

MSDS 4410 Date of Issue/re-issue:-**10.12.2017**

User declaration:- I have read and understood this Safety Data Sheet

Name:- \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

Company Name



Address: 39 Woodside Ave, Northcote, Auckland , New Zealand

Emergency Tel: NZ 0800154666 | Tel +64 9 480 4386 | FAX +64 9 480 4385

<b>Product</b>	<b>1-Propanol</b>			<b>Code: 4410</b>	
<b>CAS#</b>	<b>HSNO#</b>	<b>UN #</b>	<b>DG Class/es</b>	<b>Packing group #</b>	
71-23-8	HSR001215	1274	<b>3</b>	<b>II</b>	

**Recommended use:** Laboratory Investigations

**2. HAZARDS IDENTIFICATION**

**2.1 GHS Classification**

Flammable Liquids (Category B)  
Acute toxicity, Inhalation (Category E)  
Skin irritation (Category B)  
Serious eye damage (Category A)

**2.2 GHS Label elements, including precautionary statements**

Pictogram



**Danger**

Signal word

Hazard statement(s)

H225 Highly flammable liquid and vapour.

H316 Causes mild skin irritation.

H318 Causes serious eye damage.

H333 May be harmful if inhaled.

Precautionary statement(s)

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P312 IF INHALED: Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/ physician.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage

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

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

**2.3 Other hazards** - none

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#### Hazard Classification

Australia:

Classified as Hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC), Australia.

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

New Zealand:

Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

Classified as Dangerous Goods for transport, according to the New Zealand Standard NZS 5433:1999 Transport of Dangerous Goods on Land.

HSNO Classification:

3.1B - Flammable Liquid: High Hazard.

6.1D - Substance that is moderate acutely toxic.

6.4A - Substance that is irritating to the eye.

9.3C - Substance that is harmful to terrestrial vertebrates.

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#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Ingredients	Name	CAS	Proportion
	Propan-1-ol	71-23-8	100 %

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#### 4. FIRST AID MEASURES

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<b>Inhalation</b>	Remove the source of contamination or move the victim to fresh air. Ensure airways are clear. Apply artificial respiration if not breathing. Seek medical attention.
<b>Ingestion</b>	Do NOT induce vomiting. Wash out mouth with water. Seek medical attention.
<b>Skin</b>	Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms develop and persist, seek medical attention.
<b>Eye</b>	If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical attention.

**First Aid Facilities** Eye wash and normal washroom facilities.

**Advice to Doctor** Treat symptomatically.

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## 5. FIRE FIGHTING MEASURES

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### **Suitable Extinguishing**

**Media** Use carbon dioxide, dry chemical or foam.

**Hazards from Combustion Products** Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide and carbon dioxide.

**Specific Hazards** This product is highly flammable. Keep storage tanks, pipelines, fire-exposed surfaces etc cool with water spray. Shut off any leak if safe to do so and remove sources of re-ignition. Vapour/air mixtures may ignite explosively. Flashback along the vapour trail may occur. Runoff to sewer may create fire or explosion hazard.

**Hazchem Code** 2[Y]E

**Precautions in connection with Fire** Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode. Water spray may be used to keep fire exposed containers cool.

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## 6. ACCIDENTAL RELEASE MEASURES

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**Emergency Procedures** Wear appropriate personal protective equipment and clothing to minimise exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unnecessary personnel. If possible contain the spill. Place inert absorbent material onto spillage. Use clean non-sparking tools to collect the material and place into a suitable labelled container. Do not dilute material but contain. Dispose of waste according to federal, Environmental Protection Authority and state regulations. If the spillage enters the waterways contact the Environmental Protection Authority, or your local Waste Management Authority.

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## 7. HANDLING AND STORAGE

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**Precautions for Safe Handling** Open containers cautiously as contents may be under pressure. Use only in a well ventilated area. DO NOT store or use in confined spaces. Keep tank covered and containers sealed when not in use. Build up of mists or vapours in the atmosphere must be prevented. Avoid inhalation of vapour and mists. Do not use near welding or other ignition sources and avoid sparks. Do NOT pressurise, cut, heat or weld containers as they may contain hazardous residues. Do not smoke. Exposure without protection should be prevented in order to lessen the possibility of disorders. It is essential that all who come into contact with this material maintain high standards of personal hygiene i.e. Washing hands prior to eating, drinking, smoking or using toilet facilities.

**Conditions for Safe Storage** Store in a cool, dry, well-ventilated area away from sources of ignition, oxidising agents, foodstuffs, and clothing and out of direct sunlight. Keep containers closed when not in use

and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Always keep in containers made of the same material as the supply container. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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<b>National Exposure Standards</b>	Australian National Occupational Health And Safety Commission (NOHSC) Exposure Standards: Substance TWA STEL NOTES ppm mg/m <sup>3</sup> ppm mg/m <sup>3</sup> Propan-1-ol 200 492 250 614 Sk New Zealand Occupational Safety and Health Service (OSH) Workplace Exposure Standards: Substance TWA STEL NOTES ppm mg/m <sup>3</sup> ppm mg/m <sup>3</sup> - Propan-1-ol 200 492 250 614 Sk
<b>Biological Limit Values</b>	No Biological limit available.
<b>Other Exposure Information</b>	As published by the National Occupational Health and Safety Commission (NOHSC) and the New Zealand Occupational Safety and Health Service (OSH): TWA - the Time-Weighted Average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life. STEL (Short Term Exposure Limit) - the average airborne concentration over a 15-minute period, which should not be exceeded at any time during a normal eight-hour workday. 'Sk' notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.
<b>Engineering Controls</b>	Provide sufficient ventilation to keep airborne levels below the exposure limit. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flameproof exhaust ventilation system is required. Refer to AS 1940 - The storage and handling of flammable and combustible liquids.
<b>Respiratory Protection</b>	If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapour/mist filter should be used. Reference should be made to Australian/New Zealand Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.
<b>Eye Protection</b>	Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.
<b>Hand Protection</b>	Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

**Body Protection** Wear appropriate clothing including chemical resistant apron where clothing is likely to be contaminated. It is advisable that a local supplier of personal protective clothing is consulted regarding the choice of material.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance** Colourless liquid with a mild alcoholic odour.

**Melting Point** -126°C

**Boiling Point** 97.2°C

**Solubility in Water** Soluble in all proportions

**Solubility in Organic Solvents** Soluble in ethyl alcohol, ether, acetone, propylene glycol; very soluble in benzene.

**Specific Gravity** 0.804 at 20°C (water = 1)

**pH Value** Not available

**Vapour Pressure** 14.5 mmHg @ 20°C (68°F); 153 mmHg @ 53°C

**Vapour Density (Air=1)** 2.1 (air = 1)

**Evaporation Rate** 11.1 (ether = 1)

**Viscosity** 0.0023 Pa.s (2.26 cP) @ 20°C

**Flash Point** 15°C (Closed Cup)

**Flammability** HIGHLY FLAMMABLE. This product should be stored and used in a well ventilated area away from naked flames, sparks and other sources of ignition. Electrically link and ground metal containers for transfers of the product to prevent accumulation of static electricity. Keep the container tightly closed.

**Auto-Ignition Temperature** 440 °C

**Flammable Limits - Lower** 2.1%

**Flammable Limits - Upper** 13.7%

**Molecular Weight** 60.09

**Other Information** CONVERSION FACTOR 1 ppm = 2.45 mg/m<sup>3</sup> (25 deg C and 760 mm Hg)

SAT. VAPOUR CONC. 46 g/m<sup>3</sup> @ 20 deg C; 85 g/m<sup>3</sup> @ 30 deg C

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## 10. STABILITY AND REACTIVITY

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<b>Chemical Stability</b>	Stable under normal use conditions.
<b>Conditions to Avoid</b>	Avoid contact with heat, open flame, sparks or ignition sources.
<b>Incompatible Materials</b>	Oxidizing agents (e.g. nitrates, perchlorates, peroxides) increase risk of fire and explosion.
<b>Hazardous Decomposition Products</b>	Thermal decomposition may result in the release of toxic and/or irritating fumes including carbon monoxide and carbon dioxide.
<b>Hazardous Reactions</b>	Reacts with incompatibles.
<b>Hazardous Polymerization</b>	Will not occur.

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## 11. TOXICOLOGICAL INFORMATION

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<b>Toxicology Information</b>	LD50 (Oral, Rat): 1870-6500 mg/kg LD50 (Dermal, Rabbit): 5040 mg/kg Irritant dose (rabbit, ocular): 4 mg open (severe eye irritant). Irritant dose (rabbit, skin): 500 mg/24 hours (moderate skin irritant). Ingestion (rabbit): Slight paralysis following ingestion of 1.6 - 2.4 g/kg; 2.6 - 3.0 g/kg caused moderate primary stimulation followed by paralysis and reduced respiration and body temperatures. Ingestion (rabbit): Ingestion of 3.0 - 3.5 g/kg caused rapid paralysis, abolition of sensitivity and reflexes, constriction of the pupils, salivation, lowering of body temperature, and deep narcosis lasting 36 hours. Oral Lowest Lethal Dose(woman): 5700 mg/kg
<b>Inhalation</b>	May cause irritation to the mucous membrane and upper airways, especially where vapours or mists are generated. Symptoms include sneezing, coughing, wheezing, shortness of breath, headache, dizziness, nausea and vomiting.
<b>Ingestion</b>	Ingestion of this product may irritate the gastric tract causing nausea and vomiting.
<b>Skin</b>	May cause redness, itching and irritation.
<b>Eye</b>	Risk of serious damage to eyes. Eye contact will cause stinging, blurring, tearing, severe pain and possible permanent corneal damage.
<b>Chronic Effects</b>	Prolonged or repeated skin contact may cause defatting leading to dermatitis.

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## 12. ECOLOGICAL INFORMATION

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<b>Ecotoxicity</b>	Not available
<b>Persistence / Degradability</b>	Not available
<b>Mobility</b>	Not available
<b>Environment Protection</b>	Avoid contaminating waterways.

### 13. DISPOSAL CONSIDERATIONS

<b>Disposal Considerations</b>	Dispose of waste according to federal, EPA and state regulations. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near containers. Empty containers may contain hazardous residues. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers. Advise flammable nature.
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### 14. TRANSPORT INFORMATION

#### **Transport Information** Australia:

This material is classified as a Class 3 (Flammable Liquid) Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. Dangerous goods of Class 3 (Flammable Liquid) are incompatible in a placard load with any of the following:

- Class 1, Explosive
- Class 2.1, Flammable Gas, if both the Class 3 and Class 2.1 dangerous goods are in bulk
- Class 2.3, Toxic Gas
- Class 4.2, Spontaneously Combustible Substance
- Class 5.1, Oxidising Agent
- Class 5.2, Organic Peroxide
- Class 6.1, Toxic and Class 6.2 Infectious Substances, if the Class 3 dangerous goods are nitromethane
- Class 7, Radioactive Substance

#### New Zealand:

This material is classified as a Class 3 - Flammable Liquid according to NZS 5433:1999 Transport of Dangerous Goods on Land.

Must not be loaded in the same freight container or on the same vehicle with:

- Class 1, Explosives
- Class 2.1, Flammable gases
- Class 2.3, Toxic gases
- Class 4.2, Spontaneously combustible substances
- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides or
- Class 7, Radioactive materials unless specifically exempted.

Must not be loaded with in the same freight container; and on the same vehicle must be separated horizontally by at least 3 metres unless all but one are packed in separate freight containers with:

- Class 4.3, Dangerous when wet substances

Goods of packing group II or III may be loaded in the same freight container or on the same vehicle if transported in segregation devices with:

- Class 4.2, Spontaneously combustible substances
- Class 4.3, Dangerous when wet substances
- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides

<b>U.N. Number</b>	1274
<b>Proper Shipping Name</b>	n-PROPANOL (PROPYL ALCOHOL, NORMAL)
<b>DG Class</b>	3
<b>Hazchem Code</b>	2[Y]E
<b>Packaging Method</b>	3.8.3RT1
<b>Packing Group</b>	II
<b>EPG Number</b>	3A1
<b>IERG Number</b>	16

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#### 15. REGULATORY INFORMATION

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<b>Regulatory Information</b>	Australia: Classified as hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC). Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).
<b>Poisons Schedule</b>	Not Scheduled
<b>National and or International Regulatory Information</b>	New Zealand: Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001. ERMA Approval Code: HSR001215
<b>Hazard Category</b>	Irritant, Highly Flammable
<b>AICS (Australia)</b>	All components in this product are listed on AICS (Australian Inventory of Chemical Substances).

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#### 16. Disclaimer

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The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she



has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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