SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product:	Oroboost
Product No:	
Product Use:	Adjuvant
Restrictions of Use:	Refer to Section 15
New Zealand Supplier:	Horticentre Ltd
Address:	10 Firth Street Drury, 2113
Telephone:	+64 9 294 8453
Fax Number:	+64 9 294 7272
New Zealand:	**0800 764 766 (National Poison Centre)**
Date of SDS Preparation:	27 March 2023

Section 2. Hazards Identification

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

EPA Approval No: Additives, Process Chemicals and Raw Materials (Flammable) – HSR002495

Pictograms

Signal Word: **WARNING**

GHS Classification and Category	Hazard Code	Hazard Statement
Flammable Liquids Cat. 3	H226	Flammable liquid and vapour.
Eye irritation Cat. 2	H319	Causes serious eye irritation.

Prevention Code	Prevention Statement
P103	Read carefully and follow all instructions.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical, ventilating and lighting] equipment
P242	Use non-sparking tools.
P243	Take action to prevent static discharge.
P264	Wash hands thoroughly after handling.

P280	Wear protective clothing as detailed in Section 8.

Response Code	Response Statement
P303 + P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 water fog, foam, dry chemical powder or Carbon dioxide (CO2) to extinguish.

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

Disposal Code	Disposal Statement
P501	Refer to Section 13.

Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Alcohol Ethoxylate	10 - 15	68131-40-8
Orange Oil	5 - 10	8028-48-6
Proprietary Mixture[1] (concluding Ethanol (Ethyl alcohol) [64-17-5] and Isopropyl alcohol [67-63-0]	Proprietary	Proprietary

Composition Comments:
[1] Components CAS numbers and ingredient concentrations are either non-hazardous or have been withheld as trade secret.

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

If on Skin — Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.

If Swallowed — Rinse out the mouth. Never give anything to an unconscious person. Seek medical assistance 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. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed
Symptoms: Causes serious eye irritation. Exposed individuals may experience eye tearing, redness, and discomfort.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation.

Symptoms may be delayed.

General information

Take off all contaminated clothing immediately. If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

Section 5. Fire Fighting Measures

Hazard Type	Flammable liquid or vapour. Does not sustain combustion.
Hazards from combustion products	During fire, gases hazardous to health may be formed.
Suitable Extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). Do not use water jet as an extinguisher, as this will spread the fire.
Precautions for firefighters and special protective clothing	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials.
HAZCHEM CODE	**3Y**

Section 6. Accidental Release Measures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Be aware of potential for surfaces to become slippery.

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent product from entering drains

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Section 7. Handling and Storage

Handling

- Read carefully and follow all instructions.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep container tightly closed.
- Ground and bond container and receiving equipment.
- Use explosion-proof [electrical, ventilating and lighting] equipment
- Use non-sparking tools.
- Take action to prevent static discharge.
- Protect material from direct sunlight.

- Avoid contact with eyes. Avoid prolonged exposure.
- Wash hands thoroughly after handling.
- Wear protective clothing as detailed in Section 8.

Storage
- Store away from incompatible materials listed in Section 10.
- Store in a well-ventilated place. Keep cool.
- Store in original tightly closed container.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³
Ethanol (Ethyl alcohol) [64-17-5]	1000	1880	-	-
Isopropyl alcohol [67-63-0]	400	983	500	1230

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 APRIL 2022 13TH EDITION.

Engineering Controls
Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide easy access to water supply and eye wash facilities.

Personal Protective Equipment

Eyes	Wear safety glasses with side shields (or goggles).
Hands and Skin	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Wear suitable protective clothing. Wear appropriate thermal protective clothing, when necessary.
Respiratory	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.
Hygiene	When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section 9 Physical and Chemical Properties

Appearance	Liquid
Colour	Yellow/Orange
Odour	Citrus

Odour Threshold	Not available
pH	6.8 – 7.8
Boiling Point	40^0C
Melting/Freezing Point	Not available
Flash Point	Not available
Flammability	Flammable
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Density @ 20^0C	Not available
Relative Density	0.98 - 1.02 (Water = 1)
Solubilities	Not available
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	0 - 50 mpas
Particle Characteristics	Not available

Section 10. Stability and Reactivity

Stability of Substance	The product is stable and non-reactive under normal conditions of use, storage and transport.
Conditions to Avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Hazardous Reactions	No dangerous reaction known under conditions of normal use.
Incompatible Materials	Strong oxidizing agents.
Hazardous Decomposition Products	Thermal decomposition of this product can generate carbon monoxide and carbon dioxide. Sulphur oxides. Sodium oxides.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not applicable. > 5000 mg/kg, (rat) (OECD 425)
Dermal	Not applicable. > 2000 mg/kg, (rat) (OECD 402)
Inhalation	Not applicable. > 3.69 mg/l, (rat) (OECD 403)
Eye	Causes serious eye irritation. Exposed individuals may experience eye tearing, redness, and discomfort.
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

Product:	

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulation	No data available on bioaccumulation.
Mobility in Soil	No data available for this product.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Ecotoxicity
Toxic to aquatic life.

Product		**Species**	**Test Results**
OROBOOST (CAS mixture)			
Algae	EC50	Pseudokirchnerella subcapitata	3.38 mg/l, 72 hours
Crustacea	EC50	Daphnia	35.36 mg/l, 48 hours
Fish	LC50	Zebrafish (Danio rerio)	29.9 mg/l, 96 hours

Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method:
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.
Precautions and methods to avoid:
Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

Section 14 Transport Information

This product is NOT classified as a Dangerous Good for transport in NZ ; NZS 5433:2020 and SNZ HB 5433:2021

Test results from Sustained Combustion testing (L.2 of Part 3 section 32 of UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria) indicate that this material does not sustain combustion. At the discretion of the shipper, this material is not subject to 49 CFR 173.120(a), IATA DGR section 3.3.1 or IMDG Code chapter 2.3.1.2. Reference 49 CFR 173.120(b)(3), IATA DGR section 3.3.1.3(a) or IMDG Code chapter 2.3.1.3.1.

Section 15 Regulatory Information

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

EPA Approval No: Additives, Process Chemicals and Raw Materials (Flammable) – HSR002495

Trigger quantities:

HSWA & EPA Controls	**Trigger Quantity**
Certified Handler	Not required
Location Certificate	500L (>5L), 1500L(<5L), 250L open
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	1000L
Emergency Response Plan	10 000L
Secondary Containment	10 000L
Fire Extinguishers	500L = 2x

Restriction of Use	None

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.
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 2022 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2020
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

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Please contact the New Zealand distributor, if further information is required.

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