

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product (material) name: Potassium Permanganate
Other names: Condy's crystals
Recommended use: Disinfectant, antiseptic
Supplier Details: Pharmachem
Unit 6, 70 Fison Ave West
Eagle Farm QLD 4009
Telephone: (07) 3868 0333
Facsimile: (07) 3868 0344
Contact Person: Mr Gray Boston
Emergency Telephone: (07) 3630 1654

SECTION 2 HAZARDS IDENTIFICATION

This product is dangerous goods under the Australian Dangerous Goods Code and is classified as a health hazard, a physical hazard and an environmental hazard in accordance with the following classification criteria of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Eighth Revised Edition:

Physical hazard -

Oxidising solid – category 2

GHS label elements, including precautionary statements:

Pictogram:



Signal word: Danger

Hazard statement: May intensify fire; oxidizer

Precautionary statements:

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep away from clothing and other combustible materials.
Wear protective clothing, gloves, safety glasses or goggles.

Response: In case of fire use water spray to extinguish
If on clothing rinse immediately contaminated clothing and skin with plenty of water before removing clothing.

Health Hazards - Suspected of damaging the unborn child, harmful if swallowed

Reproductive toxicity – category 2

GHS label elements, including precautionary statements:

Pictogram:



Signal word: Warning

Hazard statement: Suspected of damaging fertility or the unborn child

Precautionary statements:

Prevention: Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.

Response: If exposed or concerned, get medical attention / advice

Acute toxicity, oral Category 4
GHS label elements, including precautionary statements:
Pictogram:



Signal word: Warning
Hazard statements: Harmful if swallowed
Precautionary statements:
Prevention: Keep out of reach of children
Wear suitable protective clothing and gloves
Do not eat drink or smoke when using this product
Wash hands thoroughly after handling
Response: If swallowed, call a Poisons Information Centre or doctor if you feel unwell
Rinse mouth

Environmental Hazards:

Acute aquatic toxicity Category 1
GHS label elements, including precautionary statements:
Pictogram:



Signal word: Warning
Hazard statements: Very toxic to aquatic life
Precautionary statements:
Prevention: Read label before use.
Avoid release to the environment.
Response: Collect spillage

Chronic aquatic toxicity Category 1
GHS label elements, including precautionary statements:
Pictogram:



Signal word: Warning
Hazard statements: Chronic: Very toxic to aquatic life with long lasting effects.
Precautionary statement
Prevention: Read label before use.
Avoid release to the environment.
Response: Collect spillage

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients | CAS NO. | Proportion |
|------------------------|-----------|------------|
| Potassium Permanganate | 7722-64-7 | 100% |

SECTION 4 FIRST AID MEASURES

The following First Aid directions have been derived from the FAISD Handbook published by the Australian Pesticides and Veterinary Medicines Authority (APVMA). These directions have been developed on the basis of advice provided by the Office of Chemical Safety (OCS) of the Commonwealth Department of Health:

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26, New Zealand 0800 764 766. If swallowed, do NOT induce vomiting. If skin contact occurs, remove contaminated clothing and wash skin thoroughly. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

First Aid facilities: Maintain eyewash fountain and drench facilities in work area.
Advice to Doctor: Consult Poisons Information Centre.

SECTION 5 FIRE FIGHTING MEASURES

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| Suitable extinguishing media: | Use water spray to blanket fire, cool fire-exposed containers, and to flush non-ignited spills or vapours away from fire. Suffocating type extinguishers are not as effective as water. Do not allow water run-off to enter sewers or waterways. |
| Hazards from combustion products: | Not combustible but assists combustion of other substances. Will accelerate burning when involved in a fire. May explode on 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 on heating. Runoff may create fire or explosion hazard. |
| Special protective precautions and equipment for fire fighters: | Wear SCBA and chemical splash suit. Structural firefighter's uniform will provide limited protection. |

SECTION 6 ACCIDENTAL RELEASE MEASURES

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| Emergency procedures: | Do not contaminate waterways with spilled material. Keep combustibles (wood, paper, clothing, oil, etc.) away from the 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. |
| Methods and materials for containment and clean up: | Use clean non-sparking tools to transfer material to a clean, dry plastic container and cover loosely. Move container from spill area. |

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling:

The following Safety Directions and Warning Statement have been set in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) for permanganates:

Safety Directions:

Avoid contact of the crystals or strong solutions with the eyes, mouth, nose and other mucous membranes.

Warning Statement:

Corrosive

The following additional information is provided to ensure safe handling of this material:

Wear safety glasses and keep the solid or solution from contact with the skin. Protect against physical damage and moisture. Isolate from any source of heat or ignition. Separate from incompatibles, combustibles, organic or other readily oxidizing materials. 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:

Keep in a tightly closed container, stored in a cool, dry, well-ventilated area out of direct sunlight. Avoid storage on wood floors.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Biological Limit Values

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| TWA: | 1 mg/m ³ - Manganese dust, fume, and compounds (as manganese) - Worksafe Aust. |
| STEL: | 3 mg/m ³ - Manganese fume |
| Engineering Controls: | Maintain concentration below recommended exposure limit. Local exhaust ventilation system may be required. |
| Personal Protective Equipment: | |
| Eye Protection: | Use chemical safety goggles. Where dust or splashing of solutions is possible, use full face shield. |
| Clothing: | Wear suitable protective clothing and gloves to prevent skin contact. |

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

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| Appearance | Dark purple crystals with blue metallic sheen. |
| Taste: | Sweetish, astringent |
| Odour | Odourless |
| Form | Solid |
| Specific Gravity | 2.7032 |
| Solubility in Water | 64 g/L @ 20 °C |
| Other Properties: | |
| Oxidising Properties | Powerful oxidizing agent. |
| Solubility in Organic Solvents | Soluble in acetone and methanol. |
| Decomposition Temp. | 240 °C |

SECTION 10 STABILITY AND REACTIVITY

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| Chemical stability: | Stable. |
| Conditions to avoid: | Heat, flames, ignition sources and incompatibles |
| Incompatible materials: | Powdered metals, alcohol, arsenites, bromides, iodides, phosphorus, sulfuric acid, organic compounds, sulphur, activated carbon, hydrides, strong hydrogen peroxide, ferrous or mercurous salts, hypophosphites, hyposulphites, sulphites, peroxides, and oxalates. |
| Hazardous decomposition products: | Toxic metal fumes may form when heated to decomposition. |
| Hazardous reactions: | Hazardous polymerization will not occur. Dangerous fire and explosion risk in contact with organic materials. Contact with reducing materials may cause fire. May react violently in contact with sulfuric acid or hydrogen peroxide. May react violently and give off toxic gases in contact with concentrated acids. May react explosively in contact with antimony, arsenic, titanium, ammonium compounds. |

Hazchem code
Other information

1Y
Decomposed by alcohol.

SECTION 11 TOXICOLOGICAL INFORMATION

Routes of Exposure:

Exposure to potassium permanganate can occur

Signs and symptoms of exposure

Acute:

Swallowed Harmful if swallowed. May cause swelling and irritation of the tissues in the mouth and throat, nausea, vomiting, high-pitched noisy breathing (stridor), slow pulse, shock, fall of blood pressure and death. Liver and kidney damage may develop.

Eye: Dilute solutions may cause mild irritation. Solid material and strong solutions may cause hardened, ulcer-like, dark-brown coloured injury where the chemical touches the eye, conjunctivitis and bleeding. Prolonged contact may cause cloudiness and brown discolouration of the cornea.

Skin: May cause irritation or a burn with a thick, brownish-purple area of dead tissue.

Inhaled: May cause irritation of the nose, throat and respiratory tract, sore throat, coughing, shortness of breath and difficult breathing.

Summary of Toxicology

Health Effects

Toxicology (Acute)

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|-----------------------------------|------------|
| Oral LD ₅₀ (Rat): | 1090 mg/kg |
| Oral LD ₅₀ Mouse: | 2157 mg/kg |
| Oral LD ₅₀ Guinea pig: | 1151 mg/kg |
| LDLO (Human): | 143 mg/kg |

Chronic:

Chronic exposure may result in pulmonary oedema. Chronic intake of manganese compounds by ingestion and inhalation can result in harmful effects on the central nervous system. Symptoms could include difficulty in walking, weakness or cramps in the legs, trouble with memory and judgement and unstable emotions. If high exposure continues, poor coordination, difficulty in speaking clearly, or shaking or tremor of the arms or legs may develop.

Chronic exposure may result in mutagenic and adverse reproductive effects, as well as adverse effects on the central nervous system.

SECTION 12 ECOLOGICAL INFORMATION

Potassium permanganate has a low estimated lifetime in the environment, being readily converted by oxidizable materials to insoluble manganese dioxide (MnO₂). Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Bioconcentration potential: In non-reducing and non-acidic environments manganese dioxide (MnO₂) is insoluble and has a very low bioaccumulative potential.

Aquatic Toxicity:

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| Rainbow trout, 96 hour LC ₅₀ : | 1.8 mg/L |
| Bluegill sunfish, 96 hour LC ₅₀ : | 2.3 mg/L |

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal methods and containers: Contact local authorities prior to disposal. Seek expert advice before disposing of this material or material collected as a result

of clean-up of spills of this material. Store material for disposal as indicated in storage conditions.

Special precautions for landfill or incineration:

Do not burn waste material or containers.

SECTION 14 TRANSPORT INFORMATION

UN Number: 1490
Proper Shipping Name: POTASSIUM PERMANGANATE
DG Class: 5.1
Packing Group: II
Hazchem Code: 1Y
Dangerous goods of Class 5.1 (Oxidizing Agent) 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.
EPG Number: 5A1
IERG Number: 31
Packaging Method: 5.9.5.1

SECTION 15 REGULATORY INFORMATION

Potassium permanganate has been included in Schedule 6 of the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) by the Commonwealth Department of Health and Aging as follows:

PERMANGANATES **except** potassium permanganate in aqueous solutions containing 1 per cent or less of potassium permanganate.

The Secretary of the Department (or delegate) has established Safety Directions and a Warning Statement for this material based on an assessment of the use of this material in Australia and these instructions have been included in this Safety Data Sheet.

First Aid directions have been derived from the Handbook of First Aid Instructions, Safety Directions, Warning Statements, and General Safety Precautions for, Agricultural and Veterinary Chemicals (FAISD Handbook).

Potassium Permanganate is classified as dangerous goods under the Australian Dangerous Goods Code and is therefore regulated under transport legislation in Australia.

Potassium permanganate is listed in the Australian Inventory of Chemical Substances but has not been assessed by AICIS.

SECTION 16 OTHER INFORMATION

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|---------------------|---------------|
| MSDS version: | 3 |
| Date of Revision: | March 2011 |
| Update of sections: | Update to GHS |

CONTACT POINT

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References:

1. Code of Practice – Preparation of safety data sheets for hazardous chemicals, Safe Work Australia, May 2018, <https://www.safeworkaustralia.gov.au/doc/model-code-practice-preparation-safety-data-sheets-hazardous-chemicals>

2. Australian Inventory of Industrial Chemicals (as updated), AICIS (Australian industrial Chemicals Introduction Scheme), Australian Government Department of Health, <https://www.industrialchemicals.gov.au/search-inventory>
3. The Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code), Edition 7.7, 2020, https://www.ntc.gov.au/sites/default/files/assets/files/ADG%20Code%207.7_0.pdf
4. SUSMP (Standard for the Uniform Scheduling of Medicines and Poisons) (as updated), Chemicals and Medicines Scheduling Secretariat (MD122), Scheduling and Committee Governance, TGA, Commonwealth Department of Health, <https://www.tga.gov.au/publication/poisons-standard-susmp>
5. Hazardous Chemical Information System (HCIS), Safework Australia (as updated), <http://hcis.safeworkaustralia.gov.au/>
6. Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Eighth Revised Edition, United Nations, New York and Geneva, 2019, <https://unece.org/ghs-rev8-2019>
7. NIOSH Pocket Guide to Chemical Hazards
8. Chemical Classification and Information Database (CCID) (as updated), New Zealand Environmental Protection Authority, <http://www.epa.govt.nz/search-databases/Pages/HSNO-CCID.aspx>
9. FAISD Handbook, Handbook of First Aid Instructions, Safety Directions, Warning Statements, and General Safety Precautions for, Agricultural and Veterinary Chemicals, (as updated), APVMA (Australian Pesticides and Veterinary Medicines Authority), <https://apvma.gov.au/node/26586>

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