# Material Safety Data Sheet

## ETHANOL (DENATURED)

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| **Infosafe No.** | ACPCT | **Version No.** | **ISSUED Date** August 2010 | **Status** | ISSUED by NUPLEXIN |

**Classified as hazardous according to criteria of NOHSC**

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name**
ETHANOL (DENATURED)

**Company Name**
Polychem Marketing Limited, a Division of Nuplex Industries Limited

**Address**
119, Carbine Road, Mt Wellington, Auckland
Australia: Multichem Pty Ltd, 35 Cotham Road, Kew, VIC 3101

**Emergency Tel.**
New Zealand: 0800 154 666 (24H); Australia: 1800 022 037 (24H)

**Telephone/Fax Number**
Tel: New Zealand: (09) 276 4019; Australia: (03) 9851 7403 Fax: New Zealand: (09) 276 7231; Australia: (03) 9855 2854

**Recommended Use**
General industrial solvent.

## 2. HAZARDS IDENTIFICATION

**Hazard Classification**

Australia:
Classified as Hazardous, according to criteria of National Occupational Health & Safety Commission, Australia (NOHSC).
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 Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001, New Zealand.
Classified as Dangerous Goods for transport, according to the NZS 5433:2007 Transport of Dangerous Goods on Land.

HSNO Classification:
3.1B - Flammable liquid: high hazard
6.1C (Inhalation - vapours, dusts or mists) - Substance that is acutely toxic
6.1D (Oral) - Substance that is acutely toxic
6.3A - Substance that is irritating to the skin
6.4A - Substance that is irritating to the eyes
Hazard statement codes:
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.

H319 Causes serious eye irritation.
H331 Toxic if inhaled.
Precautionary statement codes - Prevention:
P102 Keep out of reach of children. -This statement applies only where the substance is available to the general public.
P103* Read label before use. -This statement applies only where the substance is available to the general public.
P104 Read Safety Data Sheet before use.
P210 Keep away from heat/sparks/open flames/hot surfaces*
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.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray*.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection*.
Precautionary statement codes - Response:
P101* If medical advice is needed, have product container or label at hand. -This statement applies only where the substance is available to the general public.
P310 Immediately call a POISON CENTER or doctor/physician.
INGESTION
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.
P331 Do NOT induce vomiting.
INHALATION
P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
EYES
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.
SKIN
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.
P332+P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before re-use.
Precautionary statement codes - Storage:
P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P403+P235 Store in a well-ventilated place. Keep cool.
Precautionary statement codes - Disposal:
P501 *In the case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description ofone or more appropriate and achievable methods for the disposal ofa substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method ofdisposal that must be avoided.

**Risk Phrase(s)**
R11 Highly flammable.
R20/22 Harmful by inhalation and if swallowed.
R36/38 Irritating to eyes and skin.

**Safety Phrase(s)**
S7 Keep container tightly closed.
S16 Keep away from sources of ignition - No smoking.
S20 When using do not eat or drink.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33 Take precautionary measures against static discharges.
S24/25 Avoid contact with skin and eyes.
S36/37 Wear suitable protective clothing and gloves.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Ingredients**

| Name | CAS | EINECS | Proportion |
|---|---|---|---|
| Ethanol | 64-17-5 | 200-578-6 | 24-100 % |
| Water | 7732-18-5 | 231-791-2 | 0-76 % |
| Denaturants | | | 0-1 % |

**Other Information**
Note: The denaturants may be one or more of the following: diethyl phthalate, tertiary butyl alcohol, denatonium benzoate, methyl isobutyl ketone, sucrose octaacetate or fluorescein. The denaturants do not exceed 1.0% of the final product and at this low concentration will not alter the health and safety information for the product.

## 4. FIRST AID MEASURES

**Inhalation**
If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. Seek medical attention.

**Ingestion**
Do not induce vomiting. Wash out mouth thoroughly with water. Seek medical attention.

**Skin**
Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms develop seek medical attention.

**Eye**
If in eyes, hold eyelids apart and flush the eyes continuously with running water. Continue flushing for several minutes until all contaminants are washed off completely. Seek medical attention.

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

**Advice to Doctor**
Treat symptomatically.

**Other Information**
For advice in an emergency, contact a Poisons Information Centre (Phone Australia 13 1126; New Zealand 0800 POISON / 0800 764 766) or a doctor at once.

## 5. FIRE FIGHTING MEASURES

**Suitable Extinguishing Media**
Use carbon dioxide, dry chemical, and 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**
•2YE

**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.

## 6. ACCIDENTAL RELEASE MEASURES

**Emergency Procedures**
Wear appropriate personal protective equipment and clothing to avoid exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unprotected personnel. If possible contain the spill. Place inert non-combustible absorbent material onto spillage. Use clean non-sparking tools to collect the material and place into suitable labelled containers. 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.

## 7. HANDLING AND STORAGE

**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, skin or eye contact. 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. Wear appropriate protection. 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. Reference should also be made to all State and Federal regulations.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**National Exposure Standards**
No exposure standards have been established for this material by the Australian National Occupational Health & Safety Commission (NOHSC) or the Occupational Safety and Health Service (OSH) of the New Zealand Department of Labour. However, the exposure standards for the ingredients are stated below:
Australian National Occupational Health And Safety Commission (NOHSC) Exposure Standards:
Substance TWA STEL
ppm mg/m³ ppm mg/m³ Notices
Ethanol 1000 1880 - - -

New Zealand Occupational Safety and Health Service (OSH) Workplace Exposure Standards:
Substance TWA STEL
ppm mg/m³ ppm mg/m³ Notices
Ethanol 1000 1880 - - -
TWA - the Time-Weighted Average airborne concentration over an eight-hour working day, for a five-day working week.
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.

**Engineering Controls**
Provide sufficient ventilation to keep airborne levels below the exposure limits. 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 and AS/NZS 2430.3.1:1997 :

Classification of hazardous areas - Examples of area classification - General, for further information concerning ventilation requirements.

**Respiratory Protection**
If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used. Type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.

**Eye Protection**
Safety glasses with side shields or chemical goggles should be worn. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

**Hand Protection**
Wear laminated film, nitrile or other suitable gloves conforming to AS/NZS 2161: Occupational protective gloves.

**Body Protection**
Suitable work wear should be worn to protect personal clothing, eg cotton overalls buttoned at neck and wrist. When large quantities are handled the use of plastic aprons and rubber boots is recommended. Industrial clothing should conform to the specifications detailed in AS/NZS 2919: Industrial clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
Clear, colourless liquid

**Odour**
Characteristic alcohol odour.

**Melting Point**
-117°C to -10°C (24-100% ethanol)

**Boiling Point**
78°-87°C (24-100% ethanol)

**Solubility in Water**
Completely Soluble

**Specific Gravity**
0.79-0.97 (24-100% ethanol)

**pH Value**
Not available

**Vapour Pressure**
44 mmHg at 20°C (ethanol)

**Vapour Density (Air=1)**
1.59 (Air=1)(ethanol)

**Evaporation Rate**
2.53 (n-Butyl acetate=1) (ethanol)

**Volatile Component**
100%

**Flash Point**

13°-34°C (Abel Closed Cup)

**Flammability**
Highly flammable

**Auto-Ignition Temperature**
392°C (ethanol)

**Flammable Limits - Lower**
3.5% (ethanol)

**Flammable Limits - Upper**
19.0% (ethanol)

## 10. STABILITY AND REACTIVITY

**Chemical Stability**
Stable under normal conditions of storage and handling.

**Conditions to Avoid**
Heat, direct sunlight, open flames or other sources of ignition.

**Incompatible Materials**
Strong oxidising agents.

**Hazardous Decomposition Products**
Thermal decomposition may result in the release of toxic and/or irritating fumes including carbon monoxide and carbon dioxide.

**Hazardous Polymerization**
Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Toxicology Information**
Acute toxicity data for ethanol:
LD50 (Oral, Rat(: 7060 mg/kg
LC50 (Inhalation, Rat): 38 mg/L/10h

**Inhalation**
Cause irritation to the respiratory tract and mucous membranes. Inhalation of the vapour may result in headache, nausea, incoordination, narcosis and vomiting. High concentrations may cause central nervous system symptoms similar to those given under ingestion below.

**Ingestion**
Swallowing can cause drunkenness or harmful central nervous system effects. Effects of a small intake may include excitation, euphoria, headache, dizziness, drowsiness, blurred vision and fatigue. Severe acute intoxication may cause hypoglycaemia, hypothermia and extensor rigidity. Other effects may include decreased blood pressure, vomiting blood and blood changes. Aspiration into the lungs may cause pneumonitis.

**Skin**
Can cause redness, itching and irritation.

**Eye**
Can be irritating to eyes. On eye contact this product can cause tearing, stinging, blurred vision, and redness.

**Chronic Effects**
Prolonged or repeated skin contact may cause defatting leading to dermatitis. Long term exposure by swallowing or repeated inhalation may cause degenerative changes in the liver, kidney, gastrointestinal tract and heart muscle.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
Data given below.

**Persistence / Degradability**
Biodegradable. 94% elimination.

**Mobility**
Not available

**Bioaccumulative Potential**
Not available

**Environ. Protection**
Do not allow product to enter drains, waterways or sewers.

**Acute Toxicity - Fish**
Golden ide LC0(48h): >1000 mg/L

**Acute Toxicity - Daphnia**
Daphnia magna EC50(24h): >1000mg/L

## 13. DISPOSAL CONSIDERATIONS

**Disposal Considerations**
Dispose of waste according to applicable local and national 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.

## 14. TRANSPORT INFORMATION

**Transport Information**

Australia:
This material is a Class 3 - Flammable Liquid according to The Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)
Class 3 - Flammable Liquids are incompatible in a placard load with any of the following:
- Class 1, Explosives
- Division 2.1, Flammable Gases, (Division 2.1 and Class 3 are incompatible in transport if both are in tanks or other receptacles with a capacity individually exceeding 500 L.)
- Division 2.3, Toxic Gases
- Division 4.2 Spontaneously Combustible Substances
- Division 5.1 Oxidising Agents and Division 5.2, Organic Peroxides
- Class 6 Toxic or Infectious Substances (where the flammable liquid is nitromethane)
- Class 7 Radioactive Substances.

New Zealand:
This material is classified as a Class 3 - Flammable Liquid according to NZS 5433:2007 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

**U.N. Number**
1170

**Proper Shipping Name**
ETHANOL (ETHYL ALCOHOL)

**DG Class**
3

**Hazchem Code**
•2YE

**Packing Group**
II

**IERG Number**
14

## 15. REGULATORY INFORMATION

**Regulatory Information**
Australia:
Classified as Hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC), Australia.
Classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

**Poisons Schedule**
S5

**National and or International Regulatory Information**
New Zealand:
Classified as Hazardous according to the Hazardous Substances (Classification) Regulations 2001.
Group standard:
Solvents (Flammable) Group Standard 2006

**HSNO Approval Number**
HSR002650

**Hazard Category**
Harmful, Irritant, Highly Flammable

## 16. OTHER INFORMATION

**Date of preparation or last revision of MSDS**
MSDS Reviewed: August 2010
Supersedes: May 2007, June 2002

**Contact Person/Point**

For specialist advice in emergencies: Australia 1800 022 037; New Zealand 0800 154 666.

IMPORTANT ADVICE: This MSDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including its use in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact Nuplex Industries (Aust) Pty Ltd. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

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End of MSDS

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