



SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **OPTIMUS 175 EC**
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)
0800 734 607 (24hr Emergency Response)**

Date of SDS Preparation: 30 Dec 2021

Section 2. Hazards Identification

This substance is hazardous according to the *Hazardous Substances (Hazard Classification) Notice 2020*

EPA Approval No: HSR100710

Pictograms



Signal Word: **WARNING**

HSNO Classification	Hazard Code	Hazard Statement
Skin irritation Category 2	H315	Causes skin irritation.
Eye irritation Category 2	H319	Causes serious eye irritation.
Skin sensitisation Category 1	H317	May cause an allergic skin reaction.
Harmful to soil organisms	H421	Very toxic to the soil environment.

Prevention Code	Prevention Statement
P102	Keep out of the reach of children.
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 unintended release into the environment.
P280	Wear protective clothing as detailed in Section 8.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash before re-use.

Storage Code	Storage Statement
None allocated	N/A

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 Isopropylamine 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.

Skin: Causes skin irritation. May cause an allergic skin reaction.

Eye: Causes serious eye irritation.

Section 5. Fire Fighting Measures

Hazard Type	Non-Flammable / Not combustible.
Hazards from products	Carbon oxides (CO, CO ₂)
Suitable Extinguishing media	For small fire: dry chemical powder, water spray carbon dioxide For large fire: water spray, water fog, foam
Precautions for firefighters and special protective clothing	Full protective clothing and self-contained breathing apparatus.
HAZCHEM CODE	None allocated

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.
- 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 unintended release into 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.
- 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.

Section 8 Exposure Controls / Personal Protection**WORKPLACE EXPOSURE STANDARDS (provided for guidance only)**

Substance	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³

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

Eyes	Safety goggles or face shield.
Hands and Skin	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.
Respiratory	Respiratory protection is not required if good ventilation is maintained.
General	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

Appearance	Yellow-Reddish brown liquid
Odour	Slight
Odour Threshold	Not applicable
Coefficient pH	Not applicable
Boiling Point	Not applicable
Melting /Freezing Point	Not applicable
Flash Point	137°C
Flammability	Not flammable
Upper and Lower Exposure Limits	Not applicable
Vapour Pressure	2.16 @ 20°C (Trinexapac-ethyl)
Density	0.98 – 1.01g/ml
Solubilities	Dispersible
Log P octanol/water:	1.6 (pH 5.3@ 25°C) – Trinexapac-ethyl
Auto-ignition Temperature	Not applicable
Kinematic viscosity mm²/s 40 °C	Not applicable
Particle Characteristics	Not applicable
Volatiles	Not applicable

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Reactivity	None known
Conditions to Avoid	None known.
Incompatible Materials	Oxidizing agents, acids, alkali.
Hazardous Decomposition Products	Carbon oxides, (CO,CO2).

Section 11 Toxicological Information

Acute Effects:

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

Chronic Effects:

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

Section 12. Ecotoxicological Information

HSNO Classification: Hazardous to soil organisms.

Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available

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]

Trinexapac-ethyl

Rainbow trout & carp, bluegill sunfish, catfish = 35-180
Daphnia magna >142
Algae 25.7
Bobwhite quail >2,000
Not toxic to bees

Persistence and degradability	Soil: the product is persistent to some extent. Water: half-life time (t _{1/2}) (water/sediment) = 4-18 days
Mobility	Soil: low mobility Low risk of underground water contamination
Bio accumulative potential	Low bioaccumulation potential (log Kow=1.6)

Section 13. Disposal Considerations

Disposal Method: 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 before puncturing and offering for recycling or landfill.



Precautions: Do not allow empty container to enter waterways.

Disposal methods to avoid: Do not burn product or container.

Section 14 Transport Information

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

Section 15 Regulatory Information

This substance is hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020

EPA Approval Code: HSR100710

HSNO Classification: Skin irritation Category 2, Eye irritation Category 2, Skin sensitisation Category 1, Harmful to soil organisms.

HSW (HS) Regulations 2017	Trigger Quantity
Signage Trigger Quantities (Schedule 3)	100 L
Emergency Response Plan (Schedule 5)	1000 L
Secondary Containment (Schedule 5)	1000 L
Tracking (Schedule 26)	Not required
Certified Handlers	Not required
HSNO Additional Controls (Restrictions of use)	
77A	The substance must not be applied onto or into water.
Hazardous Property Controls Notice 2017	
HPC Notice Part 1	Hazardous Property Controls preliminary provisions
HPC Notice Part 3	Hazardous substances in a place other than a workplace
HPC Notice Part 4 Subpart A	Substances that are hazardous to the environment: Site and storage controls
HPC Notice Part 4 Subpart B	Use of substances that are hazardous to the environment
HPC Notice Part 4 Clause 47	Equipment for environmentally hazardous substances must be appropriate
HPC Notice Part 4 Clause 48	Records of application of ecotoxic pesticides and plant growth regulators
HPC Notice Part 4 Subpart C	Qualifications required for the application of substances that are hazardous to the environment
ACVM Act and Regulations	
ACVM Approval No See www.foodsafety.govt.nz for registration controls	P8562

Glossary

ACVM	Agricultural Compounds and Veterinary Medicines Act 1997.
EC50	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority.
HSNO	Hazardous Substances and New Organisms Act 1996.
HSW	Health and Safety at Work Act 2015.
HSW (HS) Regulations 2017.	Health and Safety at Work (Hazardous Substances) Regulations 2017.
LC50 inhaling or ingesting it.	Lethal concentration that will kill 50% of the test organisms
LD50	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
TEL	Tolerable Exposure Limit.
TLV authority.	Threshold Limit Value-an exposure limit set by responsible
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
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer:

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