of breath, and labored breathing. May produce pulmonary sensitization or allergic asthma due to allergic sensitization of the respiratory tract. May cause ulceration and perforation of the nasal septum if inhaled in excessive quantities. Higher exposures and aspiration may cause pulmonary edema. Risk of airways sensitisation. Highly absorbed through the membrane in the lungs.

Skin
May be toxic by skin absorption. Corrosive. Causes severe skin burns, with redness and pain. Dusts and strong solutions may cause severe irritation. Contact with broken skin may cause ulcers (chrome sores), penetrating lesions of the skin, occur chiefly on the hand and forearm where there has been a break in the epidermis and absorption, which may cause systemic poisoning, affecting kidney and liver functions. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Highly Toxic! May be absorbed through the skin; symptoms may parallel ingestion.

Eye
Corrosive. Contact can cause blurred vision, redness, pain and severe tissue burns. May cause chemical conjunctivitis, corneal injury or blindness. Risk of serious damage to eyes.

Respiratory sensitisation
Respiratory sensitisation - category 1
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sensitisation
Skin sensitisation - category 1
H317 May cause an allergic skin reaction.

Germ cell mutagenicity
Germ cell mutagenicity - category 1B
H340 May cause genetic defects.

Carcinogenicity
Chromium[VI] is evaluated in the IARC Monographs (Vol. 49; 1990) as Group 1: Carcinogenic to humans.
Carcinogenicity - category 1A
H350 May cause cancer.

Reproductive Toxicity
Reproductive toxicity - category 1B
H360FD May damage fertility. May damage the unborn child.

STOT-single exposure
Not classified based on available information.

STOT-repeated exposure
Specific target organ toxicity (repeated exposure) - category 1
H372 Causes damage to organs through prolonged or repeated exposure.

Chronic Effects
Repeated or prolonged exposure can cause ulceration and perforation of the nasal septum, respiratory irritation, liver and kidney damage and ulceration of the skin. Ulcerations at first may be painless, but may penetrate to the bone producing 'chrome holes.' Repeated or prolonged contact may cause skin sensitization and sensitization dermatitis. Repeated or prolonged inhalation exposure may cause asthma. Known to be a human carcinogen. May cause...
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Effects may be delayed. Laboratory experiments have resulted in mutagenic effects. Repeated or prolonged exposure may cause erosion and discolouration of the teeth. Absorption may result in hepatic and renal damage.

H314 Causes severe skin burns and eye damage.

Skin corrosion - category 1

Skin corrosion/irritation

12. Ecological information

Ecological Information

Chromium probably occurs as the insoluble (CrIII) oxide (Cr2O3.nH2O) in the soil, as the organic matter in the soil is expected to reduce any soluble chromate to insoluble chromic oxide (Cr2O3). Chromium in the soil can be transported to the atmosphere by way of aerosol formation. Chromium is also transported from the soil through runoff and leaching of water. Most of the chromium in surface waters may be present in particulate form as sediment. Some of the particulate chromium would remain as suspended matter and ultimately be deposited in the sediments. Chromium present usually as (CrIII) in the soil and is characterized by its lack of mobility, except in cases where Cr(VI) is involved. Chromium (VI) of natural origin is rarely found.

Ecotoxicity

Highly toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Persistence and degradability

Biologic degradation: Methods for the determination of biodegradability are not applicable to inorganic substances.

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Bioaccumulative Potential

Concentration in organisms possible.

Bioconcentration factor for Salmo gairdneri (rainbow trout) of 2.8 (muscle), 180 days duration.

Environmental Protection

Do not allow to enter waters, waste water, or soil!

Hazardous to the aquatic environment (acute) - category 1

Hazardous to the aquatic environment (chronic) - category 1

H410 Very toxic to aquatic life with long-lasting effects.

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 3086

UN proper shipping name TOXIC SOLID, OXIDIZING, N.O.S.

Transport hazard class(es) 6.1

Sub.Risk 5.1

Hazchem Code 2W

Packing Group II

EPG Number 6A6

IERG Number 31

Print Date: 3/08/2021 CS: 3.4.22
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Environmental Hazards

Highly toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment. Concentration in organisms possible.

15. Regulatory information

Regulatory Information

All the constituents of this product are listed on the Australian Inventory of Chemical Substances (AICS), or exempted. Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.

Poisons Schedule

S6

16. Other Information

Literature References

'Standard for the Uniform Scheduling of Medicines and Poisons.', Commonwealth of Australia.
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'.
Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals'.
Safe Work Australia, 'Hazardous Chemical Information System'.
Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances'.
Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment'.

Contact Person/Point of Contact

Paul McCarthy Ph. (08) 8440 2000

DISCLAIMER STATEMENT:

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Empirical Formula

Empirical Formula: K2 Cr2 O7.

...End Of MSDS...