



## SAFETY DATA SHEET

### Section 1. Identification of the material and the supplier

Product: **OPTIMUS 175 EX PLANT GROWTH REGULATOR**  
Chemical Name of Active Ing: Trinexapac-ethyl: ethyl-4-cyclopropyl(hydroxyl)methylene-3,5-dioxocyclohexanecarboxylate  
Product Use: Plant Growth Regulator  
Restriction of Use: Refer to Section 15

New Zealand Supplier: ADAMA New Zealand Ltd  
Address: Level 1/93 Bolt Road  
Tahunanui, Nelson  
Telephone: +64 3 543 8275  
Fax Number: +64 3 543 8274

**Emergency Telephone: 0800 764 766 (National Poison Centre)**

Date of SDS Preparation: 28 May 2019

### Section 2. Hazards Identification

**This substance is hazardous according to the Hazardous Substances (Classification) Notice 2017**

**EPA Approval No:** HSR100710

#### Pictograms



Irritant



Ecotoxic

Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.3A	H315	Causes skin irritation.	Skin Irrit. 2
6.4A	H319	Causes serious eye irritation.	Eye Irrit. 2A
6.5B	H317	May cause an allergic skin reaction.	Skin Sens. 1
9.1D	H401	Toxic to aquatic life.	Aquatic Acute 2
9.2A	H421	Very toxic to the soil environment.	

Prevention Code	Prevention Statement
P103	Read label before use.
P261	Avoid breathing fume.
P264	Wash hands thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in Section 8.

Response Code	Response Statement
P362	Take off contaminated clothing and wash before re-use.
P391	Collect spillage.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage Code	Storage Statement
None allocated	

Disposal Code	Disposal Statement
P501	Wherever possible completely use material by using according to label instructions. Dispose of unwanted product and wastes from spillages as hazardous substances in accordance with local and national regulations using a licensed waste disposal company. Triple rinse containers and add rinsate to spray tank before puncturing and offering for recycling or landfill. Do not allow product to enter waterways. Do not burn product or container.

### Section 3. Composition / Information on Ingredients

Ingredients	Wt %	CAS NUMBER.
Trinexapac-ethyl	17 - 19	95266-40-3
Poly(oxy-1,2-ethanediyl),alpha-isotridecyl-omega-hydroxy-	17 - 19	9043-30-5
1,2-Propanediol carbonate	09 - 11	108-32-7
Dodecylbenzene sulphonic acid Isoproplamine salt	9.5 - 11.5	26264-05-1
Other non-hazardous ingredients	To bal	-

### Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice.
If on Skin	Take off contaminated clothing and wash before re-use. Wash with plenty of soap and water. If skin irritation or rash occurs: get medical advice/attention.
If Swallowed	Wash out mouth with water and drink several glasses of water. Never give anything to the mouth of an unconscious person. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs. Call a POISON CENTER or doctor/physician if you feel unwell.
If Inhaled	Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Apply artificial respiration if not breathing. Get medical advice if breathing becomes difficult.

#### Most important symptoms and effects, both acute and delayed

Symptoms:

**Ingestion:** Not applicable.

**Inhalation:** Not applicable.

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Date of SDS: 28 May 2019

Prepared by: Technical Compliance Consultants (NZ) Ltd  
Tel: 64 9 475 5240 www.techcomp.co.nz

**Skin:** Causes skin irritation. May cause an allergic skin reaction.  
**Eye:** Causes serious eye irritation.

## Section 5. Fire Fighting Measures

<b>Hazard Type</b>	Non Flammable / Not combustible.
<b>Hazards from products</b>	Carbon oxides (CO,CO2)
<b>Suitable Extinguishing media</b>	For small fire: dry chemical powder, water spray carbon dioxide For large fire: water spray, water fog, foam
<b>Precautions for firefighters and special protective clothing</b>	Full protective clothing and self-contained breathing apparatus.
<b>HAZCHEM CODE</b>	<b>None allocated</b>

## Section 6. Accidental Release Measures

Wear suitable protective clothing, gloves and eye/face protection.

### Environmental precautions

In the event of a major spill, prevent spillage from entering into drains and water courses.

### Methods and material for containment and cleaning up

Absorb in sand or other inert material. Collect spills and put it into appropriated container. Dispose of this material and its container at hazardous or special waste collection point. Ensure disposal is in compliance with local disposal regulations.

## Section 7. Handling and Storage

### Precautions for Handling:

- Read label before use.
- Avoid breathing fume.
- Wash hands thoroughly after handling.
- Contaminated work clothing should not be allowed out of the workplace.
- Do not eat, drink or smoke while using.
- EQUIPMENT: Apply using accurately calibrated and maintained equipment in accordance with the New Zealand Standard for the Management of Agricultures (NZS8409).
- When mixing or applying wear appropriate protective clothing including cotton overalls buttoned to the neck and wrist, impervious, elbow-length gloves, and eye protection. Remove protective clothing and wash hands, arms and face with soap and water before meals and after work.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.

### Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Store in the original, unopened container in a cool, dry place, out of direct sunlight and away from stockfeed, seeds, fertilisers or foodstuffs.
- Avoid temperatures above 35°C and below 0°C. Avoid all possible sources of ignition (spark or flame) and keep away from combustible material.
- As a Class 9 Substance with Ecotoxicity Classifications storage of OPTIMUS 175 EC must be carried out in such a manner as to prevent contamination of waterways. It is recommended that The New Zealand Standard for the Management of Agrichemicals (NZS8409) is followed as a means of meeting the secondary containment provisions of the HSNO Emergency Management Regulations.

**WORKPLACE EXPOSURE STANDARDS (provided for guidance only)**

Substance	TWA		STEL	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>

No ingredients have exposure limits

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute 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 the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2017 9TH EDITION.

**Engineering Controls**

Ventilation required.

**Personal Protection Equipment**

<b>Eyes</b>	Safety goggles or face shield.
<b>Hands and Skin</b>	When mixing or applying wear appropriate protective clothing including cotton overalls buttoned to the neck and wrist, impervious, elbow-length gloves, and eye protection. Remove protective clothing and wash hands, arms and face with soap and water before meals and after work.
<b>Respiratory</b>	Respiratory protection is not required if good ventilation is maintained.
<b>General</b>	When handling do not eat, drink or smoke. Wash hands thoroughly after handling. Wash clothing separately before re-use.

**Section 9****Physical and Chemical Properties**

<b>Appearance</b>	Yellow-Reddish brown liquid
<b>Odour</b>	Slight
<b>Odour Threshold</b>	Not applicable
<b>Coefficient pH</b>	Not applicable
<b>Boiling Point</b>	Not applicable
<b>Melting /Freezing Point</b>	Not applicable
<b>Flash Point</b>	137°C
<b>Flammability</b>	Not flammable
<b>Upper and Lower Exposure Limits</b>	Not applicable
<b>Vapour Pressure</b>	2.16 @ 20°C (Trinexapac-ethyl)
<b>Density</b>	0.98 - 1.01g/ml
<b>Solubilities</b>	Dispersible
<b>Log P octanol/water:</b>	1.6 (pH 5.3@ 25°C) – Trinexapac-ethyl
<b>Auto-ignition Temperature</b>	Not applicable
<b>Kinematic viscosity mm<sup>2</sup>/s 40 °C</b>	Not applicable
<b>Particle Characteristics</b>	Not applicable
<b>Volatiles</b>	Not applicable

**Section 10. Stability and Reactivity**

<b>Stability of Substance</b>	This product is stable under normal conditions.
<b>Reactivity</b>	None known

<b>Conditions to Avoid</b>	None known.
<b>Incompatible Materials</b>	Oxidizing agents, acids, alkali.
<b>Hazardous Decomposition Products</b>	Carbon oxides, (CO,CO2).

## Section 11 Toxicological Information

### Acute Effects:

<b>Swallowed</b>	Not applicable	LD50 (rats) >5,000 mg/kg
<b>Dermal</b>	Not applicable	LD50 (rabbit) >4000 mg/kg
<b>Inhalation</b>	Not applicable	LC50 (rat) 5.3 mg/L (4 hours)
<b>Skin</b>	Causes skin irritation. May cause an allergic skin irritant	
<b>Eye</b>	Causes severe eye irritation.	

### Chronic Effects:

<b>Carcinogenicity</b>	Not applicable.
<b>Reproductive Toxicity</b>	Not applicable.
<b>Germ Cell Mutagenicity</b>	Not applicable.
<b>Aspiration</b>	Not applicable.
<b>STOT/SE</b>	Not applicable.
<b>STOT/RE</b>	Not applicable.

## Section 12. Ecotoxicological Information

HSNO Classes: 9.1D= Toxic to aquatic life.  
9.2A = Very toxic to the soil environment.

<b>Persistence and degradability</b>	No data available
<b>Bioaccumulation</b>	No data available
<b>Mobility in Soil</b>	No data available
<b>Other adverse effects</b>	No data available
<b>Precautions</b>	DO NOT ALLOW TO ENTER WATERWAYS.

### Common name

96 H-LC50 – [mg/l]

48 H-EC50 [mg/l]

96 H-EC50 [mg/l]

LD50 Birds [mg/kg]

Bees LD50 [µ/Bee]

Persistence and degradability

Mobility

Bio accumulative potential

### Trinexapac-ethyl

Rainbow trout & carp, bluegill sunfish, catfish = 35-180

Daphnia magna >142

Algae 25.7

Bobwhite quail >2,000

Not toxic to bees

Soil: the product is persistent to some extent.

Water: half-life time (t1/2) (water/sediment)=4-18 days

Soil: low mobility

Low risk of underground water contamination

Low bioaccumulation potential (log Kow=1.6)

## Section 13. Disposal Considerations

**Disposal Method:** Triple rinse empty container and add rinsate to spray tank. Burn in an appropriate incinerator, if circumstances such as wind direction permit. Otherwise crush or puncture and bury in a suitable landfill, or if appropriate, recycle. Avoid contamination of any water supply with product or empty container.

### Precautions and methods to avoid:

Avoid contamination of any water supply with product or empty container.

Product Name: Optimus 175  
Date of SDS: 28 May 2019

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**Section 14 Transport Information**

**This product is NOT classified as a Dangerous Good for transport in NZ; NZS 5433:2012**

**Section 15 Regulatory Information**

**This substance is hazardous according to the Hazardous Substances (Classification) Notice 2017**

EPA Approval Code: HSR100710  
 HSNO Classification: 6.3A, 6.4A, 6.5B, 9.1D, 9.2A

Refer to EPA website [www.epa.govt.nz](http://www.epa.govt.nz) for controls document - HSR100710

<b>HSW (HS) Regulations 2017</b>	<b>Trigger Quantity</b>
Signage Trigger Quantities (Schedule 3)	100L (9.2A)
Emergency Response Plan (Schedule 5)	1000L (6.5B)
Secondary Containment (Schedule 5)	1000L (6.5B)
Tracking (Schedule 26)	Not required
HSW(Hazardous substance) Regulations Part 4 Certified Handlers and supervision and training of workers	HSW Reg 4.5 – 4.6 Information, instruction, training and supervision.
<b>HSNO Additional Controls (Restrictions of use)</b>	
<b>77A</b>	The substance must not be applied onto or into water.
<b>Hazardous Property Controls Notice 2017</b>	
HPC Notice Part 4 Clause 47	Equipment for class 9 substances must be appropriate
HPC Notice Part 4 Clause 48	Records of application of class 9 pesticides and plant growth regulators
HPC Notice Part 3	Hazardous substances in a place other than a workplace
HPC Notice Part 4 Subpart A	Site and storage controls for class 9 substances
HPC Notice Part 4 Subpart C	Qualifications required for application of class 9 Pesticides
<b>ACVM Act and Regulations</b>	
ACVM Approval No See <a href="http://www.foodsafety.govt.nz">www.foodsafety.govt.nz</a> for registration controls	P8562

**Section 16 Other Information****Glossary**

EC50	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
LC50	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD50	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

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Please contact the ADAMA, if further information is required.

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