



Infosafe No™	1CH5L	Issue Date : August 2016	RE-ISSUED by CHEMSUPP
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Product Name : **POTASSIUM PERMANGANATE**

Classified as hazardous

1. Identification

GHS Product Identifier	POTASSIUM PERMANGANATE	
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	
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.	
Other Names	Name	Product Code
	POTASSIUM PERMANGANATE TG	PT003
	POTASSIUM PERMANGANATE LR	PL003
	POTASSIUM PERMANGANATE AR	PA003
Other Information	Condy's crystals, Chameleon mineral EMERGENCY CONTACT NUMBER: +61 08 8440 2000 Business hours: 8:30am to 5:00pm, Monday to Friday.	

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	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 Skin Corrosion/Irritation: Category 1C
Signal Word (s)	DANGER
Hazard Statement (s)	H272 May intensify fire; oxidiser. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.
Pictogram (s)	Flame over circle, Corrosion, Exclamation mark, Environment



Precautionary statement – Prevention	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. P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement – Response	Swallowed P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P330 Rinse mouth.



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Precautionary statement – Storage Precautionary statement – Disposal	Skin	P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P363 Wash contaminated clothing before reuse. P310 Immediately call a POISON CENTER or doctor/physician.
	Inhaled	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.
	Eyes	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/physician.
	Fire	P370+P378 In case of fire: Use flooding quantities of water for extinction. P405 Store locked up.
		P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Chemical Characterization	Solid				
Ingredients	Name	CAS	Proportion	Hazard Symbol	Risk Phrase
	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



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

6. Accidental release measures

Spills & Disposal 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.

Personal**Precautions**

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 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.

Conditions for safe storage, including any incompatibilities

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.

Storage Regulations

Refer Australian Standard AS 4326-1995 'The storage and handling of oxidizing agents'.

Storage

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

Temperatures

Unsuitable Materials Organic materials.

8. Exposure controls/personal protection**Other Exposure Information**

A time weighted average (TWA) has been established for Manganese, fume (as Mn) (Safe Work Australia) of 1 mg/m³. The corresponding STEL level is 3 mg/m³. A time weighted average (TWA) has been established for Manganese, dust & compounds (as Mn) (Safe Work Australia) of 1 mg/m³. 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



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	concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.
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.
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.
Eye Protection	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.
Hand Protection	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Excellent: NR latex, vinyl and neoprene. Fair: Nitrile rubber gloves
Personal Protective Equipment	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.
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 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

Form	Solid
Appearance	Dark purple or bronze-like crystals.
Odour	Odourless.
Decomposition Temperature	~240 °C
Melting Point	Decomposes below melting point.
Solubility in Water	Soluble (6.4 g/100 ml @ 20°C).
Solubility in Organic Solvents	Soluble in many organic solvents; also by concentrated acids. Soluble in acetone, methanol, acetic acid, trifluoroacetic acid, acetic anhydride, pyridine, benzonitrile, sulfolane.
Specific Gravity	2.7032
pH	7-9 (20 g/l H ₂ O).
Vapour Pressure	<0.01 hPa at 20°C: negligible
Vapour Density (Air=1)	5.40
Partition Coefficient: n-octanol/water	Log P (o/w): -1.73.
Flammability	Not combustible but assists combustion of other substances.
Explosion Properties	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.
Molecular Weight	158.03
Oxidising Properties	Powerful oxidizing agent. Contact with oxidizable substances may cause extremely violent combustion.
Other Information	Decomposed by alcohol. Sweetish, astringent taste.

10. Stability and reactivity

Chemical Stability	Stable under ordinary conditions of use and storage.
Conditions to Avoid	Heat, temperatures above 150°C, flames, ignition sources, dust generation and incompatibles.



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Incompatible Materials	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.
Hazardous Decomposition Products	Toxic gases and irritating and corrosive fumes, toxic metal fumes, potassium hydroxide, oxygen, oxides of potassium and oxides of manganese.
Possibility of hazardous reactions	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.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat): 750 mg/kg. The estimated lethal human dose by ingestion is 10 grams, with death being delayed by up to one month: Lowest Published Lethal Dose: LDLo (human): 100 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.
Skin Sensitisation	Sensitization with allergic manifestations in predisposed persons.
Carcinogenicity	Not listed in the IARC Monographs.
Reproductive Toxicity	Evidence of reproductive effects. Men exposed to manganese dusts showed a decrease in fertility.
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



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amounts of manganese include an increased incidence of cough and bronchitis and susceptibility to infectious lung disease.
Mutagenicity No evidence of mutagenic properties.

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).
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 - Fish LC50 (Ictalurus punctatus): 0.1 mg/l /96 h;
 LC50 (Carassius auratus): 3.6 mg/l /96 h.
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
Packaging Method 3.8.5.1
Packing Group II
EPG Number 5A1
IERG Number 31

15. Regulatory information

Regulatory Information Listed in the Australian Inventory of Chemical Substances (AICS).
Poisons Schedule S6

16. Other Information

Literature References 'Standard for the Uniform Scheduling of Medicines and Poisons No. 6', Commonwealth of Australia, February 2015.
 Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997.
 National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007.
 Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011.
 Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.



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Safety Data Sheet

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**Contact
Person/Point**

Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
Safe Work Australia, 'Hazardous Substances Information System, 2005'.
Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'.

Paul McCarthy Ph. (08) 8440 2000 **DISCLAIMER STATEMENT:**

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**Empirical Formula &
Structural Formula**

KMnO₄.

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