MSDS Date of Issue/re-issue: **29.01.2015**

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

Name:-_____Signature_____Date_____

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name

**ECP LTD**

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

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

| Product | **Ethanol SEA** | | **Code** | |
|---|---|---|---|---|
| **CAS#** | **HSNO#** | **UN #** | **DG Class/es** | **Packing group #** |
| 64-17-5<br>7732-18-5 | HSR001144 | 1170 | 3 | II |

**Recomended use:** Laboratory Investigations

## 2. Hazards Identification

**2.1 GHS Classification Flammable**
Liquids (Category B)
Skin irritation (Category A)
Eye irritation (Category A)

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

Pictogram 

Signal word Danger

Hazard statement(s)
H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H320 Causes eye irritation.
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.
P264 Wash skin thoroughly after handling.
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.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
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

**Hazard Classification**

Australia:
Not 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 (Classification) Regulations 2001, New Zealand.
Classified as Dangerous Goods for transport, according to the NZS 5433:1999 Transport of Dangerous Goods on Land.
HSNO Classification:
3.1B - Substance that is flammable liquid: High hazard.
6.4A - Substance that is irritating to the eye.
9.1D - Substance that is slightly harmful to the aquatic environment.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients | Name | CAS | Proportion |
|---|---|---|---|
| | Ethanol | 64-17-5 | 70-100 % |
| | Water | 7732-18-5 | 0-30 % |

## 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 immediately with running water. Continue flushing for several minutes until all contaminants are washed off completely. Seek immediate medical attention. |
| **First Aid Facilities** | Eye wash and normal washroom facilities. |
| **Advice to Doctor** | Treat symptomatically. |

## 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** | 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. |

## 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **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 unprotected personnel. If possible contain the spill. Place inert, absorbent, non-combustible material onto spillage. Use clean non-sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water authorities and EPA in accordance with local regulations. |

## 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 | - | - | - |

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.

**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 an approved respirator with an organic vapour/particulate filter should be used. 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, in order to make any necessary changes for individual circumstances. |
| **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 with characteristic alcoholic odour. |
| **Melting Point** | -117°C |
| **Boiling Point** | 78°C |
| **Solubility in Water** | Soluble |
| **Specific Gravity** | 0.79-0.81 |
| **Vapour Pressure** | 44 mmHg at 20°C |
| **Vapour Density (Air=1)** | 1.59 at 15°C (Air=1) |
| **Evaporation Rate** | 2.53 (n-Butyl acetate=1) |
| **Volatile Component** | 100% |
| **Flash Point** | 13°C (Abel 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** | 392°C |
| **Flammable Limits - Lower** | 3.5% |
| **Flammable Limits - Upper** | 19.0% |

## 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** | For Ethanol:<br>LD50 (Oral, Rat(: 7,060 mg/kg<br>LD50 (Oral, Mouse): 3,450 mg/kg<br>LC50 (Inhalation, Rat): 20,000 ppm/10h<br>LC50 (Inhalation, Rat): >8,000 ppm/4h |
| **Inhalation** | May cause irritation to the respiratory tract and mucous membranes. Inhalation of the vapour may result in headache, nausea and vomiting. High concentrations may cause central nervous system symptoms similar to 'swallowed' above. |
| **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** | May cause redness, itching and irritation. |
| **Eye** | May be irritating to eyes. On eye contact this product may 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** | Not available |
| **Persistence / Degradability** | Not available |
| **Mobility** | Not available |
| **Bioaccumulative Potential** | Not available |
| **Environment Protection** | Do not allow product to enter drains, waterways or sewers. |

## 13. DISPOSAL CONSIDERATIONS

| | |
|---|---|
| **Disposal Considerations** | Disposal of the spilled or waste product must be done in accordance with applicable local and national regulations. |

## 14. TRANSPORT INFORMATION

| | |
|---|---|
| **Transport Information** | Australia:<br>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.<br>Dangerous goods of Class 3 (Flammable Liquid) are incompatible in a placard load with any of the following:<br>- Class 1, Explosive<br>- Class 2.1, Flammable Gas, if both the Class 3 and Class 2.1 dangerous goods are in bulk<br>- Class 2.3, Toxic Gas<br>- Class 4.2, Spontaneously Combustible Substance<br>- Class 5.1, Oxidising Agent |

- Class 5.2, Organic Peroxide
- Class 6, Toxic and 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

| | |
|---|---|
| **U.N. Number** | 1170 |
| **Proper Shipping Name** | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) |
| **DG Class** | 3 |
| **Hazchem Code** | 2[Y]E |
| **Packaging Method** | 3.8.3RT1 |
| **Packing Group** | II |
| **EPG Number** | 3A1 |
| **IERG Number** | 14 |

## 15. REGULATORY INFORMATION

**Regulatory Information**

Australia:
Not classified as Hazardous according to criteria of National Occupational Health &

| | |
|---|---|
| | Safety Commission (NOHSC), Australia.<br>Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP). |
| **Poisons Schedule** | Not Scheduled |
| **National and or International Regulatory Information** | New Zealand:<br>Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.<br>ERMA Approval Code: HSR001144; Ethanol. |
| **Hazard Category** | Highly Flammable |
| **AICS (Australia)** | All constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS). |

## 16. Disclaimer

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.

****END*******END*******END*******END*******END***