**SAFETY DATA SHEET**

# EnviroMax Trinexapac-Ethyl Plant Growth Regulator

| Section 1: Identification | |
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| **Product identifier:** | EnviroMax Trinexapac-Ethyl Plant Growth Regulator |
| **Other means of identification:** | Trinexapac-Ethyl emulsifiable concentrate |
| **Recommended use of the chemical and restrictions on use** | For the Reduction of Leaf and Stem Growth of Grass Species and as an Aid to Turf Management, and as an aid in Winter Grass management |
| **Details of manufacturer** | EnviroMax Technologies Pty Ltd<br>Level 3, 549 Queen St., Brisbane, Queensland 4000, Australia |
| **Emergency phone number** | 61- (0) 4099 26561 |
| **Section 2: Hazard Identification** | |
| **Hazard Classification:** | Classified as a hazardous chemical according to the Australian criteria for the classification of chemicals |
| **Signal Word:** | CAUTION |
| **Hazard statements:** | R43 May cause sensitisation by skin contact |
| **Precautionary statements:** | |
| **Prevention:** | Do not swallow. Avoid contact with spray. Wash hands, arms and face after use with soap and water. |
| **Response:** | If swallowed: Move affected person to fresh air and keep at rest in a position comfortable for breathing.<br>Call a POISON CENTER or doctor/physician if you feel unwell. |
| **Storage:** | Store in a well-ventilated place. Keep container tightly closed. Store locked up. |
| **Disposal:** | Dispose of contents/container in accordance with container label instructions as per local State and Council requirements. |
| **Symbols:** |  Exclamation mark  Acute aquatic hazard |

## Section 3: Composition / Information On Ingredients

**Chemical Identity of Ingredients**

| Common Name | CAS Number | Concentration |
|---|---|---|
| Trinexapac-ethyl | 95266-40-3 | 25% |
| Other non-hazardous ingredients | - | 75% |

## Section 4: First Aid Measures

**General Advice:**

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor (at once). Have this MSDS with you when you call.

***Description of necessary first aid measures***

**Inhalation:**

Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a doctor or Poisons Information Centre immediately

**Skin Contact:**

Remove contaminated clothing and shoes immediately and wash with plenty of water and soap. If symptoms persist seek medical attention.

**Eye Contact:**

If in eyes, hold eyelids apart and flush the eye continuously with large amounts of water for at least 15 minutes.). Remove contact lenses. Immediate medical attention is required.

**Ingestion:**

If swallowed, do not induce vomiting. Immediately rinse mouth with water. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

***Symptoms caused by exposure***

No specific poisoning symptoms.

***Medical attention and special treatment***

Treat symptomatically. There is no specific antidote available.

## Section 5: Fire Fighting Measures

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| ***Suitable extinguishing equipment:*** | *Small fires* Use water spray, alcohol resistant foam, dry chemical or carbon dioxide. DO NOT use a solid water stream as it may scatter and spread fire. *Large fires* Alcohol resistant foam or water spray. DO NOT use a solid water stream as it may scatter and spread fire. |
| ***Specific hazards arising from the chemical*** | As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see Section 10). Combustion or thermal decomposition will evolve toxic and irritant vapours. Exposure to decomposition products may be a hazard to health. |
| ***Special protective equipment and precautions for fire fighters*** | Wear self-contained breathing apparatus in confined areas. |

## Section 6: Accidental Release Measures

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| ***Personal precautions, protective equipment and emergency procedures*** | Avoid contact with eyes and skin. Wear cotton overalls and elbow-length PVC gloves. After use, wash contaminated clothing. |
| ***Environmental precautions*** | In the event of a spill, prevent spillage from entering drains or water courses with absorbent material and call emergency services. |
| ***Methods and materials for containment and cleaning up*** | Contain product spill as appropriate. Contain spill of diluted mix by absorbing with clay, sand, soil or proprietary absorbent (such as vermiculite). Cover drains if possible. Collect spilled material and waste in sealable open-top type containers for disposal. Dispose at an appropriate hazardous waste management facility. Decontaminate spill area with detergent and water. Rinse with the smallest volume of water possible. |

| Section 7: Handling And Storage | |
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| ***Precautions for safe handling*** | Read container label before use. Use only in accordance with the instructions provided on the container label, including the Precaution and Protection sections and the Safety Directions. |
| ***Conditions for safe storage*** | Store in the closed, original container in a dry, well ventilated area, as cool as possible. |

| Section 8: Exposure Controls / Personal Protection | |
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| ***Exposure control measures*** | No exposure standards have been set for this product or its ingredients |
| ***Biological monitoring*** | No biological limit allocated for the product or any of its ingredients. No biological monitoring is required. |
| ***Control Banding*** | No control banding level allocated. |
| ***Engineering controls*** | Use only in a well ventilated area. |
| ***Individual protection measures*** | Avoid contact with eyes and skin. Wear cotton overalls and elbow-length PVC gloves. After use, wash contaminated clothing.<br>After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. |

| Section 9: Physical and Chemical Properties | |
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| ***Appearance:*** | Clear straw coloured liquid |
| ***Odour:*** | Solvent |
| ***pH:*** | 3-4.5 (1% w/v dilution) |
| ***Vapour pressure:*** | 2.16 mPa @ 25°C (Trinexapac-ethyl) |
| ***Octanol-Water Partition Coefficient ($K_{OW}$):*** | $5.13x10^{-1}$ (Trinexapac-ethyl) |
| ***Henry's constant:*** | $5.4 \times 10^{-4}$ @25°C ($(Pa\ m^3\ mol^{-1})$ (Trinexapac-ethyl) |
| ***Specific Gravity*** | 0.978 g/mL |
| ***Solubility (water)*** | 10 200 mg/L (Trinexapac-ethyl)<br>EnviroMax Trinexapac-Ethyl Plant Growth Regulator is an emulsifiable concentrate. |
| ***Ignition temperature:*** | No data available. Trinexapac-Ethyl is not highly flammable |

| Section 10: Stability And Reactivity | |
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| ***Reactivity:*** | |
| ***Chemical stability:*** | Stable under normal storage conditions and use. |
| ***Possibility of hazardous reactions:*** | None when stored and used as directed. Hazardous polymerisation is not possible. |
| ***Conditions to avoid:*** | None known. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. |
| ***Incompatible materials:*** | No particular incompatibilities. Store and use as directed. Avoid strong acids, strong bases and strong oxidising agents |
| ***Hazardous decomposition products*** | Combustion or thermal decomposition will evolve toxic and irritant vapours. |

| Section 11: Toxicological Information | |
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| ***Acute Oral ($LD_{50}$):*** | 1912 mg/kg (rat, calculated from ingredients) Category 5 |
| ***Acute Dermal ($LD_{50}$):*** | 2307 mg/kg (rabbit, calculated from ingredients) Category 5 |
| ***Acute Inhalation ($LC_{50}$):*** | No data for the product. Trinexapac-ethyl is low in toxicity by inhalation as a spray mist. The 4-hour LC50 is >5.3 mg/L in rats |
| ***Skin irritation:*** | Mild skin irritant |
| ***Eye irritation:*** | Mild eye irritant |
| ***Skin sensitisation:*** | Sensitizer |
| ***Genotoxicity (mutagenicity)*** | No data for the product. Trinexapac-ethyl is not considered to be genotoxic via in-vitro and in-vivo studies. |
| ***Carcinogenicity:*** | No data for the product. Trinexapac-ethyl is not considered to be |

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| | carcinogenic (24 month rat study). |
| ***Reproductive toxicity:*** | No data for the product. Trinexapac-ethyl is not considered to have reproductive toxicity (2 generation rat study)) |
| ***Specific Target Organ: Toxicity – single exposure:*** | No data for the product. For Trinexapac-ethyl no primary target organ for toxicity was identified from acute dose studies in mice, rats, rabbits and guinea pigs. |
| ***Specific Target Organ Toxicity – repeat exposure:*** | No data for the product. For Trinexapac-ethyl no primary target organ for toxicity was identified from repeat dose studies in mice, rats and dogs. |
| ***Aspiration hazard:*** | No data for the product or Trinexapac-ethyl. |

**Inhalation**
Trinexapac-ethyl is not considered to be toxic via inhalation. However, breathing in very high concentrations of vapour and spray mist through use of this product may cause respiratory irritation.

**Skin Contact**
The product is considered a skin irritant.

**Eye Contact**
Product may irritate the eyes.

**Ingestion**
Amounts swallowed incidental to normal handling procedures and use are not expected to cause injury.

***Exposure levels and health effects***

The acceptable daily intake (ADI) for Trinexapac-ethyl is 0.01 mg/kg body weight based on a NOEL of 1.4 mg/kg bw/day from dogs in a 1-year daily oral dosing study and a safety factor of 100.

## Section 12: Ecological Information

**ENVIRONMENTAL TOXICITY**

| ***Ecotoxicity*:** | **Information on Trinexapac-ethyl, the primary environmental toxicant.** |
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| Fish: | LC50 (96 h) 35 mg/L, *Oncorhynchus mykiss*<br>NOEC (21 d) 41 mg/L, *Pimephales promelas* |
| Aquatic invertebrates: | EC50 (48 h) >142.5 mg/L, *Daphnia magna*<br>NOEC (21 d) 2.4 mg/L, *Daphnia magna*<br>EC50 (96 h) 5.8 mg/L Mysid shrimp (*Americamysis bahia*) |
| Aquatic plants: | EC50 (7 day) 8.8 mg/Ll (biomass), *Lemna gibba*<br>EC50 (72 h) 9.4 mg/l (growth), *Raphidocelis subcapitata* |
| Birds: | Acute oral LD50 >2500 mg/kg *Colinus virginianus* (bobwhite quail)<br>Short-term dietary LC50 >2000 mg/kg *Anas platyrhynchos* (Mallard duck) |
| Terrestrial insects: | *Honeybees* 69.6 µg bee-1 - Acute 48 hour LD50 |
| ***Persistence and degradability*** | Half-life of Trinexapac-ethyl is 14.6 days in aerobic soils (non- persistent).<br>Volatile<br>Trinexapac-ethyl is stable to hydrolysis at pH 7 and is pH sensitive at pH 9 and above. |
| ***Bioaccumulative potential*** | Trinexapac-ethyl bioaccumulation potential is considered to be low |

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| ***Mobility in soil*** | Moderately mobile<br>Kf = 5.15 (Freundlich) |

## Section 13: Disposal Considerations

**Product Disposal:**

Product Disposal On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals.

**Container Disposal**

Do not use this container for any other purpose. Triple or preferably pressure rinse empty containers before disposal or recycling. Add rinsings to spray tank. Contact licensed industrial waste collector for proper disposal.

## Section 14: Transport Information

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| ***UN Number:*** | 3082 (Trinexapac-ethyl) |
| ***UN Proper Shipping Name:*** | For bulk shipments as Class 9, use UN 3077, HazChem code 2Z. |
| ***Transport hazard class*** | 9 (bulk shipments) |
| ***Packing Group:*** | Considered non dangerous for road and rail transport (in packaging) by the Australian Code for the Transport of Dangerous Goods by Road and Rail. |
| ***Environmental hazards for Transport Purposes*** | Marine Pollutant |
| ***Special precautions for user:*** | None |
| ***Hazchem*** | 2Z (bulk shipments) |

**ADG Code:**

NOT considered dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

## Section 15: Regulatory Information

**POISON Schedule:** 5 – CAUTION

## Section 16: Other Information

**References:**

1. IUPAC Agrochemical Information http://sitem.herts.ac.uk/aeru/iupac/672.htm

Acronyms
LD50 or LC50 – Estimated lethal dose / concentration to kill 50% of the population/sample.

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