



# SAFETY DATA SHEET

## Valagro MC Cream

Date of Issue: December 2016

### 1. IDENTIFICATION

**Product Identifier:** Valagro MC Cream

**Other Means of Identification:** None

**Recommended Use of the Chemical and Restrictions on Use:** Fertiliser

**Details of Manufacturer or Importer:** Campbells Fertilisers Australasia  
18Raymond Road, Laverton North, Victoria, 3026  
Phone: (03) 9931 2211  
Fax: (03) 9931 2201  
[www.campbellsfert.com.au](http://www.campbellsfert.com.au)

**Emergency Telephone Number:** (03) 9931 2211 (business hours only 8.30 am to 5.00 pm)  
0418 350 726 (after business hours)  
Poison Information Centre 13 11 26

### 2. HAZARD(S) IDENTIFICATION

**Hazard Designation:** Classification of the substance or mixture according to Directive criteria, 67/548/CE, 99/45/EC and following amendments thereof:  
Properties/Symbols: none

**Risk Phrases:** R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
EC regulation criteria 1272/2008 (CLP)  
Aquatic Chronic 3, harmful to aquatic life with long lasting effects.  
H412 Harmful to aquatic life with long lasting effects.

**Label elements** P273 Avoid release to the environment.  
P501 Dispose of the contents/container according to local regulations.

**ADG Classification:** Based on available information, not classified as a Dangerous Good under the Australian Code for the Transport of Dangerous Goods by Road and Rail, 7<sup>th</sup> Edition

**SUSMP Classification:** Not scheduled

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

This substance, mixture contains hazardous components.

Component:	CAS Number:	Proportion (%w/w):
Manganese sulphate	7785-87-7	3%-5%
Zinc sulphate	7733-02-0	1%-3%

Classification of ingredients:

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Manganese sulphate: 3.3/1 Eye damage 1 H318, 3.9/2 STOT RE 2 H 373, 4.1 C2 Aquatic chronic 2 H411  
 Zinc sulphate : 3.3/1 Eye damage 1 H318, 4.1 A1 Aquatic Acute 1 H400, 4.1 C1 Aquatic chronic 1 H410, 3.1/4 Oral Acute Tox 4 H302

### 4. FIRST AID MEASURES

#### Description of Necessary First Aid Measures:

- Inhalation:** Remove casualty to fresh air and keep warm and at rest.
- Skin Contact:** Take off all contaminated clothing immediately. Areas of the body that have or are suspected of having come into contact with the product must be rinsed immediately with plenty of running water and soap. Wash the body thoroughly in a shower or bath. Dispose of contaminated clothing safely.
- Eye Contact:** Rinse immediately with plenty of water and seek medical advice.
- Ingestion:** Never give anything by mouth to an unconscious person. If person is conscious, rinse mouth with water and then give plenty of water to drink. Do not induce vomiting unless instructed to do so by medical personnel. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.
- First Aid Facilities:** Ensure washing facilities, including an eyewash, are available and maintained.
- Advice:** Who provides the first medical aid must use personal protection equipment (latex gloves and safety glasses)..

#### Symptoms caused by Exposure:

No data available for the mixture. Possible symptoms that may occur:

- Inhalation:** May cause irritation to the respiratory tract; cough.
- Skin Contact:** May cause irritation to the skin; redness, itching, pain.
- Eye Contact:** May cause eye irritation, pain, redness.
- Ingestion:** The product dissolved in water causes an acid reaction and if swallowed can cause irritation and burns of the mouth, throat and digestive tract; abdominal pain, gastrointestinal disorders.

#### Medical Attention and Special Treatment:

If exposed, concerned or if symptoms persist, get medical attention/advice immediately. If medical advice is needed, have product container, label or safety data sheet at hand.  
 Treatment: no data available

### 5. FIRE FIGHTING MEASURES

- Suitable Extinguishing Equipment:** Water, carbon dioxide (CO<sub>2</sub>).
- Specific Hazards arising from the Chemical:** Do not inhale explosion and combustion gases. Burning produces heavy smoke containing sulphur oxides.

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**Special Protective Equipment and Precautions for Fire Fighters:** Wear suitable personal protective equipment and self-contained breathing apparatus. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Move undamaged containers from immediate hazard area if safe to do so. Protective clothing for firefighters (full protective suit, helmet, gloves, boots) must conform to the standard EN469.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures:** For non-emergency personnel:  
 -No action shall be taken involving any personal risk or without suitable training.  
 -Wear protective clothes giving total skin protection, gloves and safety glasses.  
 -Keep people not involved in the emergency intervention away from the affected area.  
 -Ensure adequate ventilation.  
 -Alert the internal emergency team

For emergency responders:  
 -Wear protective clothes giving total skin protection, latex gloves and safety glasses.  
 -See protective measures in section 8  
 -Move people into a safe place

**Environmental Precautions:** Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Retain contaminated wash water and dispose in approved landfill. If possible, collect in clean plastic labeled containers and reuse as fertilizer. In case of gas escape or entry into waterways, soil or drains, inform the responsible authorities. Suitable material for taking up: absorbing material, soil, sand.

**Methods and Materials for Containment and Cleaning Up:** Wash with plenty of water. Contain the spillage with absorbent material. Collect the product for example using shovel and broom.

### 7. HANDLING AND STORAGE

**Precautions for Safe Handling:** Avoid contact with skin and eyes, inhalation of vapours and mists. Do not use empty containers before they have been cleaned. Before transferring product, ensure there are no incompatible material residuals in the containers. Contaminated clothing should be changed before entering eating areas. Do not drink or eat in work areas. See section 8 for recommended protective equipment.

**Conditions for Safe Storage:** Keep in original containers tightly closed in a well-ventilated area, away from sources of heat. Keep away from food, drink and feed.

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**including any Incompatibilities:** Incompatible materials: alkaline and acid substances, oxidizing and reducing agents. Adequately ventilate premises.

### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Exposure Standards:** No occupational exposure limit available for the mixture.

Manganese sulphate:

Exposure limit Manganese (Mn)TWA 0.2 mg/m<sup>3</sup> inorganic compounds  
Critical effect: central nervous system

*Workers:*

DNEL skin = 0.00414 mg/kg/day

DNEL inhalation = 0.2 mg/ m<sup>3</sup>

*Population:*

DNEL skin = 0.0021 mg/kg/day

DNEL inhalation = 0.043 mg/m<sup>3</sup>

*Environment:*

PNEC water (fresh water) = 0.0128 mg/L

PNEC water (sea water) = 0.0004 mg/L

PNEC water (intermittent emissions) = 0.03 mg/L

PNEC STP = 56 mg/L

PNEC sediment (fresh water) = 0.0114 mg/kg dw sediment

PNEC sediment (sea water) = 0.00114 mg/kg dw sediment

PNEC soil 25.1 mg/kg soil dw

Zinc sulphate:

Soluble zinc compounds

Country/organisation	8 hour-TWA mg/m <sup>3</sup>	15 min-STEL mg/m <sup>3</sup>	References
USA	1	2	ACGIH (1991)
The Netherlands	1		SZW (1997)
UK	1	2 <sup>a)</sup>	HSE (1998)
Sweden	1 <sup>b)</sup>		National Board of Occupational Safety and Health, Sweden (1993)
Denmark	0.5		Arbejdstilsynet, 1992

a) This value is a 10 minutes-STEL

b) This TWA is determined for dust

### DNELs and PNECs

#### DNELs

##### **Oral**

DNEL<sub>oral soluble Zn</sub> = 50 mg Zn/day (i.e., 0.83 mg Zn/kg bw/day);

DNEL<sub>oral insoluble Zn</sub> = 50 mg Zn/day (i.e., 0.83 mg Zn/kg bw/day);

##### **Dermal**

DNEL<sub>dermal soluble Zn</sub> = 500 mg Zn/day (i.e., 8.3 mg Zn/kg bw/day);

DNEL<sub>dermal insoluble Zn</sub> = 5000 mg Zn/day (i.e., 83 mg Zn/kg bw/day);

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### Inhalation - Worker

$DNEL_{\text{inhal soluble Zn (worker)}} = 1 \text{ mg Zn/m}^3$ ;

$DNEL_{\text{inhal insoluble Zn (worker)}} = 5 \text{ mg Zn/m}^3$ ;

### Inhalation - Consumer

$DNEL_{\text{inhal soluble Zn (consumer)}} = 1.3 \text{ mg Zn/m}^3$ ;

$DNEL_{\text{inhal insoluble Zn (consumer)}} = 2.5 \text{ mg Zn/m}^3$ ;

### PNECs derived for the zinc ion

Compartment (Environment)	PNEC value for Zn ion
Freshwater	20.6* $\mu\text{g/L}$
Saltwater	6.1* $\mu\text{g/L}$
STP	52 $\mu\text{g/L}$
Freshwater sediment	117.8* $\text{mg/kg}$ sediment d.w. A generic bioavailability factor of 0.5 is applied by default: PNEC <sub>bioav</sub> : 235.6 $\text{mg/kg}$ sediment d.w.
Saltwater sediment	56.5* $\text{mg/kg}$ sediment d.w. A generic bioavailability factor of 0.5 is applied by default: PNEC <sub>bioav</sub> : 113 $\text{mg/kg}$ sediment d.w.
Soil	35.6* $\text{mg/kg}$ soil d.w. A generic bioavailability/ageing factor of 3 is applied by default: PNEC <sub>bioav</sub> : 106.8 $\text{mg/kg}$ soil d.w.
Oral	No potential for bioaccumulation

\*added value

### Biological Monitoring:

Not available.

### Control Banding:

Not available.

### Engineering Controls:

Not specified.

### Individual Protection Measures e.g. Personal Protective Equipment (PPE):

Please observe the usual precautionary measures for handling of chemicals

#### *Eye and Face Protection:*

Use close fitting safety goggles according to the standard EN166. Do not use contact lenses.

#### *Skin Protection:*

Use protective gloves according to EN374 that provide comprehensive protection e.g. NBR, PVC, neoprene or rubber. Use clothing that provides comprehensive protection to the skin.

#### *Respiratory Protection:*

Not needed for normal use.

#### *Thermal Hazards:*

None known.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Green suspension
<b>Odour:</b>	Odourless
<b>Vapour Pressure (mm Hg):</b>	Not available
<b>Density:</b>	1.1 kg/dm <sup>3</sup> at 20°C
<b>Boiling Point:</b>	>100°C
<b>Freezing/Melting Point:</b>	Not available
<b>Solubility (aqueous solution):</b>	Not available
<b>Specific Gravity:</b>	Not available
<b>pH:</b>	3.8
<b>Flash Point:</b>	Not applicable
<b>Flammability (explosive) Limits:</b>	Not applicable
<b>Auto-Ignition Temperature:</b>	Not applicable
<b>Octanol/Water Partition Coefficient:</b>	Not available
<b>Conductivity:</b>	0.15

### 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable under normal conditions of storage and handling
<b>Possibility of Hazardous Reactions:</b>	None.
<b>Conditions to Avoid:</b>	Avoid high temperatures.
<b>Incompatible Materials:</b>	Alkaline and acid substances, oxidizing and reducing agents
<b>Hazardous Decomposition Products:</b>	None.

### 11. TOXICOLOGICAL INFORMATION

#### Toxicological Information of the Mixture:

**Serious eye damage/irritation:** Non-irritant according to OECD test no. 405

#### Toxicological Information of Main Substances found in Mixture:

**Acute Toxicity:** *Manganese sulphate:*  
 LD50 oral = 2150 mg/kg Singh PP and Junnarkar AY (1991)  
 LC50 inhalation >4.98 mg/L Griffiths DR (2010)  
 Skin: Absorption through skin is unlikely

*Zinc sulphate:*

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Product	Results	Species	Doses	References
Zinc sulphate monohydrate hexahydrate heptahydrate	LD50 oral	Rat	574 to 2949 862 to 4429 920 to 4725	Litton Bionetics, 1974 Courtois et al 1978
Zinc sulphate	LD50 dermal	Rat	>2000 mg/kg	Van Huygevoort 1999a

### Skin

#### Corrosion/Irritation:

*Manganese sulphate:*

*In vivo* test on rabbit OECD 404: Not irritating. Ref: Pooles 2010.

*Zinc sulphate:*

Not irritant Ref: Van Huygevoort 1999b; Lansdown 1991.

### Serious Eye

#### Damage/Irritation:

*Manganese sulphate:*

Test *in vitro* Reconstituted Corneal Epithelium: Not irritant Ref: Warren N 2009b

Test *in vivo*: Irreversible eye damage (test based on one rabbit)

*Zinc sulphate:*

Severe irritant Ref: Van Huygevoort 1999f.

### Respiratory or Skin

#### Sensitisation:

*Manganese sulphate:*

Skin: Not classified as a sensitizer

Respiratory system: No data available

*Zinc sulphate:*

No sensitizing effect known Ref: Van Huygevoort 1999i; Ikarashi et al 1992.

### Germ Cell

#### Mutagenicity:

*Manganese sulphate:*

Not mutagenic

*Zinc sulphate:*

Not mutagenic

### Carcinogenicity:

*Manganese sulphate:*

Not classified as carcinogenic

*Zinc sulphate:*

Not classified as carcinogenic

### Reproductive

#### Toxicity:

*Manganese sulphate:*

Not classified

*Zinc sulphate:*

Not classified

### Specific Target Organ Toxicity (STOT) - Single Exposure:

*Manganese sulphate:*

Not classified

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*Zinc sulphate:*  
Not classified

**Specific Target Organ Toxicity (STOT) - Repeated Exposure:** *Manganese sulphate:*  
STOT RE 2 May cause damage to the brain through prolonged or repeated exposure by inhalation.

*Zinc sulphate:*  
Not classified

**Aspiration Hazard:** *Manganese sulphate:*  
STOT RE 2 May cause damage to the brain through prolonged or repeated exposure by inhalation.

*Zinc sulphate:*  
Not classified

### Likely Routes Of Exposure

**Inhalation:** Unlikely under normal working conditions  
**Skin:** Possible  
**Eye:** Possible  
**Ingestion:** Possible

### Delayed and Immediate Effects from Short and Long Term Exposure:

No data available for the mixture

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Adopt good working practices so that the product is not released to the environment.  
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

*Manganese sulphate:*  
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic compartment	Results	Substance	References
Short-term toxicity: <i>Oncorhynchus mykiss</i> Fresh water	LC50 (96 h): 14.5 mg/L Mn	Test material Manganese sulphate monohydrate	Davies PH (1980)
Long-term toxicity: <i>Oncorhynchus mykiss</i> Fresh water	NOEC (4 mo): 0.6 mg/L Mn	Test material (EC name): Manganese sulphate	Davies P and Brinkman S (1994)
Short-term	LC50 (48 h): 9.8	Test material (EC	Biesinger KE



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toxicity: <i>Daphnia magna</i> Fresh water	mg/L dissolved (meas. (arithm, mean)) based on as Mn <sup>2+</sup>	name): Manganese chloride	and Christensen GM (1972)
Long-term toxicity: <i>Daphnia magna</i> Salt water	LC50 (3 weeks): 5700 µg/L dissolved (meas. (arithm, mean)) based on mortality	Test material (EC name): Manganese chloride	Biesinger KE and Christensen GM (1972)
Algae: <i>Desmodesmus subspicatus</i> (algae, growth inhibition test), fresh water	EC50 (72 h): 61 mg/L test mat. (nominal) based on: growth rate	Test material Manganese sulphate monohydrate	Vryenhoef H (2010)

### Zinc sulphate:

#### Acute aquatic toxicity

For zinc heptahydrate (a ZnSO<sub>4</sub>·7H<sub>2</sub>O:Zn molecular weight ratio of 4.4):

For pH<7: 1.82 mg Zn/L (based on 48 hr *Ceriodaphnia dubia* test cfr. above)

For pH>7-8.5: 0.60 mg Zn/L (based on 72 hr *Selenastrum capricornutum* test cfr. above)

M-factor: 1

#### Persistence and Degradability:

None.

#### Bioaccumulative Potential:

This product does not contain any bioaccumulative substances.

#### Mobility in Soil:

The product is soluble and mobile in both terrestrial and aquatic compartments.

### 13. DISPOSAL CONSIDERATIONS

**Product Disposal:** Recover if possible. In doing so, comply with state, federal and local regulations.

**Container Disposal:** Dispose of according to local regulations.

### 14. TRANSPORT INFORMATION

**Classification:** Based on available information, not classified as Dangerous Goods for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail, 7<sup>th</sup> Edition.

**UN Number:** No data available

**Proper Shipping Name or** No data available

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**Technical Name:**  
**Transport Hazard Class:** No data available  
**Packing Group:** No data available  
**Environmental Hazards for Transport Purposes:** Marine pollutant  
**Special Precautions for User:** No data available  
**HAZCHEM Code:** No data available

### 15. REGULATORY INFORMATION

**SUSMP:** Not scheduled  
**APVMA:** Exempt from registration  
**State Departments of Agriculture / Primary Industries:** Registration not required  
**Australian Inventory of Chemical Substances (AICS):** All components listed

### 16. OTHER INFORMATION

**Edition:** Initial edition  
**Revision Due:** December 2021  
**Reason for Revision:** Initial version  
**Preparation Information:** Prepared by Campbells Fertilisers Australasia  
**Data Sources:** Supplier SDS

#### Glossary:

**APVMA** Australian Pesticides and Veterinary Medicines Authority  
**CAS** Chemical Abstract Services number, used to uniquely identify chemical compounds  
**PPE** Personal protective equipment  
**SUSMP** Standard for the Uniform Scheduling of Medicines and Poisons

This SDS summarises our best knowledge of the health and safety hazard information available for this product and how to safely handle and use it. Since the use of this



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information and the conditions of the use of this product are not under the control of Campbell's Fertilisers, it is the user's responsibility to determine conditions of safe use of the product.

END OF SDS