

Infosafe No™ 1CH5L Issue Date : August 2021 RE-ISSUED by CHEMSUPP

Product Name **POTASSIUM PERMANGANATE**

Classified as hazardous

## 1. Identification

**GHS Product Identifier** POTASSIUM PERMANGANATE

**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** Oxidiser, disinfectant, deodorizer, bleach, dye, tanning, radioactive decontamination of skin, reagent in analytical chemistry, medicine (antiseptic), manufacture of organic chemicals, air and water purification, photography and laboratory reagent.

<b>Other Names</b>	<u>Name</u>	<u>Product Code</u>
	POTASSIUM PERMANGANATE TG	PT003
	POTASSIUM PERMANGANATE LR	PL003
	POTASSIUM PERMANGANATE AR	PA003
	Condy's crystals, Chameleon mineral	

### 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 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 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** Hazardous to the Aquatic Environment - Acute Hazard: Category 1  
Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1  
Oxidizing Solids: Category 2  
Acute Toxicity - Oral: Category 4  
Reproductive Toxicity: Category 2

**Signal Word (s)** DANGER

**Hazard Statement (s)** H272 May intensify fire; oxidiser.  
H302 Harmful if swallowed.  
H361d Suspected of damaging the unborn child.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

**Pictogram (s)** Flame over circle, Health Hazard, Exclamation mark, 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.

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P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P273 Avoid release to the environment.  
P281 Use personal protective equipment as required.

**Precautionary statement – Response** P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P330 Rinse mouth.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P370+P378 In case of fire: Use flooding quantities of water for extinction.  
P391 Collect spillage.  
**Precautionary statement – Storage** P405 Store locked up.

**Precautionary statement – Disposal** P501 Dispose of contents/container to an approved waste disposal plant.

### 3. Composition/information on ingredients

Ingredients	Name	CAS	Proportion
	Potassium permanganate	7722-64-7	100 %

### 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. Immediately obtain medical aid if cough or other symptoms appear.

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

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Seek immediate medical advice.

**Eye contact** If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical assistance.

**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.

### 5. Fire-fighting measures

**Hazards from Combustion Products** Toxic gases and irritating and corrosive fumes or smoke, toxic metal fumes, potassium hydroxide, oxygen, oxides of potassium and oxides of manganese.

**Specific Methods** Small fire: USE FLOODING QUANTITIES OF WATER. Do not use dry chemicals, 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 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.

**Specific hazards arising from the chemical** Will accelerate burning when involved in a fire. May explode from heating, shock, friction or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, clothing, etc). Fire may produce irritating, poisonous, and/or corrosive gases. Containers may explode when heated. Runoff may create fire or explosion hazard.

**Hazchem Code** 1Y

**Decomposition Temp.** ~240 °C

**Precautions in connection with Fire** Wear SCBA and chemical splash suit. Structural firefighter's uniform will provide limited protection.

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## 6. Accidental release measures

<b>Spills &amp; Disposal</b>	Do not contaminate. Keep combustibles (wood, paper, clothing, oil, etc.) 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.
<b>Personal Precautions</b>	Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.
<b>Personal Protection</b>	Wear protective clothing specified for normal operations (see Section 8)

## 7. Handling and storage

<b>Precautions for Safe Handling</b>	Avoid contact with eyes, skin, or clothing. Avoid ingestion and inhalation. Avoid prolonged or repeated exposure. Use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Use smallest possible amounts in designated areas with adequate ventilation. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Wear appropriate protective equipment to prevent inhalation, skin and eye contact. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Discard contaminated shoes. Ensure a high level of personal hygiene is maintained when using this product. That is; always wash hands before eating, drinking, smoking or using the toilet. Minimize dust generation and accumulation. Keep away from heat and all sources of ignition. Keep away from incompatibles such as combustible material, reducing agents, organic materials, metals and acids. Protect against physical damage and moisture. Do not handle broken packages unless wearing appropriate personal protective equipment. Wash away any material which may be contacted the body with copious amounts of water or soap and water. Inform laundry personnel of contaminant's hazards. Clothing stains may be washed away using acetic acid. 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.
<b>Conditions for safe storage, including any incompatibilities</b>	Oxidizing materials should be stored in a separate safety storage cabinet or room. Store in tightly closed containers, in a cool, dry, well-ventilated area, out of direct sunlight. Store away from incompatible materials such as flammable/combustible materials, reducing materials, powdered metals and strong acids. Avoid storage on wood floors. Store in suitable, labelled containers. Keep containers tightly closed when not in use and when empty. Protect against physical damage and moisture. Limit quantity of material in storage. Restrict access to storage area. Post warning signs when appropriate. Keep storage area separate from populated work areas. Inspect periodically for deficiencies such as damage. Isolate from any source of heat, sparks, and open flame or ignition. 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. Have appropriate fire extinguishers available in and near the storage area. Comply with all applicable regulations for the storage and handling of oxidizing materials.
<b>Storage Regulations</b>	Refer Australian Standard AS 4326-1995 'The storage and handling of oxidizing agents'.
<b>Storage Temperatures</b>	Store at room temperature (15 to 25 °C recommended).
<b>Unsuitable Materials</b>	Organic materials.

## 8. Exposure controls/personal protection

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<b>Other Exposure Information</b>	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 Manganese, fume (as Mn) (Safe Work Australia) of 1 mg/m <sup>3</sup> . The corresponding STEL level is 3 mg/m <sup>3</sup> . A time weighted average (TWA) has been established for Manganese, dust & compounds (as Mn) (Safe Work Australia) of 1 mg/m <sup>3</sup> . The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. 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.
<b>Appropriate engineering controls</b>	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.
<b>Respiratory Protection</b>	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.
<b>Eye Protection</b>	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.
<b>Hand Protection</b>	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.
<b>Personal Protective Equipment</b>	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.
<b>Footwear</b>	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
<b>Body Protection</b>	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.
<b>Hygiene Measures</b>	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

<b>Form</b>	Solid
<b>Appearance</b>	Dark purple or bronze-like crystals.
<b>Odour</b>	Odourless.
<b>Decomposition Temperature</b>	~240 °C
<b>Melting Point</b>	Decomposes below melting point.

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<b>Solubility in Water</b>	Soluble (6.4 g/100 ml @ 20°C).
<b>Solubility in Organic Solvents</b>	Soluble in many organic solvents; also by concentrated acids. Soluble in acetone, methanol, acetic acid, trifluoroacetic acid, acetic anhydride, pyridine, benzonitrile, sulfolane.
<b>Specific Gravity</b>	2.7032
<b>pH</b>	7-9 (20 g/l H <sub>2</sub> O).
<b>Vapour Pressure</b>	<0.01 hPa at 20°C: negligible
<b>Vapour Density (Air=1)</b>	5.40
<b>Partition Coefficient: n-octanol/water</b>	Log P (o/w): -1.73.
<b>Flammability</b>	Not combustible but assists combustion of other substances.
<b>Explosion Properties</b>	Strong oxidants may explode when shocked, or if exposed to heat, flame, or friction. Also may act as initiation source for dust or vapor explosions. Contact with oxidizable substances may cause extremely violent combustion. Sealed containers may rupture when heated.
<b>Molecular Weight</b>	158.03
<b>Oxidising Properties</b>	Powerful oxidizing agent. Contact with oxidizable substances may cause extremely violent combustion.
<b>Other Information</b>	Decomposed by alcohol. Sweetish, astringent taste.

## 10. Stability and reactivity

<b>Chemical Stability</b>	Stable under ordinary conditions of use and storage.
<b>Conditions to Avoid</b>	Heat, temperatures above 150°C, flames, ignition sources, dust generation and incompatibles.
<b>Incompatible Materials</b>	Organic or other readily oxidizable substances, acids; combustible substances; flammable liquids; reducing agents; hydrogen peroxide; hydroxylamine; hydrogen fluoride; sulfur; ammonium compounds; alcohols; formaldehyde; glycerol; phosphorus; finely powdered metals; some metals, zinc, copper; antimony or arsenic + friction; arsenites; bromides; iodides; activated carbon; charcoal; hydrides; ferrous or mercurous salts; hypophosphites; hyposulfites; sulfites; peroxides; oxalates; dimethylformamide; ethylene glycol; potassium chloride + conc. sulfuric acid; polypropylene + friction; hydrogen trisulfide.
<b>Hazardous Decomposition Products</b>	Toxic gases and irritating and corrosive fumes, toxic metal fumes, potassium hydroxide, oxygen, oxides of potassium and oxides of manganese.
<b>Possibility of hazardous reactions</b>	May cause spontaneous ignition if mixed with some substances such as glycerol or anti freeze compounds. Reacts violently with sulfuric acid or hydrogen peroxide. May form explosive compounds with ammonium compounds. Reaction with organic materials can produce spontaneous combustion. Reaction with organic or other readily oxidizable substances; conc. hydrochloric acid; and most organic compounds may be explosive. Reactive with reducing agents, combustible materials. Reacts vigorously when ground with phosphorus. Reaction with methanol, ethanol, isopropanol, pentanol, or isopentanol, upon mixing with red fuming nitric acid, causes immediate ignition. Delayed reaction (7 hours) with ammonium nitrate, due to formation and explosive decomposition of ammonium permanganate, leads to ignition. Delayed reaction (5 min.) with dimethylformamide is explosive. Reaction with ethylene glycol may be spontaneously flammable. Reaction with conc. sulfuric acid and potassium chloride may be violently explosive. Reaction with solid hydroxylamine produces a white flame. Reaction with polypropylene tube and friction; hydrogen trisulfide; antimony or arsenic and friction results in ignition. Can react violently with most metal powders, phosphorus, many finely divided organic compounds, flammable liquids, acids and sulfur. It is a powerful oxidizing agent. Manganese salts in air oxidize the toxic sulfur dioxide to more toxic sulfur trioxide.

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**Hazardous Polymerization** Will not occur.

## 11. Toxicological Information

**Acute Toxicity - Oral** LD50 (rat): 750 mg/kg.

**Ingestion** Ingestion of solid or high concentrations causes severe distress of gastro-intestinal system with possible burns, perforation and oedema; slow pulse; shock with fall of blood pressure. May be fatal. Ingestion of concentrations up to 1% causes burning of the throat, nausea, vomiting, and abdominal pain; 2-3% causes anaemia and swelling of the throat with possible suffocation; 4-5% may cause kidney damage. May cause liver damage. May cause central nervous system effects.

**Inhalation** Causes irritation to the respiratory tract with possible burns. Symptoms may include coughing, shortness of breath. The lowest exposure concentration of manganese at which early effects on the CNS and the lungs may occur is still unknown. However, once neurological signs are present, they tend to continue and worsen after exposure ends. High concentrations can cause a build-up of fluid in the lungs (pulmonary oedema) that might be fatal in severe cases.

**Skin** Dry crystals and concentrated solutions are caustic causing skin irritation, redness, pain, severe burns, brown stains in the contact area and possible hardening of outer skin layer. Diluted solutions are only mildly irritating to the skin.

**Eye** Eye contact with crystals (dusts) and concentrated solutions causes severe irritation, redness and blurred vision. May cause burns, chemical conjunctivitis and corneal damage. Recovery is usually complete, but in severe cases, permanent damage such as a dense, white cloudiness of the cornea may occur.

**Respiratory sensitisation** Not classified based on available information.

**Skin Sensitisation** Not classified based on available information.

**Germ cell mutagenicity** Not classified based on available information.

**Carcinogenicity** Not listed in the IARC Monographs.  
Not classified based on available information.

**Reproductive Toxicity** Reproductive Toxicity: Category 2  
H361d Suspected of damaging the unborn child.

**STOT-single exposure** Not classified based on available information.

**STOT-repeated exposure** Not classified based on available information.

**Chronic Effects** Prolonged skin contact may cause irritation, defatting, and dermatitis. Chronic manganese poisoning (manganism) can result from excessive inhalation exposure to manganese dust, or ingestion and involves impairment of the central nervous system. Early effects include neurological symptoms such as headache, apathy, sluggishness, sleepiness, and weakness in the legs. Advanced cases have shown symptoms of psychosis, fixed facial expression, emotional disturbances, spastic gait, falling and neurological symptoms similar to those of Parkinson's disease. Other chronic effects from inhaling high amounts of manganese include an increased incidence of cough and bronchitis and susceptibility to infectious lung disease.

## 12. Ecological information

**Ecotoxicity** Highly toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment. Hazard for drinking water supplies.

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

**Mobility** Distribution: Log Pow: -1.73.

**Bioaccumulative Potential** No bioaccumulation is to be expected (log Pow < 1).

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**Other Adverse Effects** Harmful to aquatic life in very low concentrations.

**Information on Ecological Effects** Bactericidal effect.

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

**Acute Toxicity - Daphnia** EC50 (Daphnia magna): 0.056 mg/l /48 h.

### 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 5.1 Oxidising Agents are incompatible in a placard load with any of the following: - Class 1, Class 2.1, Class 2.3, Class 3, Class 4, Class 5.2, Class 7, Class 8, Fire risk substances and combustible liquids.

**U.N. Number** 1490

**UN proper shipping name** POTASSIUM PERMANGANATE

**Transport hazard class(es)** 5.1

**Hazchem Code** 1Y

**Packing Group** II

**EPG Number** 5A1

**IERG Number** 31

**Environmental Hazards** Dangerous to the environment. Very toxic to aquatic organisms; may cause long term adverse effects in the aquatic environment.

### 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'.  
Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand.  
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** Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**  
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**Empirical Formula  
& Structural  
Formula**

KMnO<sub>4</sub>.

...End Of MSDS...

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