

Safety Data Sheet according to WHS Regulations

1 Identification

- **Product identifier**
- **Trade name:** *ZMC Mate*
- **Article number:** *DK021*
- **Relevant identified uses of the substance or mixture and uses advised against** *Liquid foliar fertiliser.*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Company: Omnia Specialities Australia Pty Ltd
Address: Tramway Road
MORWELL VIC 3840
Telephone Number: +61-3 5133 9118
Facsimile Number: +61-3 5133 9114
- **Further information obtainable from:** *info@omnia.net.au*
- **Emergency telephone number:**
ISS First Response
03 8796 3688

2 Hazard(s) Identification

- **Classification of the substance or mixture**



health hazard

STOT RE 2 H373 *May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.*



environment

Aquatic Chronic 2 H411 *Toxic to aquatic life with long lasting effects.*



Acute Tox. 4 H332 *Harmful if inhaled.*
 Skin Irrit. 2 H315 *Causes skin irritation.*
 Eye Irrit. 2A H319 *Causes serious eye irritation.*
 Acute Tox. 5 H303 *May be harmful if swallowed.*

- **Label elements**
- **GHS label elements**
The product is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS07



GHS08



GHS09

- **Signal word** *Warning*

Safety Data Sheet

according to WHS Regulations

Printing date 06.10.2020

Version number 1

Revision: 06.10.2020

Trade name: ZMC Mate

(Contd. of page 1)

- **Hazard-determining components of labelling:**

Manganese Sulphate Monohydrate
Zinc Sulphate Heptahydrate
COPPER SULPHATE PENTAHYDRATE

- **Hazard statements**

May be harmful if swallowed.
Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.
Toxic to aquatic life with long lasting effects.

- **Precautionary statements**

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear protective gloves / eye protection / face protection.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER/doctor if you feel unwell.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition and Information on Ingredients

- **Chemical characterisation: Mixtures**

- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

| | | |
|--------------------------------------|---|---------|
| CAS: 10034-96-5 EINECS: 232-089-9 | Manganese Sulphate Monohydrate ☠ STOT RE 2, H373 🐟 Aquatic Chronic 2, H411 ⚠ Acute Tox. 4, H332 Acute Tox. 5, H303; Eye Irrit. 2B, H320; Aquatic Acute 2, H401 | 10-25% |
| CAS: 7446-20-0 EINECS: 231-793-3 | Zinc Sulphate Heptahydrate 🔥 Aquatic Acute 1, H400; Aquatic Chronic 1, H410 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335 Acute Tox. 5, H313 | 10-25% |
| | COPPER SULPHATE PENTAHYDRATE 🐟 Aquatic Chronic 1, H410 ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319 | 2.5-10% |

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

- **Other hazards that do not result in classification** None

4 First Aid Measures

- **Description of first aid measures**

- **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 06.10.2020

Version number 1

Revision: 06.10.2020

Trade name: ZMC Mate

(Contd. of page 2)

- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
Remove to fresh air. In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Call for a doctor immediately. Do not induce vomiting. Rinse mouth with water (only if person is conscious).
- **Information for doctor:** Treatment would be supportive, as there is no specific antidote.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Hazards** Stable liquid with no hazardous decomposition products. No hazardous polymerisation.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Water spray jet, foam, Dry fire extinguishers.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Transfer into suitable containers. To be disposed of in compliance with existing regulations. After cleaning, flush away traces with water.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Face shields recommended during handling of product.
Overalls and gloves recommended when handling liquid.
Wash hands after handling product
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect from heat.

(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 06.10.2020

Version number 1

Revision: 06.10.2020

Trade name: ZMC Mate

(Contd. of page 3)

Keep respiratory protective device available.

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store and transport in sealed containers below 40°C and above -10°C.
- **Information about storage in one common storage facility:** Do not store together with acids.
- **Further information about storage conditions:**
Keep container tightly sealed in a dry well-ventilated place.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

- **Additional information about design of technical facilities:**
Ensure eyewash stations and safety showers are close to the workstation location.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses.
- **Body protection:** Protective work clothing

9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

| | |
|----------------|--------|
| Form: | Liquid |
| Colour: | Brown |

(Contd. on page 5)

Safety Data Sheet according to WHS Regulations

Printing date 06.10.2020

Version number 1

Revision: 06.10.2020

Trade name: ZMC Mate

(Contd. of page 4)

| | |
|--|---|
| · Odour: | Odourless |
| · Odour threshold: | Not determined. |
| · pH-value at 20 °C: | 4.5 |
| · Change in condition | |
| Melting point/freezing point: | Undetermined. |
| Initial boiling point and boiling range: | Undetermined. |
| · Flash point: | Not applicable. |
| · Flammability (solid, gas): | Not applicable. |
| · Decomposition temperature: | Not determined. |
| · Auto-ignition temperature: | Product is not selfigniting. |
| · Explosive properties: | Product does not present an explosion hazard. |
| · Explosion limits: | |
| Lower: | Not determined. |
| Upper: | Not determined. |
| · Vapour pressure at 20 °C: | 23 hPa |
| · Density at 20 °C: | 1.28 g/cm ³ |
| · Relative density | Not determined. |
| · Vapour density | Not determined. |
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with water: | Fully miscible. |
| · Partition coefficient: n-octanol/water: | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Solvent content: | |
| Water: | 64.0 % |
| VOC (EC) | 0.00 % |
| Solids content: | 0.0 % |
| · Other information | No further relevant information available. |

10 Stability and Reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**

· **LD/LC50 values relevant for classification:**

| | | |
|---|------|-------------------|
| Oral | LD50 | 2,077 mg/kg (rat) |
| This is an estimated value for the product (ATE). | | |

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 06.10.2020

Version number 1

Revision: 06.10.2020

Trade name: ZMC Mate

(Contd. of page 5)

10034-96-5 Manganese Sulphate Monohydrate

| | | |
|------------|----------|-------------------|
| Oral | LD50 | 2,150 mg/kg (rat) |
| Inhalative | LC50 4 h | 1.5 mg/l (ATE) |

7446-20-0 Zinc Sulphate Heptahydrate

| | | |
|------------|----------|--------------------|
| Oral | LD50 | 1,260 mg/kg (rat) |
| Dermal | LD50 | >2,000 mg/kg (rat) |
| Inhalative | LC50 4 h | 1.5 mg/l (ATE) |

COPPER SULPHATE PENTAHYDRATE

| | | |
|------|------|------------------------|
| Oral | LD50 | 1,000 mg/kg (Pheasant) |
| | | 960 mg/kg (rat) |

· **Primary irritant effect:**· **Skin corrosion/irritation** No irritant effect.· **Serious eye damage/irritation** No irritating effect.· **Respiratory or skin sensitisation** No sensitising effects known.· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

12 Ecological Information· **Toxicity**· **Aquatic toxicity:****10034-96-5 Manganese Sulphate Monohydrate**

| | |
|--------------------|---|
| EC50 48 h (static) | 40 mg/l (Daphnia Magna) |
| LC50 48 hours | 31 mg/L (Lemna minor (common duckweed)) |

7446-20-0 Zinc Sulphate Heptahydrate

| | |
|-------------------------|--|
| LC50 24 hours (static) | 130 mg/L (Leptophlebia marginata (Mayfly)) |
| LC50 48 hours (dynamic) | 199 mg/L (Daphnia magnus) |

COPPER SULPHATE PENTAHYDRATE

| | |
|---------------|--|
| LC50 96 hours | 1.38 mg/L (Carassius auratus (Goldfish)) |
| | 3.5 mg/L (Lepomis cyanellus (Green Sunfish)) |
| | 17 mg/L (Prawn) |

· **Persistence and degradability** No further relevant information available.· **Behaviour in environmental systems:**· **Bioaccumulative potential****7446-20-0 Zinc Sulphate Heptahydrate**

| | |
|---------------|----------------------|
| Bioaccumulate | 112 (Not Applicable) |
|---------------|----------------------|

· **Mobility in soil****7446-20-0 Zinc Sulphate Heptahydrate**

| | |
|-----|--------------|
| Koc | 6.124 (Soil) |
|-----|--------------|

· **Ecotoxicological effects:**· **Remark:** Toxic for fish· **Additional ecological information:**· **General notes:**

Not hazardous for water.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 06.10.2020

Version number 1

Revision: 06.10.2020

Trade name: ZMC Mate



(Contd. of page 6)

- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

| | |
|--|---|
| · UN-Number · ADG, IMDG, IATA | UN3287 |
| · UN proper shipping name · ADG · IMDG · IATA | TOXIC LIQUID, INORGANIC, N.O.S. (COPPER SULPHATE PENTAHYDRATE), ENVIRONMENTALLY HAZARDOUS TOXIC LIQUID, INORGANIC, N.O.S. (COPPER SULPHATE PENTAHYDRATE, Manganese Sulphate Monohydrate, Zinc Sulphate Heptahydrate), MARINE POLLUTANT TOXIC LIQUID, INORGANIC, N.O.S. (COPPER SULPHATE PENTAHYDRATE) |
| · Transport hazard class(es) · ADG, IMDG | |
|  | |
| · Class · Label | 6.1 Toxic substances. 6.1 |
| · IATA | |
|  | |
| · Class · Label | 6.1 Toxic substances. 6.1 |
| · Packing group · ADG, IMDG, IATA | III |
| · Environmental hazards: · Marine pollutant: · Special marking (ADG): | Product contains environmentally hazardous substances: Zinc Sulphate Heptahydrate Symbol (fish and tree) Symbol (fish and tree) |
| · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category | Warning: Toxic substances. 60 F-A,S-A A |

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 06.10.2020

Version number 1

Revision: 06.10.2020

Trade name: ZMC Mate

(Contd. of page 7)

| | |
|---|--|
| · Stowage Code | SW2 Clear of living quarters. |
| · ERG No. | None |
| · Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADG | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · Transport category | 2 |
| · Tunnel restriction code | E |
| · IMDG | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN 3287 TOXIC LIQUID, INORGANIC, N.O.S. (COPPER SULPHATE PENTAHYDRATE), 6.1, III, ENVIRONMENTALLY HAZARDOUS |

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Australian Inventory of Chemical Substances**

| | |
|------------|--------------------------------|
| | DE-IONISED WATER |
| 10034-96-5 | Manganese Sulphate Monohydrate |
| 7446-20-0 | Zinc Sulphate Heptahydrate |
| | COPPER SULPHATE PENTAHYDRATE |
| | FORMIC ACID 85 -90% |

· **Standard for the Uniform Scheduling of Medicines and Poisons**

| | |
|------------------------------|--------|
| COPPER SULPHATE PENTAHYDRATE | S5, S6 |
| FORMIC ACID 85 -90% | S5 |

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS07 GHS08 GHS09

· **Signal word** Warning

· **Hazard-determining components of labelling:**

Manganese Sulphate Monohydrate

Zinc Sulphate Heptahydrate

COPPER SULPHATE PENTAHYDRATE

· **Hazard statements**

May be harmful if swallowed.

(Contd. on page 9)

Safety Data Sheet

according to WHS Regulations

Printing date 06.10.2020

Version number 1

Revision: 06.10.2020

Trade name: ZMC Mate

(Contd. of page 8)

*Harmful if inhaled.**Causes skin irritation.**Causes serious eye irritation.**May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.**Toxic to aquatic life with long lasting effects.***· Precautionary statements***If medical advice is needed, have product container or label at hand.**Keep out of reach of children.**Read label before use.**Do not breathe dust/fume/gas/mist/vapours/spray.**Wear protective gloves / eye protection / face protection.**IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**Call a POISON CENTER/doctor if you feel unwell.**Dispose of contents/container in accordance with local/regional/national/international regulations.***· Directive 2012/18/EU****· Named dangerous substances - ANNEX I** None of the ingredients is listed.**· Seveso category E2** Hazardous to the Aquatic Environment**· Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t**· Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.***· Relevant phrases***H302 Harmful if swallowed.**H303 May be harmful if swallowed.**H313 May be harmful in contact with skin.**H315 Causes skin irritation.**H319 Causes serious eye irritation.**H320 Causes eye irritation.**H332 Harmful if inhaled.**H335 May cause respiratory irritation.**H373 May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.**H400 Very toxic to aquatic life.**H401 Toxic to aquatic life.**H410 Very toxic to aquatic life with long lasting effects.**H411 Toxic to aquatic life with long lasting effects.***· Abbreviations and acronyms:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Acute Tox. 5: Acute toxicity - oral - Category 5**Acute Tox. 4: Acute toxicity - inhalation - Category 4**Skin Irrit. 2: Skin corrosion/irritation - Category 2**Eye Irrit. 2A: Serious eye damage/eye irritation - Category 2A**Eye Irrit. 2B: Serious eye damage/eye irritation - Category 2B*

(Contd. on page 10)

Safety Data Sheet
according to WHS Regulations

Printing date 06.10.2020

Version number 1

Revision: 06.10.2020

Trade name: ZMC Mate

(Contd. of page 9)

*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2**Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1**Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2**Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1**Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2*

-AU-