

SAFETY DATA SHEET



Revision date: 23-Apr-2024

Revision Number 1

Section 1: Identification

Product identifier

Product Name Fulvisol ZMC + Moly Blends

Product Code(s) 000000063171

Other means of identification

UN number or ID number 3082

Synonyms Fulvisol ZMC 65:50:10 + Moly, Fulvisol ZMC 50:60:10 + Moly

Recommended use of the chemical and restrictions on use

Recommended use Fertiliser.

Uses advised against No information available.

Details of manufacturer or importer

Supplier

Sipcam Pacific Australia Pty. Ltd.
ABN: 94 073 176 888
Street Address: Level 1, 191 Malop Street
Geelong, Victoria, 3220
Australia

Telephone Number: +61 (0) 3 5223 3746 (business hours)

Facsimile: +61 (0) 3 5223 3756

Website: www.sipcam.com.au

Emergency telephone number

Emergency telephone number 1 800 033 111 (ALL HOURS)

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

Section 2: Hazard identification

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).
Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in: packagings that do not incorporate a receptacle exceeding 500 kg(L); or IBCs.

GHS Classification

Acute toxicity - Oral	Category 4
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Serious eye damage/eye irritation	Category 1
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

Label elements

Corrosion

Exclamation mark

Environment

**Signal word**

DANGER

Hazard statements

H302 - Harmful if swallowed

H318 - Causes serious eye damage

H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - Prevention

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear eye/face protection.

Avoid release to the environment.

Precautionary Statements - Response

IF exposed:.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Rinse mouth.

Collect spillage.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

Other hazards which do not result in classification**Section 3: Composition and information on ingredients**

Chemical name	CAS No.	Weight-%
Zinc sulfate	7733-02-0	10-30%
Fulvic acid	479-66-3	<1%
Manganese sulfate	7785-87-7	10-30%
Copper (II) sulfate	7758-98-7	<10%
Sodium molybdate	7631-95-0	<1%
Non-hazardous ingredients	Balance	

Section 4: First aid measures**Description of first aid measures**

Inhalation	Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Seek immediate medical attention/advice.
Skin contact	Wash with plenty of water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth thoroughly with water. Do NOT induce vomiting. Drink 1 or 2 glasses of water. Get medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
Effects of Exposure	No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically. Can cause corneal burns.
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Section 5: Firefighting measures**Suitable Extinguishing Media**

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal protein foam can be used.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

Specific hazards arising from the chemical	Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Environmentally hazardous.
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Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
Hazchem code	•3Z

Section 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing.
For emergency responders	Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions	Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways. Local authorities should be advised if significant spillages cannot be contained.
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See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).
Methods for cleaning up	Dike to collect large liquid spills. Keep in suitable, closed containers for disposal. Prevent product and washings from entering drains, sewers or surface water due to high toxicity to aquatic organisms.

Section 7: Handling and storage

Precautions for safe handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice.
General hygiene considerations	Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from foodstuffs. This material is a Scheduled Poison and must be stored, maintained and used in accordance with the relevant regulations.
Incompatible materials	Strong acids.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits	No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):
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Chemical name	Australia	New Zealand	ACGIH TLV
Manganese sulfate 7785-87-7	TWA: 1 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.02 mg/m ³	TWA: 0.02 mg/m ³ Mn respirable particulate matter TWA: 0.1 mg/m ³ Mn inhalable particulate matter
Copper (II) sulfate 7758-98-7	-	TWA: 0.01 mg/m ³	TWA: 1 mg/m ³ Cu dust and mist
Sodium molybdate 7631-95-0	TWA: 5 mg/m ³	TWA: 5 mg/m ³	TWA: 0.5 mg/m ³ Mo respirable particulate matter

Chemical name	European Union	United Kingdom	Germany DFG
Zinc sulfate 7733-02-0	-	-	TWA: 0.1 mg/m ³ TWA: 2 mg/m ³ Peak: 0.4 mg/m ³ Peak: 4 mg/m ³
Manganese sulfate 7785-87-7	-	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³ STEL: 0.6 mg/m ³ STEL: 0.15 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.02 mg/m ³ Peak: 1.6 mg/m ³ Peak: 0.16 mg/m ³
Copper (II) sulfate 7758-98-7	-	TWA: 1 mg/m ³ STEL: 2 mg/m ³	TWA: 0.01 mg/m ³ Peak: 0.02 mg/m ³

Sodium molybdate 7631-95-0	-	TWA: 5 mg/m ³ STEL: 10 mg/m ³	-
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As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

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.

Appropriate engineering controls

Engineering controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment



Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear suitable protective clothing.

Hand protection Impervious gloves.

Respiratory protection If determined by a risk assessment an inhalation risk exists, wear a suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Environmental exposure controls No information available.

Thermal hazards No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance Clear
Color Light yellow
Odor Odourless
Odor threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	4.0 - 4.5	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	No data available	None known

Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	1.37 - 1.38	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information**Section 10: Stability and reactivity**Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

Conditions to avoid None known based on information supplied.

Incompatible materials

Incompatible materials Strong acids.

Hazardous decomposition products

Hazardous decomposition products Oxides of sulfur. Oxides of zinc. Oxides of manganese. Oxides of copper. Oxides of carbon.

Section 11: Toxicological informationInformation on likely routes of exposure

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

Inhalation	May cause irritation of respiratory tract.
Eye contact	Causes serious eye irritation. Can result in permanent injury.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Symptoms	No information available.

Acute toxicity .**Numerical measures of toxicity - Product Information**

No information available

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Zinc sulfate	= 1710 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Manganese sulfate	= 782 mg/kg (Rat)	-	> 4.45 mg/L (Rat) 4 h
Copper (II) sulfate	= 300 mg/kg (Rat)	> 2000 mg/kg (Rat)	-
Sodium molybdate	= 4000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.84 mg/L (Rat) 4 h

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation. Causes burns.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

Section 12: Ecological information

Ecotoxicity

Aquatic ecotoxicity

Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Zinc sulfate	EC50: =0.056mg/L (72h, Pseudokirchneriella subcapitata)	LC50: =0.162mg/L (96h, Oncorhynchus mykiss) LC50: 0.03 - 0.05mg/L (96h, Oncorhynchus mykiss) LC50: 0.34 - 0.93mg/L (96h, Oncorhynchus mykiss) LC50: 0.218 - 0.42mg/L (96h, Pimephales promelas) LC50: =0.06mg/L (96h, Pimephales promelas) LC50: 0.23 - 0.48mg/L (96h, Pimephales promelas) LC50: 0.168 - 0.25mg/L (96h, Pimephales promelas) LC50: =0.15mg/L (96h, Cyprinus carpio) LC50: 16.85 - 27.18mg/L (96h, Cyprinus carpio) LC50: 3 - 4.6mg/L (96h, Lepomis macrochirus) LC50: 3.55 - 6.32mg/L (96h, Lepomis macrochirus) LC50: =0.63mg/L (96h, Poecilia reticulata) LC50: 49.23 - 64.16mg/L (96h, Poecilia reticulata) LC50: 0.48 - 1.72mg/L (96h, Poecilia reticulata)	-	EC50: =0.75mg/L (48h, Daphnia magna) EC50: 0.538 - 0.908mg/L (48h, Daphnia magna)
Copper (II) sulfate	-	LC50: =0.1mg/L (96h, Oncorhynchus mykiss)	-	EC50: 0.0058 - 0.0073mg/L (48h, Daphnia magna)

Terrestrial ecotoxicity

Chemical name	Earthworm	Avian	Honeybees
Zinc sulfate	Acute Toxicity: LC50 = 733 mg/kg (Eisenia foetida 2 Days soil dry weight) Source: IUCLID	-	-

Persistence and degradability

Persistence and degradability Biodegradation is not an applicable endpoint since the product is an inorganic substance.

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Mobility

Mobility Likely be mobile in the environment due to its water solubility.

Other adverse effects

Other adverse effects No information available.

Section 13: Disposal considerations**Waste treatment methods**

Waste from residues/unused products Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots in compliance with relevant local, state or territory government regulations. Do not burn empty containers or product.

Contaminated packaging Dispose of contents/containers in accordance with local regulations.

See section 8 for more information

Section 14: Transport information

ADG Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in: packagings that do not incorporate a receptacle exceeding 500 kg(L); or IBCs.

UN number or ID number 3082
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS ZINC SULFATE, MANGANESE SULFATE, COPPER SULFATE)

Transport hazard class(es) 9
Packing group III
Hazchem code •3Z

IATA Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN number 3082
UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS ZINC SULFATE, MANGANESE SULFATE, COPPER SULFATE)
Transport hazard class(es) 9

Packing group III

IMDG Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN number 3082

UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS ZINC SULFATE, MANGANESE SULFATE, COPPER SULFATE)

Transport hazard class(es) 9

Packing group III

IMDG EMS Fire F-A

IMDG EMS Spill S-F

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available

Section 15: Regulatory information

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

National regulations

Australia

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).
Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in: packagings that do not incorporate a receptacle exceeding 500 kg(L); or IBCs.

See section 8 for national exposure control parameters

Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

No poisons schedule number allocated

Poison Schedule Number 6

Australian Industrial Chemicals Introduction Scheme (AICIS)

Chemical name	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Zinc sulfate - 7733-02-0	Present	-
Manganese sulfate - 7785-87-7	Present	-
Copper (II) sulfate - 7758-98-7	Present	-
Sodium molybdate - 7631-95-0	Present	-

Illicit Drug Precursors/Reagents

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

Chemical name	National pollutant inventory
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Zinc sulfate - 7733-02-0	10 tonne/yr Threshold category 1
Manganese sulfate - 7785-87-7	10 tonne/yr Threshold category 1
Copper (II) sulfate - 7758-98-7	10 tonne/yr Threshold category 1 2000 tonne/yr Threshold category 2b 60000 MWH Threshold category 2b 20 MW Threshold category 2b

International Inventories

AIIC	All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals.
NZIoC	Contact supplier for inventory compliance status.
TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.

Legend:**AIIC**- Australian Inventory of Industrial Chemicals**NZIoC** - New Zealand Inventory of Chemicals**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**Section 16: Other information**

Reason(s) For Issue:	First Issue Primary SDS
Prepared By	This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).
Issuing Date	23-Apr-2024
Revision date:	23-Apr-2024

Revision Note:

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend**

SVHC: Substances of Very High Concern for Authorization:

PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances

vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration
LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
Australian Industrial Chemicals Introduction Scheme (AICIS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Sipcam Pacific Australia Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Sipcam representative or Sipcam Pacific Australia Pty Ltd at the contact details on page 1.

Sipcam Pacific Australia Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet