

## SAFETY DATA SHEET

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

Product: **NzymRugo Cleaner**  
 Product Use: Washing and cleaning products. Professional use.  
 Restriction of Use: Refer to Section 15

New Zealand Supplier: Horticulture Ltd  
 Address: 10 Firth Street  
 Drury, 2113

Telephone: +64 9 294 8453  
 Fax Number: +64 9 294 7272

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

Date of SDS Preparation: 2 June 2021

### Section 2. Hazards Identification

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

**EPA Approval No: Cleaning Products (Flammable) – HSR002528**

#### Pictograms



Flammable      Irritant

Signal Word: **DANGER**

GHS Classification and Category	Hazard Code	Hazard Statement
Flammable Liquids Cat. 2	H225	Highly flammable liquid and vapour.
Eye irritation Cat. 2	H319	Causes serious eye irritation.

Prevention Code	Prevention Statement
P103	Read label before use.
P210	Keep away from heat, sparks, open flames or hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground, bond container and receiving equipment.
P241	Use explosion-proof electrical, ventilating, lighting.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P264	Wash hands thoroughly after handling.
P280	Wear protective clothing as detailed in Section 8.

<b>Response Code</b>	<b>Response Statement</b>
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 quick-acting ABC powder extinguisher for extinction.

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

<b>Disposal Code</b>	<b>Disposal Statement</b>
P501	Dispose of according to Local Regulations or Authorities

### **Section 3. Composition / Information on Ingredients**

<b>Ingredients</b>	<b>Wt%</b>	<b>CAS NUMBER.</b>
Ethanol	50-60	64-17-5
2-propanol	<1	67-63-0
butanone; ethyl methyl ketone	<1	78-93-3

### **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	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: get medical advice/attention.
If Swallowed	Rinse mouth. Drink plenty 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. 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. Get medical advice if breathing becomes difficult.

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

Symptoms:

Inhalation:	EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Respiratory difficulties. Central nervous system depression. Narcotic effect.
Ingested:	AFTER INGESTION OF HIGH QUANTITIES: Risk of aspiration pneumonia. Red skin. Body temperature rise. Excited/restless. Accelerated heart action. Dizziness. Narcosis. Headache. Drunkenness. Nausea. Vomiting. Disturbed motor response. Visual disturbances. Impaired concentration. Disturbed sensation of pain. Disturbances of heart rate. Disturbances of consciousness. Cramps/uncontrolled muscular contractions.
Skin:	May cause a (mild) irritation. Frequent or prolonged contacts may defat and dry the skin, leading to discomfort and dermatitis.

Eye: Causes serious eye irritation. Symptoms may include: redness, itching, tears.

## Section 5. Fire Fighting Measures

<b>Hazard Type</b>	Highly Flammable Liquid or Vapour. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD: May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. Explosion hazard: DIRECT EXPLOSION HAZARD: Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD: may be ignited by sparks.
<b>Hazards from combustion products</b>	Upon combustion: CO and CO2 are formed.
<b>Suitable Extinguishing media</b>	Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (alcohol-resistant). Water spray if puddle cannot expand. Unsuitable: Water (quick-acting extinguisher, reel); risk of puddle expansion.
<b>Precautions for firefighters and special protective clothing</b>	Do not breathe fumes. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. The vapours are denser than air and may travel along the ground. Distance ignition possible.
<b>HAZCHEM CODE</b>	<b>3YE</b>

## Section 6. Accidental Release Measures

Wear suitable protective clothing, gloves and eye/face protection. Large spills/in enclosed spaces: compressed air apparatus. Do not get in eyes, on skin, or on clothing. Do not breathe vapours. Remove ignition sources. Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosion proof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

For containment:

Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.

Methods for cleaning up:

Take up liquid spill into a non-combustible material e.g.: sand, earth, vermiculite, kieselguhr, powdered limestone. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

Dispose of according to Section 13.

## Section 7. Handling and Storage

### Precautions for Handling:

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- Keep away from heat, sparks, open flames or hot surfaces. No smoking.
- Keep container tightly closed.
- Ground, bond container and receiving equipment.
- Use explosion-proof electrical, ventilating, lighting.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Wash hands thoroughly after handling.
- Work under local exhaust/ventilation.
- In case of inadequate ventilation wear respiratory protection.
- Handle uncleaned empty containers as full ones.
- Do not discharge the waste into the drain.
- Do not use compressed air for pumping over.
- Keep container tightly closed.
- If on skin, take off contaminated clothing.
- Do not eat, drink or smoke during use.
- Wear protective clothing as detailed in Section 8.

#### Precautions for Storage:

- Keep out of reach of children.
- Store in a well-ventilated place. Keep cool.
- Do not store near oxidizing agents or acidic material. See Section 10.
- Do not wash equipment or storage containers. Sodium hypochlorite.
- Storage temperature: < 20 (10 - 20) °C Store opened packages in the refrigerator
- KEEP SUBSTANCE AWAY FROM: oxidizing agents, (strong) acids, water/moisture, sodium hypochlorite.
- Keep out of direct sunlight.
- Fireproof storeroom.
- Provide for a tub to collect spills.
- Provide the tank with earthing.
- No open flames, no sparks, and no smoking.
- Packaging: Store in a closed container. Do not store in unlabelled containers. Secure fragile packagings in solid containers.
- Packaging Materials: stainless steel, aluminium, iron, copper, nickel, synthetic material, glass.

### Section 8 Exposure Controls / Personal Protection

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

Substance	TWA		STEL	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Ethanol (Ethyl alcohol) [64-17-5]	1,000	1,880	-	-
Isopropyl alcohol [67-63-0]	400	983	500	1,230
MEK [78-93-3]	150	445	300	890

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.

DNEL/DMEL (General population)	
Acute - local effects, inhalation	950 mg/m <sup>3</sup>
Long-term - systemic effects, oral	87 mg/kg bw/day
Long-term - systemic effects, inhalation	114 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	206 mg/kg bw/day
PNEC (Water)	
PNEC aqua (freshwater)	0.96 mg/l

PNEC aqua (marine water)	0.79 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	3.6 mg/kg dwt
PNEC sediment (marine water)	2.9 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	0.63 mg/kg dwt
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	580 mg/l

### Engineering Controls

Ensure that there is a suitable ventilation system. Do not handle in a confined space. Use spark-/explosionproof appliances and lighting system. Keep in a cool place.

### Personal Protection Equipment



<b>Eyes</b>	Tightly fitting safety goggles.			
<b>Hands</b>	Wear protective gloves:			
	<b>Type</b>	<b>Material</b>	<b>Permeation</b>	<b>Thickness (mm)</b>
	Reusable gloves, Disposable gloves	Butyl rubber	6 (> 480 minutes)	0,7
	Reusable gloves	Nitrile rubber (NBR)	4 (> 120 minutes)	0,4
<b>Skin</b>	Wear fire/flamm resistant/retardant clothing. Insert resting periods for skin regeneration. The use of preventive skin protection (skin protection creams) is recommended			
<b>Respiratory</b>	No respiratory protection needed under normal use conditions. High gas/vapour concentration: gas mask with filter type A			
<b>Hygiene</b>	Do not eat, drink or smoke during use. Make sure the installation and workplace are correctly labelled. Ensure the ventilation system is regularly maintained and tested. Keep away from food, drink and animal feedingstuffs.			
<b>Environmental exposure controls</b>	Emissions from ventilation or production installations should be checked to ensure that they comply with legislation. In some cases process modifications will be necessary to reduce emissions to acceptable levels. The product should not be allowed to enter drains, water courses or the soil.			

## Section 9 Physical and Chemical Properties

<b>Appearance</b>	Clear liquid
<b>Colour</b>	Colourless to light green.
<b>Odour</b>	Alcohol odour
<b>Odour Threshold</b>	Not available
<b>pH</b>	2.6 (2.5 - 2.7)
<b>Boiling Point</b>	78 °C (1013 hPa). Data apply to the main component
<b>Melting Point</b>	Not available
<b>Freezing Point</b>	Not available
<b>Flash Point</b>	≈ 20 °C Theoretical and based on 60% ethanol solution
<b>Flammability</b>	Not available
<b>Upper and Lower Explosive Limits</b>	3.3 - 19.0 vol % Data apply to the main component 67 - 290 g/m <sup>3</sup> Data apply to the main component
<b>Vapour Pressure</b>	59 hPa (20 °C). Data apply to the main component
<b>Density</b>	≈ 880 (850 - 900) kg/m <sup>3</sup>
<b>Relative vapour density at 20 °C</b>	1.6 Data apply to the main component

<b>Solubilities</b>	Soluble in water. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in oils/fats. Soluble in methanol. Soluble in acids.
<b>Log Pow</b>	-0.31 Data apply to the main component
<b>Auto-ignition Temperature</b>	363 °C Data apply to the main component
<b>Decomposition Temperature</b>	Not available
<b>Viscosity, dynamic</b>	Not available
<b>Particle Characteristics</b>	Not available
<b>Explosive Properties</b>	Heating may cause a fire or explosion.
<b>Other information: VOC content</b>	57.6%
<b>Other properties</b>	May generate electrostatic charges.

## Section 10. Stability and Reactivity

<b>Stability of Substance</b>	This product is stable under normal conditions.
<b>Reactivity</b>	Reacts with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion.
<b>Possible hazardous reactions</b>	Violent to explosive reaction with many compounds e.g.: with organic material, with (some) halogens and with (some) acids: heat release resulting in increased fire or explosion risk.
<b>Conditions to Avoid</b>	Protect from sunlight. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>Incompatible Materials</b>	Attacks materials such as: some synthetic materials and rubber.
<b>Hazardous Decomposition Products</b>	On heating/burning: release of harmful gases/vapours e.g.: carbon monoxide - carbon dioxide.

## Section 11 Toxicological Information

### Acute Effects:

<b>Swallowed</b>	Not triggered, however damage the liver through prolonged or repeated exposure if swallowed (Based on available data, the classification criteria are not met)
<b>Dermal</b>	Not applicable.
<b>Inhalation</b>	Not applicable.
<b>Eye</b>	Causes serious eye irritation.
<b>Skin</b>	Not applicable.

### 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.

<b>Ethanol (64-17-5)</b>	
LD50 oral rat	10740 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female,
LD50 dermal rabbit	> 16000 mg/kg (Rabbit, Literature study, Dermal)
LC50 inhalation rat (mg/l)	117 - 125 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation)
<b>2-propanol (67-63-0)</b>	
LD50 oral rat	5840 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral, 14 day(s))

LD50 dermal rabbit	16400 ml/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Experimental value, Dermal, 14 day(s))
LC50 inhalation rat (ppm)	> 10000 ppm (Equivalent or similar to OECD 403, 6 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))

## Section 12. Ecotoxicological Information

This product is not hazardous to the environment.

<b>Persistence and degradability</b>	Biodegradable in the soil. Readily biodegradable in water.
<b>Bioaccumulation</b>	Not expected considering the low log Pow value.
<b>Mobility in Soil</b>	No data available
<b>Other adverse effects</b>	No data available

### Toxicity:

<b>Ethanol (64-17-5)</b>	
LC50 fish 1	14200 mg/l (US EPA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
EC50 72h algae (1)	275 mg/l (Equivalent or similar to OECD 201, Chlorella vulgaris, Static system, Fresh water, Experimental value, Growth rate)

### 2-propanol (67-63-0)

LC50 fish 1	9640 - 10000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
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### Persistence and degradability

#### NzymRugo Cleaner

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
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### Ethanol (64-17-5)

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.7 g O <sub>2</sub> /g substance
ThOD	2.1 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.43

### 2-propanol (67-63-0)

Persistence and degradability	Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.19 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	2.23 g O <sub>2</sub> /g substance
ThOD	2.4 g O <sub>2</sub> /g substance

### Bioaccumulative potential

#### NzymRugo Cleaner

Log Pow	-0.31 Data apply to the main component
Bioaccumulative potential	Not bioaccumulative.

### Ethanol (64-17-5)

BCF fish 1	1 (Other, 72 h, Cyprinus carpio, Static system, Fresh water, Read-across)
Log Pow	-0.31 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

### 2-propanol (67-63-0)

Log Pow	0.05 (Weight of evidence approach, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

### Mobility in soil

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**NzymRugo Cleaner**

Ecology - soil | Highly mobile in soil.

**Ethanol (64-17-5)**

Surface tension | 0.022 N/m (20 °C)

Ecology - soil | Highly mobile in soil.

**2-propanol (67-63-0)**

Surface tension | 0.021 N/m (25 °C)

Log Koc | 0.185 - 0.541 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

Ecology - soil | Highly mobile in soil.

**Section 13. Disposal Considerations****Disposal Method:**

Do not discharge into surface water. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. May be discharged to wastewater treatment installation.

**Disposal methods to avoid:** None known.**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**

<b>UN No</b>	1987
<b>Class - Primary</b>	8
<b>Packing Group</b>	II
<b>Proper Shipping Name</b>	ALCOHOLS, N.O.S. (CONTAINS Ethanol, 2-propanol, methyl ethyl ketone)
<b>Marine Pollutant</b>	No
<b>Special Provisions</b>	If the product's individual container is below 1L, 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**

EPA Approval Code: Cleaning Products (Flammable) – HSR002528

<b>HSWA &amp; EPA Controls</b>	<b>Trigger Quantity</b>
Certified Handler	Not required
Location Certificate	100L (>5L), 250L (<5L), 50L open
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	250L
Emergency Response Plan	1000L
Secondary Containment	1000L

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Fire Extinguishers	250L - 2x required
Restriction of Use	None

## Section 16 Other Information

### Glossary

Cat	Category
EC <sub>50</sub>	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
LC <sub>50</sub>	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD <sub>50</sub>	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

The information herein is given in good faith, but no warranty, express or implied is made.

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

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