Safety Data Sheet
Environmental Protection Authority

Hazadous Substances (identification)
Regulations 2004 (NZ)

Product Name **Malolactic Chromatography Solvent**	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section 1

Manufacturer's Name: Pacific Rim Oenology Services	**Emergency Telephone Number:** **National Poisons 24hr:** 0800 764 766
Address (Number, Street, City, Region, and Post Code): 4 Bristol St, Riverlands, Blenheim, Marlborough, 7274	**Telephone Number for Information:** (+64) (0) 3 577-9000
PO Box 1132, Blenheim 7240	**Original - Issue date:** 24/07/17 - 14/11/17
New Zealand	

Section 2 - Hazard(s) identification

Hazardous Components (Specific Chemical Identity; Common Name(s))		HSNO for components	Classification
Bromocresol Green	#76-60-8	NA	NA
Formic Acid	#64-18-6	HSR000979	3.1C, 6.1C, 6.1D, 8.1A, 8.2B, 8.3A, 9.1D, 9.3C
Butanol	#71-36-3	HSR001096	3.1C, 6.1D, 6.1E, 6.3A, 8.3A, 9.3C

Section 3 - Label Elements

Signal Word Warning

Hazard statements
H226 - Flammable liquid and vapour.
H302 - Harmful if swallowed.
H332 - Harmful if inhaled.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
H336 - May cause drowsiness or dizziness

Precautionary statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P271 - Use only outdoors or in a well-ventilated area.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing mist/vapours/spray.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P362 - Take off contaminated clothing and wash before reuse.
P370+P378 - In case of fire: Use alcohol resistant foam or normal protein foam for extinction.
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.
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.
Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P330 - Rinse mouth.
P332+P313 - If skin irritation occurs: Get medical advice/attention
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up
P501- Dispose of contents/container to an approved waste disposal plant

Section 4 - Composition and information on ingredients

Component	CAS-No	Weight %
Bromocresol Green	76-60-8	0-1
Formic Acid	64-18-6	5-10
Butanol	71-36-3	30-60

Section 5 - First Aid Measures

Protection of First-aiders	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
Most important symptoms/effects	Breathing difficulties. Inhalation of high vapor concentrations may cause symtoms like headache, dizziness, tiredness, nausea and vomiting.
Inhalation	Move to fresh air. If not breathing give artificial respiration, get medical attention.
Ingestion	Clean mouth with water and drink afterwards plenty of water. If symptoms occur get medical attntion.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms occur seek medical attention.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
First Aid Facilities	Eyewash, safety shower and washroom.
Notes to Physician	Treat symptomatically. Symptoms may be delayed.

Section 6 - Fire Fighting Measures

Suitable Extinguishing Media
Alcohol stable foam, dry chemical powder, BCF (where regulations allow), carbon dioxide or water spray or fog for large fires.

Unsuitable extinguishing Media
Do not use water jet.

Hazardous Combustion Products
Specific Hazards Arising from the Chemical
Flammable.
Containers may explode when heated.
Vapours may form explosive mixtures with air.
Vapours may travel to source of ignition and flash back.

Special protective equipment and precautions for fire fighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 7 - Accidental Release Measures

Emergency procedures
Remove all sources of ignition.
Take precautionary measures against static discharges.

Environmental Precautions
See Section 13 for additional ecological information.
Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up
Remove all sources of ignition.
Use spark-proof tools and explosion-proof equipment.

Reference to Other Sections
Refer to protective measures listed in Sections 9 and 14.

Section 8 - Handling and Storage

Precautions for Safe Handling
Keep away from open flames, hot surfaces and sources of ignition.
Use only non-sparking tools.
To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.
Take precautionary measures against static discharges.

Conditions for Safe Storage, Including any Incompatibilities
Keep container tightly closed in a dry and well-ventilated place.
Keep away from heat and sources of ignition.
AS/NZS 2243.10:2004, Safety in Laboratories - Storage of chemicals
AS 1940-2004 - The storage and handling of flammable and combustible liquids

Section 9 - Exposure Controls and Personal Protection

Exposure limits
Workplace Exposure Standards and Biological Exposure Indices (8th edition). New Zealand Department of Labour

Component	New Zealand WEL
Formic Acid	TWA: 9.4 mg/m^3 STEL: 19 mg/m^3
Butanol	Ceiling: 150 mg/m^3

Biological limit values
Substances assigned Biological Exposure Indices in the New Zealand Workplace Exposure Standards and Biological Exposure Indices (8th edition). New Zealand Department of Labour.

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/ equipment. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection	Safety glasses with side-shields (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications).
Hand Protection	Protective gloves.
Skin and body protection	Long sleeved clothing.
Repiratory Protection	Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of repiratory protective devices.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	Prevent product from entering drains. Do not allow material to contaminate ground water system.

Section 10 - Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Red orange clear liquid
Physical State	Liquid
Odour	Butanol odour
Odour Threshold	No data available
pH	Not applicable
Melting Point/Range	No data available
Softening Point	No data available
Boiling Point/Range	No data available
Flash Point	29 °C / 84.2 °F (butanol)
Evaporation Rate	No data available
Flammability (solid, gas)	Not applicable - Liquid/gas
Explosion Limits	Upper - 11.2% Lower - 1.4% (butanol)
Vapour Pressure	No data available
Vapour Density	No data available
Specific Gravity / Density	No data available
Bulk Density	Not applicable
Water Solubility	Miscible
Solubility in other solvents	No information available
Partition Coefficient (n-octanol/water)	Not applicable
Component	**log Pow**
Butanol	0.785
Formic Acid	-0.54
Autoignition Temperature	No data available
Decomposition Temperature	No data available

Viscosity	No data available
Explosive Properties	No information available
Oxidising Properties	No information available
Other information	
Molecular Formula	No data available
Molecular Weight	No data available

Section 11 - Stability and Reactivity

Reactivity	None known, based on information available
Stability	Stable under normal conditions
Conditions to Avoid	Keep away from open flames and incompatible products.
Hazardous Decomposition Products	None under normal use conditions
Hazardous Polymerisation	Hazardous polymerisation will not occur.

Section 12 - Toxicological Information

Information on Toxicological Effects
Product Information

a) acute toxicity;	
Oral	Category 4
Dermal	Category 5
Inhalation	Category 5
(b) skin corrosion/irritation;	Category 2
(c) serious eye damage/irritation;	Category 1
(d) respiratory or skin sensitisation;	No information available
Respiratory	No information available
Skin	No information available
(e) germ cell mutagenicity;	No information available
(f) carcinogenicity;	No information available
(g) reproductive toxicity;	No information available
(h) STOT-single exposure;	No information available
(i) STOT-repeated exposure;	No information available
Target Organs	None known
(j) aspiration hazard;	No information available
Symptoms / effects, both acute and delayed	Breathing difficulties. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Section 13 - Ecological Information

Ecotoxicity effects	Contains a substance which is: Harmful to aquatic organisms. The product contains the following substance which can be hazardous for the environment: Formic Acid
Persistence and Degradability	
Persistence	Persistence is unlikely, based on information available.

Degradation in sewage	Contains substances known to be hazardous to the environment or not degradable in waste
Treatment plant	Water treatment plants
Bioaccumulative Potential	Bioaccumulation is unlikely
Mobility	The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. Will likely be mobile in the environment due to its volatility. Disperses rapidly in air.
Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disruptors
Persistent Organic Pollutant	This product does not contain any known or suspected substance
Ozone Depletion Potential	This product does not contain any known or suspected substance

Section 14 - Disposal Considerations

Waste from Residues / Unused Products

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected.
Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations.
Assure conformity with all applicable regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point.
Empty containers retain product residue, (liquid and/or vapor), and can be dangerous.
Keep product and empty container away from heat and sources of ignition.

Other Information

Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations.
Do not dispose of waste into sewer.
Waste codes should be assigned by the user based on the application for which the product was used.
Can be incinerated, when in compliance with local regulations.

Section 15 - Transport Information

IMDG/IMO

UN-No UN1993
Proper Shipping Name FLAMMABLE LIQUID, N.O.S. (contains butanol)
Hazard Class 3
Packing Group III

NZS 5433:2012

UN-No UN1993
Proper Shipping Name FLAMMABLE LIQUID, N.O.S. (contains butanol)
Hazard Class 3
Packing Group III

Component	Hazchem Code
Butanol 71-36-3	3Y

IATA

UN-No	UN1993
Proper Shipping Name	FLAMMABLE LIQUID, N.O.S. (contains butanol)
Hazard Class	3
Packing Group	III
Environmental hazards	The product contains Formic Acid which is slightly harmful to aquatic orga-isms
Special Precautions	Use in a fumehood or well ventilated area
Additional information	None known

Section 16 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	HSNO Approval Number
Chromatography solvent	HSR002650

Section 17 - Other Information

Legend
WEL - Workplace Exposure Limit
TWA - Time Weighted Average
STEL - Short Term Exposure Limit
POW - Partition Coefficiant Octanol:Water

Key literature references and sources for data
Suppliers safety data sheet, EPA, NZTA, NZ Safety
For a correlation of GHS and HSNO classes and categories refer to:
http://www.epa.govt.nz/publications/hsnogen-ghs-nz-hazard.pdf

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equip-ment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.
Chemical incident response training.
Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by va-pours and dusts.

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Owner: Laboratory Manager

End of Safety Data Sheet