



SALES & SERVICES

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Safety Data Sheet

1. IDENTIFICATION OF THE PRODUCT AND THE SUPPLIER

1.1 Product identifiers

Product name : POTASSIUM PERMANGANATE SOLUTION

1.2 Other means of identification

Chameleon mineral; Condy's crystal (solution); Permanganate of potash.

1.3 Recommended use of the product and restrictions on use

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

1.4 Details of supplier of the safety data sheet

Company : AGent Sales & Services Pty Ltd

Street address : 38 May Holman Drive, Bassendean, Western Australia 6054

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1.5 Emergency telephone number

Telephone : 1300 883 844

2. HAZARDS IDENTIFICATION

2.1 GHS Classification

Acute Aquatic Hazard (Category 2)

Chronic Aquatic Hazard (Category 2)

2.2 GHS Label elements, including precautionary statements

Pictogram :



Signal word : None

Hazard statement(s)

H401 Toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P273 Avoid release to the environment.

Response

P391 Collect spillage

Storage

None

Disposal

P501

Dispose of contents / container to an approved waste disposal plant.

2.3 Other hazards

None

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS Number	Classification	Concentration (%)
Potassium Permanganate	7722-64-7	H401, H411	5
Water	7732-18-5	Not listed	95

For the full text of the H-Statements mentioned in this section, see Section 16

4. FIRST AID MEASURES**4.1 Description of First Aid measures****General advice**

Contact the Poisons Information Centre (Phone: Australia 131 126; New Zealand 0800 764 766) or consult a doctor/physician. Show this safety data sheet to the doctor in attendance.

If inhaled

Remove victim from 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. Seek immediate medical attention.

In case of skin contact

If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. If irritation is severe or persistent, seek immediate medical assistance.

In case of eye contact

Immediately flush eyes with large amounts of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface. Do not attempt to neutralize chemically. Seek medical attention immediately.

If swallowed

Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek immediate medical attention.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in Section 2.2 and/or Section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

4.4 First Aid facilities

Eye wash facilities and safety shower should be available.

5. FIRE FIGHTING MEASURES**5.1 Suitable extinguishing media**

Use large quantities of water. Water will turn pink to purple when in contact with potassium permanganate. Dike to contain. Do not use dry chemicals, CO₂, halones or foams, because they are not effective. If material is involved in fire, flood with water. Cool all affected containers with large quantities of water. Apply water from as far a distance as possible

5.2 Special hazards arising from the chemical

Increases burning rate of combustible material.

Powerful oxidizing material. May decompose spontaneously if exposed to heat (135° C). May be explosive in contact with certain other chemicals (Section 10). May react violently with finely divided and readily oxidisable substances.

When involved in a fire, potassium permanganate may liberate irritating, poisonous and/or corrosive fumes. Oxides of potassium and manganese may be formed.

5.3 Special protective equipment and precautions for fire fighters

Wear positive-pressure self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition. Clear fire area of all non-emergency personnel. Stay

upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. Approach incident with caution. Do NOT allow fire-fighting water to reach waterways, drains or sewers. Store fire-fighting water for treatment and disposal.

5.4 Hazchem code
None

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with combustible materials. Do not touch spilled material. Stop leak if safe to do so. Move containers away from spill to a safe area. Keep unnecessary people away, isolate hazard area and deny entry. Ensure adequate ventilation. Avoid dust formation. Remove all ignition sources and incompatible materials before attempting clean up. Clean up spills immediately by sweeping or shovelling up the material. Do not return spilled material to the original container; transfer to a clean metal or plastic drum.
For personal protection see Section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. If contamination of sewers or waterways has occurred, advise local emergency services. Observe all local and national regulations.

6.3 Methods and materials for containment and cleaning up

Slippery when spilt. Avoid accidents, clean up immediately. Eliminate all sources of ignition. Use clean, non-sparking tools and equipment. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation.

Option 1: Dilute to approximately 6% with water, and then reduce with sodium thiosulfate, a bisulphite or ferrous salt solution. The bisulphite or ferrous salt may require some dilute sulphuric acid (10% w/w) to promote reduction. Neutralise with sodium carbonate to neutral pH, if acid was used. Decant or filter and deposit sludge in approved landfill. Where permitted, the sludge may be drained into sewer with large quantities of water.

Option # 2: Absorb with inert media like diatomaceous earth, sand or soil, collect into a drum and dispose of properly. Do NOT use saw dust or other incompatible media. Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations pertaining to permanganates.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating and after handling potassium permanganate. Prohibit eating, drinking and smoking in contaminated areas. Avoid handling which leads to dust formation. Wear proper protective equipment. Provide sufficient mechanical and/or local exhaust to maintain exposure below the TLV/TWA. Wear personal protective equipment. For personal protection see section 8.
For precautions see Section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating and after handling potassium permanganate. Prohibit eating, drinking and smoking in contaminated areas. Avoid handling which leads to dust formation. Wear proper protective equipment. Provide sufficient mechanical and/or local exhaust to maintain exposure below the TLV/TWA. This material is a Scheduled Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control parameters

No value assigned for this specific material by SWA. However, for constituent(s):

Occupational Exposure Limits

Chemical Name	Reference	TWA		STEL		Carcinogen Category	Notices
		ppm	mg/m ³	ppm	mg/m ³		
Manganese, dust & compounds (as Mn)	ASCC	-	1	-	-	-	-
Manganese, fumes (as Mn)		-	1	-	3	-	-
Potassium permanganate	ACGIH	-	0.2				

As published in "Workplace Exposure Standards for Airborne Contaminants, December 2011" by SWA.

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.

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.

Biological Limits

None allocated for this product.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Adequate ventilation should be provided so that exposure limits are not exceeded. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Personal protective equipment (PPE)

The selection of PPE is dependent 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.

Eye/face protection

Tight fitting chemical splash goggles and full face shield or basket shaped glasses. See Australian Standards (AS/NZS 1336 & 1337).

Skin protection

Wear protective gloves (Natural rubber: 1mm thickness. Break through time >480 min / Nitrile rubber: 0.33mm thickness. Break through time > 480 min / Butyl-rubber: 0.7mm thickness. Break through time > 480 min) and protective, acid-proof clothing (splash apron or equivalent chemical impervious outer garment and rubber boots) appropriate for the risk of exposure. See Australian Standards (AS 2161, AS 3765 & AS 2210). Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use. Wash and dry hands. Wash contaminated clothing and other protective equipment before storage or re-use.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination or type ABEK respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. See Australian Standards (AS 1715 & AS 1716).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Form : Liquid Colour : Opaque, Purple/Magenta
Odour:	Odourless
Odour Threshold:	No data available
pH:	No data available
Melting Point:	No data available

Boiling Point / Range	No data available
Decomposition Temperature:	No data available
Evaporation Rate:	No data available
Flash Point:	Not applicable
Flammability Limits:	Not applicable
Specific Gravity:	No data available
Vapour Density (air=1):	No data available
Vapour Pressure:	No data available
% Volatiles:	No data available
Solubility in water:	Miscible

10. STABILITY AND REACTIVITY

10.1 Reactivity

Reacts vigorously with acid and hydrogen peroxide.

10.2 Chemical stability

Stable under recommended storage conditions. Commercial products are stabilised to reduce risk of decomposition due to contamination.

10.3 Possibility of hazardous reactions

Hazardous polymerisation 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 sulphuric 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 and some organic chemicals such as glycerol/glycerine.

10.4 Conditions to avoid

Sunlight and heat

10.5 Incompatible materials

Incompatible with Powdered metals, alcohol, arsenites, bromides, iodides, phosphorus, sulphuric acid, organic compounds, sulphur, activated carbon, hydrides, strong hydrogen peroxide, ferrous or mercurous salts, hypophosphites, hyposulphites, sulphites, peroxides, and oxalates.

10.6 Hazardous decomposition products

Decomposition products under conditions of thermal decomposition: steam, oxygen, toxic metal fumes. Release of oxygen may support combustion.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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

Acute toxicity

Harmful if swallowed. Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract. Liver and kidney injuries may occur. Death may occur if large amounts are ingested. The estimated lethal human dose is 10 g. LD₅₀ (Oral, rat) = 780 mg/kg (male, 14 days); 525 mg/kg (female, 14 days).

Skin corrosion/irritation

Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns. Momentary contact of solution at room temperature may be irritating to the skin, leaving brown stains. Prolonged contact is damaging to the skin. Concentrated solutions at elevated temperature and crystals are damaging to the skin. The product may be absorbed into the body through the skin

Serious eye damage/eye irritation

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

Respiratory or skin sensitisation

Breathing in dust may result in respiratory irritation and may cause damage to the respiratory tract.

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity (STOT) - single exposure

No data available

Specific target organ toxicity (STOT) - repeated exposure

No data available

Aspiration hazard

No data available

Health Effects

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:

Eye contact : Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

Skin contact : The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Ingestion : Accidental ingestion of the material may be damaging to the health of the individual. Ingestion may result in nausea, abdominal irritation, pain and vomiting

Inhalation : Not normally a hazard due to non-volatile nature of product

11.2 Information on possible routes of exposure

The substance can be absorbed into the body by skin & eye contact, ingestion and by inhalation.

11.3 Additional Information

RTECS: Not available for this product

12. ECOLOGICAL INFORMATION**12.1 Ecotoxicity**

Avoid contaminating waterways. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high-water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters. Wastes resulting from use of the product must be disposed of on site or at approved waste sites. DO NOT discharge into sewer or waterways.

12.2 Persistence and degradability

Permanganate has a low estimated lifetime in the environment, being readily converted by oxidisable materials to insoluble MnO₂

12.3 Bioaccumulative potential

In non-reducing and non-acidic environments, MnO₂ is insoluble and has a very low bioaccumulative potential.

12.4 Mobility in soil

Soluble in water.

12.5 Other adverse effects

Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

13.1 Disposal methods and containers

Ensure waste disposal conforms to relevant local, state and federal authority waste disposal regulations. All empty packaging should be disposed of as unused product.

13.3 Special precautions for landfill or incineration

Contact a specialist disposal company or the local waste regulator for advice. Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to an approved waste facility.

14. TRANSPORT INFORMATION

Not classified as a Dangerous Goods by the criteria of the ADG Code for transport by road or rail

Not classified as a Dangerous Goods by the criteria of the IMDG Code for transport by sea

Not classified as a Dangerous Goods by the criteria of the IATA Code for transport by air

14.1 UN number

ADG : None

IMDG : None

IATA : None

14.2 Proper shipping name

ADG : POTASSIUM PERMANGANATE SOLUTION

IMDG : POTASSIUM PERMANGANATE SOLUTION.

IATA : POTASSIUM PERMANGANATE SOLUTION

14.3 Transport hazard class

ADG : None

IMDG : None

IATA : None

14.4 Packing group

ADG : None

IMDG : None

IATA : None

14.5 Environmental hazards

ADG : No

IMDG Marine Pollutant : No

IATA : No

14.6 Special precautions for users

No data

14.7 Hazchem code

ADG : None

IMDG EMS : None

14.8 Dangerous goods initial emergency response guide (SAA/SNZ HB76:2010)

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15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poisons Schedule : 6

Carcinogen classification under WHS Regulations 2011, Schedule 10

Not listed

Notification status

AICS On the inventory, or in compliance with the inventory.

16. OTHER INFORMATION

Key / legend to abbreviations and acronyms used in the MSDS

ADG	Australian Dangerous Goods
ASCC	Australian Safety and Compensation Council
DEC	Department of Environment and Conservation
IARC	International Agency for Research on Cancer
NOHSC	National Occupational Health and Safety Commission
SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons
Acute Tox.	Acute toxicity
Eye Dam.	Serious eye damage
Ox. Liq.	Oxidising liquids
Skin Corr.	Skin corrosion
TWA	Time weighted average
STEL	Short term exposure level
SWA	Safe Work Australia

Peak Limitations	A ceiling concentration that should not be exceeded over a measurement period, which should be as short as possible, but not exceeding 15 minutes
LD ₅₀	Lethal dose 50. The single dose of a substance that causes the death of 50% of an animal population from exposure to the substance by any route other than inhalation
IC ₅₀	Inhibitory concentration that inhibits 50% of a specific biological or biochemical function within a specified time
LC ₅₀	Lethal concentration that kills 50% of an animal population within a specified time
TD Lo	The lowest dose of a substance known to have produced signs of toxicity
RTECS	Registry of Toxic Effects of Chemical Substances
g/L	Grams per litre
g/cm ³	Grams per cubic centimetre
mg/m ³	Milligrams per cubic metre
mg/kg	Milligrams per kilogram
pH	Relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline
WHS	Work Health and Safety

Literature references

“Workplace Exposure Standards for Airborne Contaminants, December 2011” by SWA
Work Health and Safety Regulations 2011

Reason(s) for Issue:

Revised primary SDS
Alignment to GHS requirements

Disclaimer

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