



# SAFETY DATA SHEET



## Manganese Sulfate

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

#### 1.1 Product identifier

**Product name** MANGANESE SULFATE  
**Synonym(s)** GRANULAR MANGANESE SULFATE • MANGANESE SULPHATE

#### 1.2 Uses and uses advised against

**Use(s)** AGRICULTURAL APPLICATIONS • FERTILISER

#### 1.3 Details of the supplier of the product

**Supplier name** CSBP LIMITED  
**Address** Kwinana Beach Road, Kwinana, WA, 6167, AUSTRALIA  
**Telephone** (08) 9411 8777  
**Fax** (08) 9411 8425  
**Website** <http://www.csbp.com.au>

#### 1.4 Emergency telephone number(s)

**Emergency** 1800 09 3333 (Australia); +61 8 9411 8444

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS classification(s)** Specific Target Organ Systemic Toxicity (Repeated Exposure): Category 2  
Aquatic Toxicity (Chronic): Category 2

#### 2.2 Label elements

**Signal word** WARNING

**Pictogram(s)**



#### Hazard statement(s)

H373 May cause damage to organs through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.

#### Prevention statement(s)

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P273 Avoid release to the environment.

#### Response statement(s)

P314 Get medical advice/attention if you feel unwell.  
P391 Collect spillage.

#### Storage statement(s)

None allocated.

#### Disposal statement(s)

P501 Dispose of contents/container in accordance with relevant regulations.

#### 2.3 Other hazards

No information provided.

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

#### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
MANGANESE SULPHATE	7785-87-7	232-089-9	>95%

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

<b>Eye</b>	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.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	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.
<b>Ingestion</b>	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.
<b>First aid facilities</b>	Eye wash facilities and safety shower are recommended.

#### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

#### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

### 5. FIRE FIGHTING MEASURES

#### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

#### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve manganese oxides when heated to decomposition.

#### 5.3 Advice for firefighters

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.

#### 5.4 Hazchem code

None allocated.

### 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

#### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

#### 6.3 Methods of cleaning up

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

#### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

### 7. HANDLING AND STORAGE

## PRODUCT NAME MANGANESE SULFATE

### 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. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Large storage areas should have appropriate ventilation systems.

### 7.3 Specific end use(s)

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Manganese, dust & compounds (as Mn)	SWA (AUS)	--	1	--	--
Manganese, fume (as Mn)	SWA (AUS)	--	1	--	3

### Biological limits

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

### PPE

- Eye / Face** Wear dust-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** When using large quantities or where heavy contamination is likely, wear coveralls.
- Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. At high dust levels, wear a Full-face Class P3 (Particulate) respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	PALE PINK GRANULES
Odour	ODOURLESS
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	850°C
Melting point	700°C
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	NOT AVAILABLE
Specific gravity	3.25
Solubility (water)	SLIGHTLY SOLUBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE

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### 9.1 Information on basic physical and chemical properties

Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Hazardous polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve manganese oxides when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity** May be harmful if swallowed, in contact with skin, and/or if inhaled.

#### Information available for the ingredient(s):

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
MANGANESE SULPHATE	2150 mg/kg (rat)	--	--

**Skin** Contact may result in irritation, rash and dermatitis.

**Eye** Contact may result in irritation, lacrimation, pain and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Over exposure may result in irritation of the nose and throat, with coughing.

**STOT - repeated exposure** Repeated exposure to manganese dust may result in manganese poisoning (manganism), a disabling, and usually progressive disorder of the central nervous system with symptoms resembling Parkinsonism.

**Aspiration** Not classified as causing aspiration.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Manganese and its compounds have moderate acute and chronic toxicity to aquatic life. Insufficient data are available to evaluate or predict the short-term and long-term effects of manganese and its compounds on plants, birds, or land animals. Most plants have a very high tolerance for manganese.

### 12.2 Persistence and degradability

Manganese is an essential element for all living organisms including animals, plants and bacteria.

**PRODUCT NAME MANGANESE SULFATE****12.3 Bioaccumulative potential**

Not expected to bioaccumulate.

**12.4 Mobility in soil**

Soluble manganese 2+ compounds are relatively mobile and may potentially leach into surface and groundwater.

**12.5 Other adverse effects**

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. Occurs naturally (0.085% of earth's crust).

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Waste disposal** Soluble salts: convert to insoluble form by dissolving in water and precipitating with lime or sodium carbonate. Absorb with sand or similar and dispose of to an approved landfill site. Insoluble salts: Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).**Legislation** Dispose of in accordance with relevant local legislation.**14. TRANSPORT INFORMATION****CLASSIFIED AS A DANGEROUS GOOD (IN ACCORDANCE WITH IATA AND IMDG ONLY)**

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None allocated.	3077	3077
<b>14.2 Proper Shipping Name</b>	None allocated.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
<b>14.3 Transport hazard class</b>	None allocated.	9	9
<b>14.4 Packing Group</b>	None allocated.	III	III

**14.5 Environmental hazards**

Marine Pollutant

**14.6 Special precautions for user****Hazchem code** None allocated.**EMS** F-A, S-F**Other information** Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the Australian Dangerous Goods Code when transported by road or rail in;  
(a) packagings;  
(b) IBCs; or  
(c) any other receptacle not exceeding 500 kg(L).  
- Australian Special Provisions (SP AU01) - ADG Code 7th Ed.  
Labels Required: MISCELLANEOUS.**15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** N Dangerous for the environment  
Xn Harmful**Risk phrases** R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.  
R51/53 Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

**PRODUCT NAME MANGANESE SULFATE**

<b>Safety phrases</b>	S22	Do not breathe dust.
	S36	Wear suitable protective clothing.
	S45	In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).
	S53	Avoid exposure - obtain special instructions before use.
	S61	Avoid release to the environment. Refer to special instructions/safety data sheets.
	<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.

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**16. OTHER INFORMATION**

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**Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, 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.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; 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 report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**PRODUCT NAME MANGANESE SULFATE**

**Report status**

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

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier 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, importer or supplier.

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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