

Ethin

HAZARDOUS, DANGEROUS GOODS

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

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| Product name: | Ethin |
| Recommended use: | Plant growth regulator for thinning or ripening various crops |
| Supplier: | Grochem (AgriNova New Zealand Limited) |
| Company No.: | 9429036821501 |
| Street Address: | 15 Sunlight Grove Porirua New Zealand |
| Telephone: | +64 4 237 0905 |
| Email: | grochem@grochem.com |
| Emergency telephone: | New Zealand 0800 CHEMCALL - 24 hours (0800 243 6225) Australia 1800 127 406 Other locations +64 4 917 9888 or The National Poisons Centre 0800 POISON (0800 764 766) |

2. HAZARDS IDENTIFICATION

This material is hazardous according to the criteria of EPA New Zealand GHS 7.

EPA Group Standard: HSR000804



Signal Word: Danger

Hazard Classifications: Skin Corrosion/Irritation - Category 1C
Serious Eye Damage/Irritation - Category 1
Specific Target Organ Toxicity following Single Exposure - Category 3 - Respiratory Tract Irritation
Specific Target Organ Toxicity following Repeated Exposure - Category 2
Acute Hazard to the Aquatic Environment - Category 3
Hazardous to Soil Organisms

Hazard Statements: H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.
H373 - May cause damage to organs through prolonged or repeated exposure.
H402 - Harmful to aquatic life.
H423 - Harmful to the soil environment.

Prevention Precautionary Statements: P102 - Keep out of reach of children.
P103 - Read carefully and follow all instructions.
P260 - Do not breathe dust, fume, gas, mist, vapours or spray.
P264 - Wash hands, face and all exposed skin thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.

P273 - Avoid release to the environment.
 P280 - Wear protective gloves/protective clothing including eye/face protection.

Response Precautionary Statements: P101 - If medical advice is needed, have product container or label at hand.
 P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 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 CENTRE/doctor/insert appropriate source of emergency medical advice.
 P363 - Wash contaminated clothing before reuse.

Storage Precautionary Statement: P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 P405 - Store locked up.

Disposal Precautionary Statement: P501 - Dispose of contents/container in accordance with local, regional, national and international regulations.

DANGEROUS GOOD CLASSIFICATION: Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

Dangerous Goods Class: 8

3. COMPOSITION INFORMATION

| CHEMICAL ENTITY | CAS NO | PROPORTION |
|--|------------|------------|
| Phosphonic acid, (2-chloroethyl)- | 16672-87-0 | 48 % (w/w) |
| Ingredients determined to be Non-Hazardous | | Balance |
| | | 100% |

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Remove victim from 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. Seek medical advice if effects persist.

Skin Contact: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. If swelling, redness, blistering or irritation occurs seek medical assistance. For gross contamination, immediately drench with water and remove clothing. Continue to flush skin and hair with plenty of water (and soap if material is insoluble). For skin burns, cover with a clean, dry dressing until medical help is available. If blistering occurs, do NOT break blisters. If swelling, redness, blistering, or irritation occurs seek medical assistance.

Eye contact: Immediately irrigate with copious quantities of water for 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to hospital or medical centre.

Ingestion: Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advice.

PPE for First Aiders: Wear overalls, gloves, chemical goggles. Available information suggests that gloves made from polyvinyl chloride (PVC) should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Notes to physician: Treat symptomatically. Can cause corneal burns.

5. FIRE FIGHTING MEASURES

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| Hazchem Code: | 2X |
| Suitable extinguishing media: | If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder). |
| Specific hazards: | Non-combustible material. |
| Fire fighting further advice: | Not applicable. |

6. ACCIDENTAL RELEASE MEASURES

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| SMALL SPILLS: | Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours or dust. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal. |
| LARGE SPILLS: | Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of 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. If contamination of crops, sewers or waterways has occurred advise local emergency services. |

Dangerous Goods - Initial Emergency Response Guide No:
153

7. HANDLING AND STORAGE

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| Handling: | Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols. |
| Storage: | Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Store locked up. Keep container standing upright. Keep containers closed when not in use - check regularly for leaks. |

This material is classified as a Class 8 Corrosive as per the criteria of the "New Zealand NZS5433: Transport of Dangerous Goods on Land" and/or the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and must be stored in accordance with the relevant regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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| National occupational exposure limits: | No value assigned for this specific material by WorkSafe New Zealand. |
| Biological Limit Values: | As per the WorkSafe New Zealand the ingredients in this material do not have a Biological Limit Allocated. |
| Engineering Measures: | Natural ventilation should be adequate under normal use conditions. |
| Personal Protection Equipment: | OVERALLS, GLOVES, CHEMICAL GOGGLES. Personal protective equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted. Wear overalls, gloves, chemical goggles. Available information suggests that gloves made from polyvinyl chloride (PVC) should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using. |
| Hygiene measures: | Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols. Ensure that eyewash stations and safety showers are close to the workstation location. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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| Form: | Clear liquid | Specific Gravity: | 1.21 |
| Colour: | Colourless to pale yellow | Boiling Point/Range (°C): | >100 |
| Odour: | Characteristic | pH: | 1.0 |
| Solubility: | Soluble in water | | |

(Typical values only - consult specification sheet)

10. STABILITY AND REACTIVITY

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| Chemical stability: | This material is thermally stable when stored and used as directed. |
| Conditions to avoid: | Elevated temperatures and sources of ignition. |
| Incompatible materials: | Oxidising agents. |
| Hazardous decomposition products: | Oxides of carbon and nitrogen, smoke and other toxic fumes. |
| Hazardous reactions: | No known hazardous reactions. |

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:

ACUTE EFFECTS

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| Inhalation: | Material is an irritant to mucous membranes and respiratory tract. |
| Skin contact: | Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns. |
| Ingestion: | Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract. |
| Eye contact: | A severe eye irritant. Corrosive to eyes: contact can cause corneal burns. Contamination of eyes can result in permanent injury. |

ACUTE TOXICITY

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| Inhalation: | This material has been classified as not hazardous for acute inhalation exposure. Acute toxicity estimate (based on ingredients): LC50 > 20.0 mg/L for vapours or LC50 > 5.0 mg/L for dust and mist. |
| Skin contact: | This material has been classified as not hazardous for acute dermal exposure. Acute toxicity estimate (based on ingredients): LD50 > 2,000 mg/Kg bw |
| Ingestion: | This material has been classified as not hazardous for acute ingestion exposure. Acute toxicity estimate (based on ingredients): LD50 > 2,000 mg/Kg bw |
| Corrosion/Irritancy: | Eye: this material has been classified as a Category 1 Hazard (irreversible effects to eyes). Skin: this material has been classified as a Category 1C Hazard (irreversible effects to skin). |
| Sensitisation: | Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser. |
| Aspiration hazard: | This material has been classified as not an aspiration hazard. |
| Specific target organ toxicity (single exposure): | This material has been classified as a Category 3 Hazard. Exposure via inhalation may result in respiratory irritation. |

CHRONIC TOXICITY

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| Mutagenicity: | This material has been classified as non-hazardous. |
| Carcinogenicity: | This material has been classified as non-hazardous. |
| Reproductive toxicity (including via lactation): | This material has been classified as non-hazardous. |

Specific target organ toxicity (repeat exposure):

This material has been classified as a Category 2 - Substances that are harmful to human target organs or systems.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

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| Acute aquatic hazard: | This material has been classified as a Category Acute 3 Hazard. Acute toxicity estimate (based on ingredients): $> 10 \leq 100$ mg/L |
| Chronic aquatic hazard: | This material has been classified as not hazardous for chronic aquatic exposure. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): > 100 mg/L, where the substance is not rapidly degradable and/or $BCF < 500$ and/or $\log Kow < 4$. |
| Ecotoxicity in the soil environment: | This material has been classified as harmful to the soil environment. |
| Ecotoxicity to terrestrial vertebrates: | This material has been classified as non-hazardous. |
| Ecotoxicity to terrestrial invertebrates: | This material has been classified as non-hazardous. |
| Ecotoxicity: | No information available. |
| Persistence and degradability: | No information available. |
| Bioaccumulative potential: | No information available. |
| Mobility: | No information available. |

13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Classified as Dangerous Goods by the criteria of the *Australian Code for the Transport of Dangerous Goods by Road & Rail* and the *New Zealand NZS5433: Transport of Dangerous Goods on Land*.



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| UN No: | 3265 |
| Dangerous Goods Class: | 8 |
| Packing Group: | III |
| Hazchem Code: | 2X |
| Emergency Response Guide No: | 153 |
| Limited Quantities | 5 L |
| Proper Shipping Name: | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (CLORETHEPHON) |
| Segregation Dangerous Goods: | Not to be loaded with explosives (Class 1), dangerous when wet substances (Class 4.3), oxidising agents (Class 5.1), organic peroxides (Class 5.2), radioactive substances (Class 7) or food and food packaging in any quantity. Note 1: Concentrated strong alkalis are incompatible with concentrated strong acids. Note 2: Concentrated strong acids are incompatible with concentrated strong alkalis. Note 3: Acids are incompatible with Dangerous Goods of Class 6 which are cyanides. Exemptions may apply. |

MARINE TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea. This material is classified as a Marine Pollutant (P) according to the International Maritime Dangerous Goods Code.



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| UN No: | 3265 |
| Dangerous Goods Class: | 8 |
| Packing Group: | III |
| Limited Quantities: | 5 L |
| Proper Shipping Name: | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (CLORETHEPHON) |

AIR TRANSPORT

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



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| UN No: | 3265 |
| Dangerous Goods Class: | 8 |
| Packing Group: | III |
| Limited Quantities: | 1 L |
| Proper Shipping Name: | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (CORROSIVE LIQUID, ACIDIC, N.O.S.) |

15. REGULATORY INFORMATION**This material is not subject to the following international agreements:**

- Montreal Protocol (Ozone depleting substances)
- The Stockholm Convention (Persistent Organic Pollutants)
- The Rotterdam Convention (Prior Informed Consent)
- Basel Convention (Hazardous Waste)
- International Convention for the Prevention of Pollution from Ships (MARPOL)

This material/constituent(s) is covered by the following requirements:

NZ EPA Status: All components of this product are listed on or exempt from the New Zealand Inventory of Chemical (NZIoC).

HSNO Approval Code: HSR000804

16. OTHER INFORMATION

Reason for issue: Revised

This information was prepared in good faith from the best information available at the time of issue. It is based on the present level of research and to this extent we believe it is accurate. However, no guarantee of accuracy is made or implied and since conditions of use are beyond our control, all information relevant to usage is offered without warranty. The manufacturer will not be held responsible for any unauthorised use of this information or for any modified or altered versions.

If you are an employer, it is your duty to tell your employees, and any others that may be affected, of any hazards described in this sheet and of any precautions that should be taken.

Safety Data Sheets are updated frequently. Please ensure you have a current copy.

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