



Safety Data Sheet

Product Name **MANGASOL**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name INCITEC PIVOT LIMITED
Address 70 Southbank Boulevard, Southbank, Victoria, AUSTRALIA, 3006
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Emergency 1800 033 111 (All Hours)
Web Site <http://www.incitecpivot.com.au/>
Synonym(s) 81427 - PRODUCT CODE • MANGANESE SULFATE SOLUTION • MANGANESE SULPHATE SOLUTION
Use(s) FERTILISER
SDS Date 01 Nov 2006

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC CRITERIA

RISK PHRASES

R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

SAFETY PHRASES

S23 Do not breathe gas/fumes/vapour/spray (where applicable).
S24/25 Avoid contact with skin and eyes.
S36/37 Wear suitable protective clothing and gloves.
S53 Avoid exposure - obtain special instructions before use.

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	None Allocated	DG Class	None Allocated	Subsidiary Risk(s)	None Allocated
Packing Group	None Allocated	Hazchem Code	None Allocated	EPG	None Allocated

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
MANGANESE SULPHATE	O4-S.Mn	7785-87-7	45-50%
WATER	H2O	7732-18-5	remainder

4. FIRST AID MEASURES

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

Inhalation If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

Skin If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

Ingestion For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

Advice to Doctor Treat symptomatically

First Aid Facilities Eye wash facilities and safety shower should be available.

5. FIRE FIGHTING MEASURES

Flammability	Non flammable. May evolve toxic gases if strongly heated. May evolve manganese and sulphur oxides when heated to decomposition and dryness.
Fire and Explosion	Treat as per requirements for Surrounding Fires: Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.
Extinguishing	Prevent contamination of drains or waterways.
Hazchem Code	None Allocated

6. ACCIDENTAL RELEASE MEASURES

Spillage	If spilt (bulk), use personal protective equipment. Contain spillage, then cover / absorb spill with non-combustible absorbant material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Prevent spill entering drains or waterways. CAUTION: Spill site may be slippery.
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7. STORAGE AND HANDLING

Storage	Store in a cool, dry, well ventilated area, removed from foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Also store removed from strong oxidisers, aluminium and magnesium.
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. Prohibit eating, drinking and smoking in contaminated areas.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Stds	Ingredient	Reference	TWA		STEL	
			ppm	mg/m3	ppm	mg/m3
	Manganese, dust & compounds (as Mn)	ASCC (AUS)	--	1	--	--

Biological Limits No biological limit allocated.

Engineering Controls Avoid inhalation. Use in well ventilated areas. Maintain vapour levels below the recommended exposure standard.

PPE Wear splash-proof goggles and rubber or PVC gloves. When using large quantities or where heavy contamination is likely, wear: coveralls. If spraying, wear: a Class P1 (Particulate) respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	CLEAR LIGHT PINK LIQUID	Solubility (Water)	SOLUBLE
Odour	SLIGHT ODOUR	Specific Gravity	1.42
pH	2.8	% Volatiles	NOT AVAILABLE
Vapour Pressure	NOT AVAILABLE	Flammability	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	Flash Point	NOT RELEVANT
Boiling Point	NOT AVAILABLE	Upper Explosion Limit	NOT RELEVANT
Melting Point	NOT AVAILABLE	Lower Explosion Limit	NOT RELEVANT
Evaporation Rate	NOT AVAILABLE		

Product Name **MANGASOL**

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended conditions of storage.
Conditions to Avoid	Avoid heat, sparks, open flames and other ignition sources.
Material to Avoid	Compatible with most commonly used materials. Incompatible with strong oxidisers, aluminium and magnesium.
Decomposition	May evolve manganese and sulphur oxides when heated to decomposition and dryness.
Hazardous Reactions	Hazardous polymerization is not expected to occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Low to moderate toxicity - irritant. This product may present a hazard with direct eye contact, prolonged skin contact or continual mist inhalation. Chronic exposure to manganese compounds at high levels may result in manganese poisoning (manganism), with central nervous system damage. However, due to the low levels of manganese present and product form (solution), such effects are not anticipated with normal use.
Eye	Irritant. Contact may result in irritation, lacrimation, pain and redness.
Inhalation	Low irritant. Over exposure may result in irritation of the nose and throat, with coughing. Due to product form / nature of use, an inhalation hazard is not anticipated with normal use.
Skin	Irritant. Contact may result in irritation, redness, pain and rash.
Ingestion	Low to moderate toxicity. Ingestion may result in gastrointestinal irritation, nausea, vomiting, abdominal pain and diarrhoea.
Toxicity Data	MANGANESE SULPHATE (7785-87-7) LD50 (Ingestion): 2150 mg/kg (rat) LD50 (Intraperitoneal): 147 mg/kg (mouse) LD50 (Intravenous): 44100 ug/kg (rat)

12. ECOLOGICAL INFORMATION

Environment	Manganese may exist in the environment as the more soluble (2+) form and/or the less soluble (3+) form. In acidic waters, high levels of dissolved manganese may occur.
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13. DISPOSAL CONSIDERATIONS

Waste Disposal	For small amounts, absorb with sand or similar and dispose of to an approved landfill site. Contact the manufacturer for additional information. Ensure that appropriate personal protective equipment is used during disposal.
Legislation	Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

Shipping Name	None Allocated				
UN No.	None Allocated	DG Class	None Allocated	Subsidiary Risk(s)	None Allocated
Packing Group	None Allocated	Hazchem Code	None Allocated	EPG	None Allocated

15. REGULATORY INFORMATION

Poison Schedule	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).
AICS	All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Additional Information	ABBREVIATIONS: ADB - Air-Dry Basis. BEI - Biological Exposure Indice(s) CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds. CNS - Central Nervous System. EINECS - European INventory of Existing Commercial chemical Substances. IARC - International Agency for Research on Cancer. M - moles per litre, a unit of concentration. mg/m3 - Milligrams per cubic metre.
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NOS - Not Otherwise Specified.
NTP - National Toxicology Program.
OSHA - Occupational Safety and Health Administration.
pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm - Parts Per Million.
RTECS - Registry of Toxic Effects of Chemical Substances.
TWA/ES - Time Weighted Average or Exposure Standard.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Report Status

This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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End of Report