

# Safety Data Sheet



## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name:** EnNuVi Mantus

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

**Supplier:** Ixom Operations Pty Ltd (Incorporated in Australia)  
**NZBN:** 9429041465226  
**Street Address:** 166 Totara Street  
Mt Maunganui South  
New Zealand

**Telephone Number:** +64 9 368 2700  
**Facsimile:** +64 9 368 2710  
**Emergency Telephone:** **0 800 734 607 (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.

## 2. HAZARDS IDENTIFICATION

Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017 and the Hazardous Substances (Classification) Notice 2017.

**SIGNAL WORD:** DANGER

### Subclasses:

Subclass 6.1 Category D - Substances which are acutely toxic.  
Subclass 6.1 Category E (respiratory tract irritant) - Substances that are respiratory tract irritants.  
Subclass 6.9 Category B - Substances that are harmful to human target organs or systems.  
Subclass 8.2 Category C - Substances that are corrosive to dermal tissue.  
Subclass 8.3 Category A - Substances that are corrosive to ocular tissue.  
Subclass 9.1 Category A - Substances that are very ecotoxic in the aquatic environment.  
Subclass 9.3 Category B - Substances that are ecotoxic to terrestrial vertebrates.

Fertilisers (Corrosive) Group Standard 2017  
Approval Number: HSR002569



### Hazard Statement(s):

H302+H332 Harmful if swallowed or if inhaled.  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.  
H432 Toxic to terrestrial vertebrates.

# Safety Data Sheet



## Precautionary Statement(s):

### Prevention:

P102 Keep out of reach of children.

P260 Do not breathe mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P273 Avoid release to the environment.

### Response:

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P321 Specific treatment (see First Aid Measures on the Safety Data Sheet).

P363 Wash contaminated clothing before re-use.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.

P314 Get medical advice/attention if you feel unwell.

P391 Collect spillage.

### Storage:

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

### Disposal:

P501 In case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Notice 2017. This may also include any method of disposal that must be avoided.

## 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Basic copper carbonate	12069-69-1	30-60%	H302 H319 H332 H410
Monoethanolamine	141-43-5	10-<30%	H332 H312 H302 H314
Sodium hydroxide	1310-73-2	<1%	H290 H314 H318 H335
Non hazardous component(s)	-	to 100%	-

## 4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

### Inhalation:

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

# Safety Data Sheet



## **Skin Contact:**

If spilt on large areas of skin or hair, immediately drench with running water and remove clothing. Continue to wash skin and hair with plenty of water (and soap if material is insoluble) until advised to stop by the Poisons Information Centre or a doctor.

## **Eye Contact:**

Immediately wash in and around the eye area with large amounts of water for at least 15 minutes. Eyelids to be held apart. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport promptly to hospital or medical centre.

## **Ingestion:**

Rinse mouth with water. If swallowed, give a glass of water to drink. If vomiting occurs give further water. Seek immediate medical assistance.

## **Indication of immediate medical attention and special treatment needed:**

Treat symptomatically. Can cause corneal burns. Supportive care only is required for adult ingestion of less than a few grams of the product. For ingestion of larger amounts, maintain fluid and electrolyte balance and maintain adequate kidney function. Gastric lavage is only recommended for heavily exposed, symptomatic patients in whom emesis has not emptied the stomach. Haemodialysis should be reserved for patients with massive acute absorption, especially for patients with compromised renal function.

## **5. FIRE FIGHTING MEASURES**

### **Suitable Extinguishing Media:**

Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

### **Hazchem or Emergency Action Code:** 2X

### **Specific hazards arising from the chemical:**

Non-combustible material. Corrosive chemical. Environmentally hazardous.

### **Special protective equipment and precautions for fire-fighters:**

Decomposes on heating emitting toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

## **6. ACCIDENTAL RELEASE MEASURES**

### **Emergency procedures/Environmental precautions:**

Clear area of all unprotected personnel. Do not allow container or product to get into drains, sewers, streams or ponds. If contamination of sewers or waterways has occurred advise local emergency services.

### **Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:**

Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal.

## **7. HANDLING AND STORAGE**

**Precautions for safe handling:** Avoid skin and eye contact and breathing in vapour. When using do not eat, drink or smoke. Wash hands thoroughly after handling.

# Safety Data Sheet



**Conditions for safe storage, including any incompatibilities:** Store in a cool, dry, well ventilated place. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Workplace Exposure Standards:** No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standard(s) for constituent(s):

Copper dusts & mists, as Cu: WES-TWA 1 mg/m<sup>3</sup>

Copper fume: WES-TWA 0.2 mg/m<sup>3</sup>

Ethanolamine (2-Aminoethanol): 8hr WES-TWA = 3 ppm, 7.5 mg/m<sup>3</sup>, 15min WES-STEL = 6 ppm, 15 mg/m<sup>3</sup>

Sodium hydroxide: Ceiling 2 mg/m<sup>3</sup>

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The average airborne concentration of a substance calculated over an eight-hour working day.

WES - STEL (Workplace Exposure Standard - Short Term Exposure Limit) - The 15-minute time weighted average exposure standard. Applies to any 15-minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both short-term and time-weighted average exposures apply. Exposures at concentrations between the WES-TWA and the WES-STEL should be less than 15 minutes, should occur no more than four times per day, and there should be at least 60 minutes between successive exposures in this range.

WES - Ceiling (Workplace Exposure Standard - Ceiling). A concentration that should not be exceeded at any time during any part of the working day.

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:

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

### Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, CHEMICAL GOGGLES, FACE SHIELD, GLOVES (Long), APRON, RUBBER BOOTS.

# Safety Data Sheet

IXOM



Wear overalls, chemical goggles, face shield, elbow-length impervious gloves, splash apron or equivalent chemical impervious outer garment, and rubber boots. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

If determined by a risk assessment an inhalation risk exists, wear an organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Liquid
<b>Colour:</b>	Green or Brown
<b>Odour:</b>	Not specified
<b>Odour Threshold:</b>	Not available
<b>Solubility:</b>	Miscible in water.
<b>Specific Gravity:</b>	1.48 @20°C
<b>Relative Vapour Density (air=1):</b>	Not available
<b>Vapour Pressure (20 °C):</b>	Negligible
<b>Flash Point (°C):</b>	Not applicable
<b>Flammability Limits (%):</b>	Not available
<b>Autoignition Temperature (°C):</b>	Not available
<b>Boiling Point/Range (°C):</b>	98-100
<b>pH:</b>	9.9 (1% in water)
<b>Freezing Point/Range (°C):</b>	< -5

## 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	No information available.
<b>Chemical stability:</b>	Stable at ambient temperatures.
<b>Possibility of hazardous reactions:</b>	Reaction with strong reducing agents, such as metal hydrides or alkali metals, will generate hydrogen gas, which could create an explosive hazard.
<b>Conditions to avoid:</b>	Avoid exposure to direct sunlight. Avoid exposure to humidity. Avoid temperatures below 0°C. Avoid temperatures above 30 °C.
<b>Incompatible materials:</b>	Incompatible with strong reducing agents.
<b>Hazardous decomposition products:</b>	Oxides of carbon. Oxides of nitrogen. Ammonia.

## 11. TOXICOLOGICAL INFORMATION

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

<b>Ingestion:</b>	Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.
-------------------	--

# Safety Data Sheet



<b>Eye contact:</b>	A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.
<b>Skin contact:</b>	Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns.
<b>Inhalation:</b>	Breathing in vapour will produce respiratory irritation.
<b>Acute toxicity:</b>	No LD50 data available for the product.
<b>Respiratory or skin sensitisation:</b>	No information available.
<b>Chronic effects:</b>	
<b>Mutagenicity:</b>	No information available.
<b>Carcinogenicity:</b>	No information available.
<b>Reproductive toxicity:</b>	No information available.
<b>Specific Target Organ Toxicity (STOT) - single exposure:</b>	May cause respiratory irritation.
<b>Specific Target Organ Toxicity (STOT) - repeated exposure:</b>	May cause damage to organs through prolonged or repeated exposure.
<b>Aspiration hazard:</b>	No information available.

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Avoid contaminating waterways.
<b>Persistence/degradability:</b>	No information available.
<b>Bioaccumulative potential:</b>	Does not bioaccumulate.
<b>Mobility in soil:</b>	No information available.
<b>Aquatic toxicity:</b>	Very toxic to aquatic organisms. May cause long lasting harmful effects to aquatic life.
48hr LC50 (Daphnia magna):	0.03-0.063 mg/L (for copper carbonate)
96hr LC50 (rainbow trout):	0.068-0.094 mg/L (for copper carbonate)

## 13. DISPOSAL CONSIDERATIONS

### Disposal methods:

Refer to local government authority for disposal recommendations. Dispose of contents/container in accordance with local/regional/national/international regulations.

## 14. TRANSPORT INFORMATION

# Safety Data Sheet



## Road and Rail Transport

Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land; DANGEROUS GOODS.



**UN No:** 2735  
**Transport Hazard Class:** 8 Corrosive  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS ETHANOLAMINE)  
**Hazchem or Emergency Action Code:** 2X

## Marine Transport

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

**UN No:** 2735  
**Transport Hazard Class:** 8 Corrosive  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS ETHANOLAMINE)

**IMDG EMS Fire:** F-A  
**IMDG EMS Spill:** S-B

**Marine Pollutant:** Yes

## Air Transport

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

**UN No:** 2735  
**Transport Hazard Class:** 8 Corrosive  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** AMINES, LIQUID, CORROSIVE, N.O.S. (CONTAINS ETHANOLAMINE)

## 15. REGULATORY INFORMATION

### **Classification:**

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017 and the Hazardous Substances (Classification) Notice 2017.

# Safety Data Sheet



## Subclasses:

Subclass 6.1 Category D - Substances which are acutely toxic.  
Subclass 6.1 Category E (respiratory tract irritant) - Substances that are respiratory tract irritants.  
Subclass 6.9 Category B - Substances that are harmful to human target organs or systems.  
Subclass 8.2 Category C - Substances that are corrosive to dermal tissue.  
Subclass 8.3 Category A - Substances that are corrosive to ocular tissue.  
Subclass 9.1 Category A - Substances that are very ecotoxic in the aquatic environment.  
Subclass 9.3 Category B - Substances that are ecotoxic to terrestrial vertebrates.

Fertilisers (Corrosive) Group Standard 2017  
Approval Number: HSR002569

## Hazard Statement(s):

H302+H332 Harmful if swallowed or if inhaled.  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.  
H432 Toxic to terrestrial vertebrates.

## 16. OTHER INFORMATION

Supplier Safety Data Sheet; 06/ 2019.

This safety data sheet has been prepared by Ixom Operations Pty Ltd (Toxicology & SDS Services).

## Reason(s) for Issue:

First Issue Primary SDS

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 Ixom Operations 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 Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations 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.