SAFETY DATA SHEET

According to HSNO Hazardous Substances (Safety Data Sheets) Notice 2017

Section 1. Identification of the material and the supplier

Product:	**Operandi**
Product Use:	A plant growth regulator to reduce the risk of lodging in wheat, barley and oats and promote seed yield increase in Ryegrass seed crops
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	**Agrisource 2000 Ltd**
Address:	45 Kitchener Road Pukekohe, Auckland
Telephone:	+64 9 237 0422
Emergency No:	**0800 764 766 (National Poison Centre)**
Date of SDS Preparation:	19 May 2021

Section 2. Hazards Identification

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

EPA Approval No: HSR101220

Pictograms

Irritant Ecotoxic

Signal Word: **Warning**

GHS Classification and Category	Hazard Code	Hazard Statement
Flammable Liquids Cat. 4	H227	Combustible liquid.
Eye irritation Cat. 2	H319	Causes serious eye irritation.
Hazardous to the aquatic environment Acute/Chronic Cat. 1	H400/410	Very toxic to aquatic life with long lasting effects.
Hazardous to soil organisms	H423	Hazardous to soil organisms

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P210	Keep away from heat, sparks, open flames or hot surfaces. No smoking.
P264	Wash hands thoroughly after handling.
P273	Avoid release to 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.
P391	Collect spillage.
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.
P370 + P378	In case of fire: Use foam, CO_2 or dry chemical for extinction.

Storage Code	Storage Statement
P403 + P235	Store in a well-ventilated place. Keep cool.

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Wt	CAS NUMBER.
Trinexapac-ethyl	250g/L	95266-40-3
Other ingredients	Balance	-

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. Wash skin with plenty of soap and water. Do not scrub skin. Call a Poison Centre or doctor for treatment advice if irritation develops. Wash contaminated clothing before reuse.

If Swallowed — Wash out mouth thoroughly with water. Do NOT induce vomiting. 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. Seek medical attention if needed.

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: Causes serious eye irritation.

Section 5. Fire Fighting Measures

Hazard Type	Combustible Liquid
Hazards from combustion products	No data available.
Suitable Extinguishing media	Foam, CO_2 or dry chemical. Soft stream water fog or fine water spray if no alternatives.
Precautions for firefighters and special protective clothing	Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapors generated.
HAZCHEM CODE	**3Z**

Section 6. Accidental Release Measures

Wear personal protection equipment as detailed in Section 8. Keep unprotected and unauthorised people away from spillage area. Remove to isolate sources of ignition. Use non-sparking equipment.

Minimise spread. Keep out of drains, sewers, ditches and water ways.

Absorb spills with inert material and place in waste containers. Wash area with water and absorb with further inert material. Dispose of contained wastes in accordance with the requirements of Local Authorities as detailed in Section 13.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Avoid contact with skin and eyes.
- Ensure adequate ventilation.
- Keep away from heat, sparks, open flames or hot surfaces. No smoking.
- Wash hands thoroughly after handling.
- 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.
- Keep out of reach of children.
- Store locked up in original packaging.
- Keep tightly closed in a dry, cool and well-ventilated place.
- Keep away from direct sunlight.

Section 8. Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

	TWA		STEL	
Substance	**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 2019 11TH EDITION.

Engineering Controls
Ensure adequate ventilation.

Personal Protection Equipment

Eyes	Wear chemical goggles or face shield.
Hands	Wear waterproof gloves.
Skin	Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the material cannot be avoided for a limited time span, waterproof pants and apron of chemical resistant material or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of appreciable or prolonged exposure, coveralls of barrier laminate may be required. Wear waterproof hat and boots.
Respiratory	Wear respiratory protection if ventilation is inadequate. Use particle filter with medium efficiency for solid and liquid particles.

Section 9. Physical and Chemical Properties

Appearance	Liquid
Colour	Brown / Yellow
Odour	Solvent
Odour Threshold	Not available
pH @23^{0}C	3.0 – 5.0
Boiling Point	Not available
Melting Point	Not available
Freezing Point	Not available
Flash Point	79^{0}C
Flammability	Combustible
Upper and Lower Explosive Limits	Not available
Vapour Pressure	2.16 mPa at 25℃
Vapour Density	Not available
Density	0.98 g/ml
Solubility	Not available
Partition Coefficient:	Not available
Auto-ignition Temperature	250 °C
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Octanol/Water Particle Coefficient	Not available

Section 10. Stability and Reactivity

Stability of Substance	Stable under normal storage conditions in original container for at least two years.
Possibility of hazardous reactions	Relatively stable in neutral, weakly acidic and weakly alkaline media.
Conditions to Avoid	Keep away from sources of ignition.
Incompatible Materials	Compatible with most herbicide formulations except very strong acid/alkaline formulations.
Hazardous Decomposition Products	No known hazardous decomposition products.

Section 11. Toxicological Information

Acute Effects:

Swallowed	Not applicable. LD50 >2000mg/kg
Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Causes serious eye irritation.
Skin	Not applicable.

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

Very toxic to aquatic life with long lasting effects. Hazardous to soil organisms

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

Individual component information:

Trinexapac-ethyl

Birds: LD50 for mallard ducks and bobwhite quail >2000 mg/kg b.w. LC50 (5 d) for mallard ducks and bobwhite quail >5200 mg/kg diet.
Fish: LC50 (96 h) for trout 68, carp 57, bluegill sunfish >130, catfish 35 mg/l.
Daphnia EC50 (48 h) >142 mg/l.
Algae EC50 (72 h) for *Pseudokirchneriella subcapitata* 27 mg/l; (96 h) for *Anabaena flos-aquae* 26.4 mg/l.
Bees: Non-toxic; LD50 (oral and contact) >200 µg/bee.
Worms: LC50 for *Eisenia foetida* >93 mg/kg.

Section 13. Disposal Considerations

Disposal Method:
Triple rinse container and add rinsate to spray tank. Dispose of cleaned container at your local AGRECOVERY container collection site. Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

FREE RECYCLING
AGRECOVERY
www.agrecovery.co.nz

Precautions or methods to avoid: Avoid release to the environment.

Section 14. Transport Information

This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2012

Road, Rail, Sea and Air Transport

UN No	3082
Class - Primary	9
Packing Group	III
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S (Trinexapac-ethyl))
Marine Pollutant	Yes
Special Provisions	If the product's individual container is below 5L/kg, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

Section 15. Regulatory Information

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

EPA Approval Code: HSR101220

HSW (HS) Regulations 2017	**Trigger Quantity**
Signage Trigger Quantities (Schedule 3)	100L (aquatic Acute/Chronic Cat. 1)
Emergency Response Plan (Schedule 5)	100L (aquatic Acute/Chronic Cat. 1)
Secondary Containment (Schedule 5)	100L (aquatic Acute/Chronic Cat. 1)
Tracking (Schedule 26)	Not required
Certified Handlers	Not required
Location Certificate	Not required
HSNO Additional Controls (Restrictions of use)	
77A	This substance must not be applied onto or into water.
77A - A restriction has been placed on the use of the substance.	This substance is not to be applied to amenity grass/turf.
77A - The maximum level of an impurity in the technical grade active material for this substance is set.	The following limits are set for toxicologically relevant impurities in the active ingredient trinexapac-ethyl used to manufacture this substance: Toluene 3000 mg/kg maximum.
Hazardous Property Controls Notice 2017	
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 pesticide.
ACVM Act and Regulations	
See www.foodsafety.govt.nz for registration Conditions	**P9883**

Section 16. Other Information

Glossary

Cat	Category
EC_{50}	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC_{50}	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD_{50}	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

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, TCC (NZ) Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS

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Please contact the Agrisource 2000 Ltd, if further information is required.

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