

Classified as Hazardous

1. PRODUCT IDENTIFIER & IDENTITY FOR THE CHEMICAL

Product Name: **HumiPLEX ZMC**

LawrieCo Pty Ltd

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Emergency Contact
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LawrieCo Technical Manager:
0408 268 058

Poisons Information Centre:
13 11 26 (Australia)
0800 764 766 (New Zealand)

CAS Number:	Mixture	Product Code:	CUZNMANG/L
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Other Names: Mang Zinc Copper (old product name).

Product Use: Recommended for use as a fertiliser only. A high analysis micronutrient liquid fertiliser, with biostimulants and soil conditioners. See product label for application recommendations.

2. HAZARD IDENTIFICATION

Classified as a Hazardous Substance

in accordance with Safe Work Australia - Hazardous Chemicals Information System (HCIS) Australia, Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

Classified as a Scheduled Poison S6

in accordance with the Standard for the Uniform Scheduling of Medicines and Poison (SUSMP) Australia.

NOT Classified as Dangerous Goods

in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

GHS	Hazardous
SUSMP	Poison S6
ADG	Not Dangerous Goods



GHS Classification

Hazard Categories

- Serious Eye Damage/Irritation – Category 1
- Acute Toxicity (Oral) – Category 4
- Skin Corrosion/Irritation – Category 3
- Specific Target Organ Toxicity, Repeated Exposure – Category 3

Signal Word **DANGER**

Hazard Statements

 Corrosion	H318 Causes serious eye damage		
 Exclamation Mark	H302 Harmful if swallowed	H316 Causes skin irritation	H373 May cause damage to organs through prolonged or repeated exposure

Classified as Hazardous

Precautionary Statements – General, Prevention, Response, Storage and Disposal

General

P101 + P102 + P103 If medical advice is needed, have the product container or label on hand. Keep out of reach of children. Read label before use.

Prevention

P260 Don not breathe mist or spray.
P264 Wash hands and exposed skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves, clothing, eye and face protection.

Response

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth with water and give plenty of water to drink.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Immediately call a POISON CENTER or doctor.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P332 + P313 If skin irritation occurs: Get medical advice.
P314 Get medical advice if you feel unwell.
P391 Collect spillage.

Storage

None

Disposal

P501 Dispose of contents and container to an approved waste disposal plant.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Product name	HumiPLEX ZMC	SDS Code	8001
Product use	Recommended for use as a fertiliser only		
Ingredients	Name	CAS Number	Proportion w/w
	Water	7732-18-5	33.0 – 34.0%
	Microbial Ferment (proprietary non-hazardous)	Unknown	28.0 – 29.0%
	Zinc Sulfate monohydrate	7446-19-7	12.0 – 13.0%
	Manganese(II) Sulfate monohydrate	10034-96-5	17.0 – 18.0%
	Copper(II) Sulfate pentahydrate	7758-99-8	5.0 – 6.0%
	Biostimulants (proprietary non-hazardous)	Mixture	2.0 – 3.0%

4. FIRST AID MEASURES

Inhalation

If applicator feels drowsy, dizzy tired or is experiencing headaches, remove oneself to fresh air and keep warm and quiet if experiencing breathing difficulties.

Ingestion

Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If swallowed rinse mouth with water, give plenty of water to drink. Contact a doctor or Poisons Information Centre (Australia: 13 11 26; New Zealand: 0800 764 766).

Eyes

If in eyes, hold eyelids apart and rinse cautiously for several minutes with running water. Remove contact lenses if present and easy to do so. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical attention.

Skin and hair

If skin or hair contact occurs, remove contaminated clothing, wash skin and hair with plenty of soap and running water. If skin irritation occurs get medical attention.



Classified as Hazardous

- First aid facilities** Eye wash, clean water supply, soap or skin cleaner.
- Advice to doctor** If poisoning occurs consult a doctor or Poisons Information Centre (Australia 13 11 26; New Zealand 0800 764 76). Have a copy of this safety data sheet or label available. Treat symptomatically.

Symptoms caused by exposure

Ingestion may cause vomiting or diarrhea. Contact will cause corrosion to the eyes, irritation of skin, mucous membranes and existing abrasions. Other than eye damage and irritation no acute, delayed or aggravated medical conditions are known.

Medical attention and special treatment

Wash exposed skin and hair with water and soap. If swallowed rinse mouth and give plenty of water to drink. If in eyes flush continuously with running water for at least 15 minutes.

5. FIRE FIGHTING MEASURES

- General measures** Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from the fire area if it can be done without risk. Do NOT allow fire fighting water to reach waterways, drains or sewers. Store firefighting water for treatment.



- Flammability conditions** Product is a non-flammable liquid.

- Suitable extinguishing equipment** AS 2444:2001
Appropriate extinguishing media includes water, water spray, foam, dry chemical or carbon dioxide. Use extinguishing media suitable for the surrounding fire and environment.

- Specific hazards arising from the chemical fire** Combustion and decomposition products may include sulphur dioxide (SO₂), sulphur trioxide (SO₃), carbon monoxide (CO) and carbon dioxide (CO₂). May include oxides of manganese, zinc and copper.

- Special protective equipment and precautions for fire fighters** Wear self contained breathing apparatus for firefighting if necessary (includes firefighting helmet, coat, trousers, boots and gloves).
No HAZCHEM Code assigned.

- Further information**
- | | |
|---------------------------|-------------------|
| Flash Point | No data available |
| Lower Explosion Limit | No data available |
| Upper Explosion Limit | No data available |
| Auto Ignition Temperature | No data available |

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures** Use personal protective equipment. Avoid breathing mists or sprays. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.



- Environmental precautions** Prevent from entering waterways, sewage and drains. Collect any liquid for treatment. For any queries consult Local Statuary Authorities.

- Methods and materials for containment and cleaning up** Cover drains. Contain spills and absorb onto absorbent material, dry sand, earth or neutralised with soda ash (sodium carbonate). Sweep and shovel into suitably labelled, closed containers for disposal. For any queries consult Local Statutory Authorities.

Classified as Hazardous

7. HANDLING and STORAGE

Precautions for safe handling	Use personal protective equipment, see section 8. Avoid contact with skin and eyes. Avoid breathing sprays or mists while handling. Provide appropriate ventilation while decanting the product. Normal measures for preventative fire protection. After use and before eating, drinking or smoking, wash all exposed skin and hair with soap and water.
Conditions of safe storage and incompatibilities	Keep out of reach of children. Containers must be clearly labelled, rigid and strong. Store tightly closed in a well-ventilated cool place or at least out of direct sunlight. Keep container tightly closed in a dry well-ventilated place. Keep away from metals, alkaline substances and strong oxidisers.
Specific end uses	Apart from uses mentioned in section 1, no other specific uses are stipulated.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure standards TWA (8 hour)	There are no assigned exposure standards for this product. For dried product - TWA = No data available for this mixture, however the HCIS specifies 10mg/m ³ (for inspirable dust) and 3mg/m ³ (for respirable dust).
Exposure standards STEL (15 min)	There are no assigned exposure standards for this product. For dried product - STEL = No data available for this mixture, however the HCIS specifies 10mg/m ³ (for inspirable dust) and 3mg/m ³ (for respirable dust).
Biological limited values	There are no known biological limited values that have been assigned.
Engineering controls	Avoid creating sprays or mists with spray equipment while personnel are exposed without appropriate PPE. While using this material ensure there is access to an eye wash and running water or safety shower. Ensure adequate general or local exhaust ventilation. Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and at the end of the workday.
Personal Protection	
Inhalation/respiratory AS –NZS 1715/1716	For general handling use a class P1 or P2 particle respirator. If engineering controls are inadequate, wear an approved respirator with suitable filter for acid gases and vapours. Use respirators and components tested and approved under appropriate government standards.
Eye and face AS –NZS 1336/1337	Face shield or safety glasses fitted with side shields must be worn at all times during the handling and application period. Do NOT wear contact lenses.
Gloves AS –NZS 2161	It is advisable to wear viton or PVC gloves at all times during the handling and application period.
Footwear AS –NZS 2210	It is advisable to wear enclosed chemical resistant footwear during the handling and application period.
Clothing AS –NZS 3765	It is advisable to wear chemical resistant coveralls during the handling and application period.
Hearing AS –NZS 1270	Hearing protection not required unless application equipment requires hearing protection.
Thermal hazards	No data available



Classified as Hazardous

Other Requirements The type of protective equipment must be selected according to the concentration and amount of the hazardous substance at the specific workplace. Avoid unnecessary contact with eyes, skin and hair. After application, wash skin and hair thoroughly with soap and water. Handle in accordance with good industrial hygiene and safety practices.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Brown – green colour, liquid.
Odour	Sweet/earthy metallic smell.
Odour threshold	No data available
pH @ 20°C	1.20 – 1.40
Freezing point	No data available
Initial boiling point and boiling range	No data available
Melting point	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability	No data available
Upper/lower flammability or explosive limits	No data available
Auto-ignition temperature	No data available
Vapour pressure	No data available
Vapour density	No data available
Specific Gravity (relative density) @ 15.6°C	1.40 – 1.43 g/mL
Solubility	Miscible
Partition coefficient: n-octanol/water	No data available
Decomposition temperature	>100°C
Viscosity	No data available

10. STABILITY AND REACTIVITY

Chemical stability Stable under recommended storage conditions. No data available.

Possibility of hazardous reactions Will not polymerise. Will react mildly with metals. Will react with strongly alkaline materials and produce heat.

Conditions to avoid Avoid excessive heat and direct sunlight. UV exposure will cause photocatalytic oxidation of packaging with packaging becoming brittle.

Incompatible materials Metals, alkaline materials and strong oxidisers.

Hazardous decomposition products Combustion and decomposition products may include sulphur dioxide (SO₂), sulphur trioxide (SO₃), carbon monoxide (CO) and carbon dioxide (CO₂).
In the event of fire: see section 5.

11. TOXICOLOGICAL INFORMATION

Individual Ingredients of Mixture

To the best of our knowledge, the chemical, physical and toxicological properties of this mixture have not been thoroughly investigated.

Ingredient: Zinc Sulfate monohydrate (CASRN 7446-19-7)	Information Sources: INCHEM; TOXNET – HSDB; OECD – SIDS.
Concentration	12.0 – 13.0% by weight.
Acute toxicity	LD ₅₀ Intravenous – rat – 40 mg/kg LD ₅₀ Intraperitoneal – rat – 258 mg/kg
Acute oral toxicity	LD ₅₀ Oral – rat (male) – 920 mg/kg Toxic by ingestion.
Acute dermal toxicity	LD ₅₀ Dermal – rat – > 2,000mg/kg
Acute inhalation toxicity	No data available.

Classified as Hazardous

Skin corrosion/irritation	Causes skin irritation and can be corrosive.
Serious eye damage/irritation	Can cause significant eye injuries. Redness and persistent discomfort occur after exposure to concentrated solutions. Can result in permanent injury.
Respiratory or skin sensitisation	In uncontrolled levels of fumes or dust of zinc sulfate, workers can develop dermatitis, boils, conjunctivitis and gastrointestinal disturbances. Such findings do not occur until exposure has lasted more than six months.
Germ cell mutagenicity	The results of in vitro genotoxicity studies indicate that zinc has genotoxic potential in vitro.
Carcinogenicity	Not identified as a probable, possible or confirmed human carcinogen by IARC.
Reproductive Toxicity	Available data in experimental animals on zinc excess indicate that adverse effects on fertility and fetal development may occur at dose levels (200 mg Zn ²⁺ /kg bw/day).
Specific Target Organ Toxicity STOT - single exposure	No data available. Breathing in dust may cause irritation.
Specific Target Organ Toxicity STOT - repeated exposure	No data available.
Aspiration hazard	No data available.
Possible routes of exposure	The substance can be absorbed into the body by ingestion.
Signs and Symptoms of exposure	Coughing, sore throat, irritation of eyes and skin, abdominal pain, nausea and vomiting.
Health Effect from exposure	Acute overdose: Profuse sweating, decreased consciousness, blurred vision, tachycardia, hypothermia, hyperamylasemia, hypotension, pulmonary edema, diarrhea, vomiting, jaundice, oliguria.
Other information	The substance is toxic to aquatic organisms. It is strongly advised not to let the chemical enter in
GHS hazard classification	Acute Toxicity (Oral) - Category 4. Serious Eye Damage/Irritation - Category 1. Acute Hazard To The Aquatic Environment - Category 1. Long-term Hazard To The Aquatic Environment - Category 1.
GHS hazard statement	H302 Harmful if swallowed. H318 Causes serious eye damage. H410 Very toxic to aquatic life with long lasting effects.
Poison Standard (SUSMP)	Poison Schedule 6

Ingredient: Manganese Sulfate(II) monohydrate (CASRN 10034-96-5)		Information Sources: INCHEM; TOXNET – HSDB.
Concentration	17.0 – 18.0% by weight.	
Acute toxicity	LD ₅₀ Intraperitoneal – mouse – 64 mg/kg LD ₁₀₀ Subcutaneous – mouse – 146 mg/kg	
Acute oral toxicity	LD ₁₀₀ Oral – mouse – 305 mg/kg	
Acute dermal toxicity	No data available.	
Acute inhalation toxicity	Danger of serious damage to health by prolonged exposure through inhalation.	
Skin corrosion/irritation	May cause skin irritation.	
Serious eye damage/irritation	Causes eye irritation.	
Respiratory or skin sensitisation	May be an irritant to mucous membranes of the respiratory tract (airways)	
Germ cell mutagenicity	Has had both positive and negative results for genotoxicity.	
Carcinogenicity	Not identified as a probable, possible or confirmed human carcinogen by IARC.	
Reproductive Toxicity	Animal tests show that this substance possibly causes toxicity to human reproduction or development.	
Specific Target Organ Toxicity STOT - single exposure	Manganese deposition throughout the brain may lead to neurotoxicity.	
Specific Target Organ Toxicity STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure.	
Aspiration hazard	No data available.	
Possible routes of exposure	The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.	
Signs and Symptoms of exposure	Patients may develop headaches, dizziness, nausea, vomiting, diarrhea, abdominal pain and dehydration. hyperreflexia, and a mild tremor. Can cause mental status changes, vomiting, diarrhea, dehydration, hypotension, acute hepatic and renal failure, metabolic acidosis, multiorgan system failure and death.	
Health Effect from exposure	Chronic exposure can result in mental status changes, hyperreflexia, mild tremors, acute hepatic and renal failure, metabolic acidosis, multiorgan system failure and death. Ingestion can lead to increase losses of calcium in faeces and subsequent lowering of blood calcium levels. Chronic excess inhalation exposures may lead to pulmonary inflammation and subsequent reactive airway disease.	
Other information	Manganese deposition throughout the brain may lead to neurotoxicity. Manganese primarily deposits in the basal ganglia. Severe toxicity is characterized by a Parkinson's-like syndrome. The substance is toxic to aquatic organisms. It is strongly advised not to let the chemical enter into the environment.	
GHS hazard classification	Specific Target Organ Toxicity (Repeated Exposure) - Category 2. Acute Hazard To The Aquatic Environment - Category 2. Long-term Hazard To The Aquatic Environment - Category 2.	
GHS hazard statement	H373 May cause damage to organs through prolonged or repeated exposure. H401 Toxic to aquatic life. H411 Toxic to aquatic life with long lasting effects.	
Poison Standard (SUSMP)	Not a Scheduled Poison.	

Ingredient: Copper(II) Sulfate pentahydrate (CASRN 7758-99-8)		Information Sources: INCHEM; ECHA CLP report.
Concentration	2.0 – 3.0% by weight.	
Acute oral toxicity	OECD 401 LD ₅₀ Oral – rat (males & females) – 428 mg/kg Lheritier, M.(1994) OECD 401 LD ₅₀ Oral – rat (females) – 666mg/kg Manciaux, X. (1998)	
Acute dermal toxicity	OECD 402 LD ₅₀ Dermal – rat (male & female) – >2,000mg/kg Lheritier, M. (1993)	
Acute inhalation toxicity	No data available.	
Skin corrosion/irritation	Causes skin irritation and is corrosive.	
Serious eye damage/irritation	OECD 405 Severe eye irritant – Mercier, O. (1994b).	
Respiratory sensitisation	No data available.	
Skin sensitisation	OECD 406 (Skin sensitisation): NOT sensitising – Mercier, O. (1994c).	
Germ cell mutagenicity	Overall, data indicates that copper compounds do not meet the criteria for classification as a genotoxic.	

Classified as Hazardous

Carcinogenicity	Not identified as a probable, possible or confirmed human carcinogen by IARC. Copper sulphate pentahydrate does not meet the criteria for classification.
Reproductive toxicity	No treatment related effects have been observed on reproduction parameters or systemic toxicity.
Specific Target Organ Toxicity STOT - single exposure	No classification as STOT-SE under regulation (EC) 1272/2008 is proposed. No classification or SCLs are considered necessary.
Specific Target Organ Toxicity STOT - repeated exposure	Rat - LOAEL of 300 ppm (equivalent to 10 mg Cu/kg bw/d) Hébert, C.D., Elwell, M.R., Travlos, G.S., Fitz, C.J. and Bucher, J.R. (1993). Mice - NOAEL of 1000 ppm (equivalent to 24 or 36 mg Cu/kg bw/d for males and females) Hébert, C.D., Elwell, M.R., Travlos, G.S., Fitz, C.J. and Bucher, J.R. (1993). No classification is considered necessary for repeated exposure.
Aspiration hazard	No data available.
Possible routes of exposure	The substance can be absorbed into the body by ingestion and by inhalation.
Signs and symptoms of exposure (early onset)	Inhalation causes cough and sore throat. Skin contact causes redness and pain. Eye contact cause redness, pain and blurred vision. Ingestion is corrosive and can cause abdominal pain, burning sensation, diarrhea, nausea, vomiting and shock or collapse.
Health effect from exposure (delayed)	The substance is severely irritating to the eyes and skin. The aerosol is irritating to the respiratory tract. Corrosive on ingestion. Ingestion could cause effects on the blood, kidneys and liver. This may result in haemolytic anaemia, kidney impairment and liver impairment. Repeated or prolonged inhalation of the aerosol may cause effects on the lungs. Ingestion may cause effects on the liver. Ingestion could cause effects on the blood, kidneys and liver. This may result in haemolytic anaemia, kidney impairment and liver impairment.
Other information	The substance is toxic to aquatic organisms. Bioaccumulation of this chemical may occur along the food chain, for example in fish. It is strongly advised not to let the chemical enter the environment.
GHS hazard classification	Acute Toxicity (Oral) - Category 4. Skin Corrosion/Irritation - Category 2. Serious Eye Damage/Irritation - Category 2A. Acute Hazard To The Aquatic Environment - Category 1. Long-term Hazard To The Aquatic Environment - Category 1.
GHS hazard statement	H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H410 Very toxic to aquatic life with long lasting effects.
Poison Standard (SUSMP)	Poison Schedule 6.

12. ECOLOGICAL INFORMATION

Ectotoxicity	Hazard Statement H410 – Very toxic to aquatic life with long lasting effects. Hazard Category – Hazardous to the Aquatic Environment - Long-Term Hazard – Category 1 No signal word or pictogram required.
Persistence and Degradability	No data available.
Bioaccumulative potential	No data available
Mobility in soil	No data available.
Other adverse effects	No data available.

13. DISPOSAL CONSIDERATIONS

Spills

Prevent spills from entering drains, surface water and ground water. Collect all residues with absorbent material, dry earth, sand or neutralised with soda ash (sodium carbonate). After removal of residues wash down area with water. Disposal must be carried out in accordance with Local Statuary Authorities.

Material

A person must not dispose of or cause to be disposed of a Schedule 5, Schedule 6 or Schedule 7 poison in any place or manner that constitutes or is likely to constitute a risk to public health or safety. Handle and dispose of in compliance with current environmental waste legislation. If in doubt, contact Local Statuary Authorities.

Contaminated Material and Packaging

Empty containers may be suitable for reuse or recycling after cleaning and appropriate disposal of the cleaning agents. Disposal method dependent upon degree and nature of contaminated material. Disposal must be carried out in compliance with current environmental waste legislation. If in doubt seek professional advice or contact Local Statuary Authorities.

For the safety of persons conduction disposal, recycling or reclamation activities, refer to the information in section 8.

Classified as Hazardous

14. TRANSPORT INFORMATION

UN number	Not required under ADG Code.	
Proper Shipping Name	NOT CONSIDERED DANGEROUS GOODS.	
Transport Hazard Class	Not required under ADG Code.	Subsidiary Risk Not required under ADG Code.
Packing Group	Not required under ADG Code.	
Environmental hazards for transport purposes	Not a known marine pollutant according to IMDG Code. Not an Annexe I chemical according to MARPOL.	
Special precautions for user	No data available.	
Additional information	No additional information required by overseas regulatory agencies or regulations for the transport of goods by other modes.	
HAZCHEM	Not required according to ADG Code.	
IMDG	Not required according to IMDG Code.	



15. REGULATORY INFORMATION

Hazard Category	The product is Classified as a Hazardous Substance in accordance with Safe Work Australia - Hazardous Chemicals Information System (HCIS) Australia, Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.
Montreal Protocol	Not an ozone depleting substance.
The Stockholm Convention	Not a persistent organic pollutant.
The Rotterdam Convention	Not a banned pesticide or industrial chemical.
Basal Convention	Not a hazardous waste.
MARPOL	Subject to Annexe III - Harmful Substances carried in Packaged Form.
Safety, health and environmental regulations	SUSMP Classification (Aust) – Poison Schedule 6: POISON NICNAS – No data available

16. OTHER INFORMATION

This Safety Data Sheet conforms with the "PREPARATION OF SAFETY DATA SHEETS FOR HAZARDOUS CHEMICALS Code of Practice, DECEMBER 2011" by Safe Work Australia. To meet the GHS requirements under the WHS regulations in relation to the preparation of safety data sheets for hazardous chemicals.

SDS prepared 1st October 2019 version number 3.

Legend of Abbreviations and Acronyms

ADG - Australian Dangerous Goods Code for the Transport of Dangerous Goods by Road or Rail.
AS/NZS - Australian Standards and New Zealand Standards.
BCF - Bioconcentration Factor.
CAS Number - Chemical Abstract Service Number.
GHS - Globally Harmonised System.
HCIS - Hazardous Chemicals Information System.
HSDB - Hazardous Substances Data Bank.
ECHA-CLP - European Chemicals Agency - Classification Labelling Packaging.

Classified as Hazardous

NICNAS-IMAP - National Industrial Chemicals Notification and Assessment Scheme - Inventory Multi-tiered Assessment and Prioritisation.

IARC - International Agency for Research on Cancer.

IERG - Initial Emergency Response Guide.

IMDG - International Maritime Dangerous Goods.

MARPOL - International Convention for the Prevention of Pollution from Ships.

OECD - Organisation for Economic Co-operation and development (guidelines for testing of chemicals).

SIDS - Screening Information Data Sets.

TWA - Time-Weighted Average.

SDS - Safety Data Sheet.

STEL -Short Term Exposure Limit.

STOT - Specific Target Organ Toxicity.

SCL - Specific Concentration Limits.

SUSMP - Standards for the Uniform Scheduling of Medicines and Poisons.

S6 - Schedule 6 Poison.

UN Number - United Nations Number.

°C - Degrees Celsius.

EC₅₀ -Half maximal effective concentration.

LD₅₀ - Median lethal dose; is the median dosage per unit bodyweight required to kill half the members of a tested population after specified test duration.

LD₁₀₀ - The lowest dose of a substance that under defined conditions is lethal for 100% exposed animals.

LD_{L0} - Lethal dose low, is the lowest dosage per unit of bodyweight known to have resulted in a fatality in a particular animal species.

LC₅₀ - Median lethal concentration; is the median dosage per unit body weight required to kill half the members of a tested population after a specified test duration.

mg/kg - Milligrams per kilogram.

mg/L - Milligrams per litre.

g/mL - Grams per millilitre.

mg/m³ - Milligrams per cubic metre.

pH - Potential of hydrogen (numeric scale to specify the acidity or basicity of an aqueous solution).

w/w - Weight per weight.

% - Percent or percentage.

< - Less than.

> - Greater than.

@ - at.

mPa·s - Millipascal-second.

Emergency Contact
24 hours

LawrieCo Technical Manager:
0408 268 058

Poisons Information Centre:
13 11 26 (Australia)
0800 764 766 (New Zealand)

Disclaimer

The data provided is to best of LAWRIE CO's knowledge and is believed to be accurate and reliable as of the date of issue. However no expressed or implied warranties are given. LAWRIE CO cannot anticipate or control the conditions under which this information may be used. Therefore, it is the user's responsibility to satisfy themselves as to the suitability and completeness of such information for their particular use. It is the responsibility of the user to ensure that the issue is current. This information given is a non-controlled document.

Related Product Codes

CUZNMANG5L
CUZNMANG20
CUZNMANG110
CUZNMN200
CUZNMN1000

Safety Data Sheet Revision

Issue Date: 1st October 2019
Version Number: 3
Revision Number: 2
Reason for Revision: SDS out of date.
Previous Versions: Version 1 original (October 2012).
Version 2 (October 2017), changes to company details.
Version 3 current (October 2019), SDS out of date, changes to formulation and revision required updating to GHS.
Next Revision Due: September 2024

End of Safety Data Sheet