Material Safety Data Sheet

Absolute Ethanol 100%

Infosafe™ FON0Z Issue Date August 2012 Status ISSUED by LOMBSIP

BS: 1.14.2

Not classified as hazardous

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

- **Product Name**: Absolute Ethanol 100%
- **Product Use**: General industrial solvent.
- **Company Name**: LOMB SCIENTIFIC PTY LTD (ABN 65 002 691287)
- **Address**: 26 Atkinson Road Taren Point NSW 2229
- **Emergency Tel.**: 1800 638 556
- **Telephone Number/Fax**: Tel: 61 2 8536 6200 Fax: 61 2 8536 6250
- **Other Names**: Not Available

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Name</th>
<th>CAS</th>
<th>Proportion Hazard</th>
<th>R Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ethanol</td>
<td>64-17-5</td>
<td>70-100 %</td>
<td>F</td>
</tr>
<tr>
<td></td>
<td>Water</td>
<td>7732-18-5</td>
<td>0-30 %</td>
<td>R11</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION
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. (7th edition)

New Zealand:
Classified as Hazardous according to the Hazardous Substances (Classification) Regulations 2001, New Zealand.
HSNO Classification:
3.1B - Substance that is flammable liquid: High hazard.
6.4A - Substance that is irritating to the eye.
Hazard statement codes:
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
Precautionary statement codes - Prevention:
P103 Read label before use.
P104 Read Safety Data Sheet before use.
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/...
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash contaminated skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement codes - Response:
GENERAL
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370+P378 In case of fire: Use carbon dioxide, dry chemical, foam, water fog or water mist. for extinction.
EYE
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.
Precautionary statement codes - Storage:
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 of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method of disposal that must be avoided. See Section 13 for disposal details.

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.

Inhalation
Inhalation of product vapours may cause irritation of the nose, throat and respiratory system. If vapours are formed inhalation may
cause CNS depression with symptoms similar to those seen if product is swallowed.

**Ingestion**

Ingestion of this product may irritate the gastric tract causing nausea and vomiting. Ingestion may cause CNS depression with symptoms including drowsiness, dizziness, fatigue, confusion and possible unconsciousness.

**Skin**

May be irritating to skin. The symptoms may include redness, itching and swelling.

**Eye**

May be irritating to eyes. The symptoms may include redness, itching and tearing.

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4. **FIRST AID MEASURES**

**Inhalation**

If inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms persist seek medical attention.

**Ingestion**

Do not induce vomiting. Wash out mouth thoroughly with water. If symptoms develop seek medical attention.

**Skin**

Wash affected area thoroughly with soap and water. 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 out completely. If symptoms develop and persist seek medical attention.

**First Aid Facilities**

Eyewash 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.

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5. **FIRE FIGHTING MEASURES**

**Extinguishing Media**

Use carbon dioxide, dry chemical, foam, water fog or water mist. Alcohol resistant foam is preferred. If not available fine water spray/mist can be used.

**Specific Hazards**

Highly flammable liquid and vapour. Vapour/air mixtures may ignite explosively. Flashback along the vapour trail may occur. Runoff to sewer may create fire or explosion hazard.

**Hazardous Combustion Products**

Under fire conditions this product may emit toxic and/or irritating fumes and gases including carbon monoxide and carbon dioxide.

**Precautions in**

Fire fighters should wear full protective clothing and self-contained
connection with Fire

breathing apparatus (SCBA) operated in positive pressure mode. In case of fire the product may be violently or explosively reactive. Use water spray to disperse vapours. This product should be prevented from entering drains and watercourses.

Flash Point

13°C (Abel closed cup)

Ignition Temperature

392°C

Flammable Limits

UEL 19.0%

LEL 3.5%

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.

6. ACCIDENTAL RELEASE MEASURES

Wear appropriate personal protective equipment and clothing to prevent 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 and waste management authorities in accordance with local regulations.

7. HANDLING AND STORAGE

Handling

Wear appropriate protective clothing and equipment to prevent inhalation, skin and eye exposure. Handle and use the material in a well-ventilated area, away from sparks, flames and other ignition sources. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Work from suitable, labelled, fire-resistant containers. Open containers carefully as they may be under pressure. Keep containers closed when not in use. Flameproof equipment is necessary in areas where the product is being used. Take precautionary measures against static discharges. Earth or bond all equipment. Do not empty into drains. Ensure a high level of personal hygiene is maintained when using this product, that is, always wash hands before eating, drinking, smoking or using the toilet facilities.

Storage

Store in a cool, dry, well-ventilated area away from sources of ignition, oxidising agents, strong acids, foodstuffs, and clothing.
Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. 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 applicable local and national regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**National Exposure Standards**

<table>
<thead>
<tr>
<th>Substance</th>
<th>TWA</th>
<th>STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>1880</td>
<td>-</td>
</tr>
<tr>
<td></td>
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</tbody>
</table>

**NOTICES**

- ppm
- mg/m³

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day 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.

New Zealand Occupational Safety and Health Service (OSH) Workplace Exposure Standards:

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As published by the National Occupational Health and Safety Commission (NOHSC) and the New Zealand Occupational Safety and Health Service (OSH).

**Respiratory Protection**

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable organic vapour 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.

**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 gloves of impervious material e.g. laminated film or nitrile. 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**

Suitable protective work wear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

**Eng. 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 60079.10.1:2009 Explosive atmospheres - Classification of areas - Explosive gas atmospheres, for further information concerning ventilation requirements.

**Biological Limit Values**

No biological limits allocated.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**

Clear, colourless liquid with characteristic alcoholic odour.

**Odour**

Characteristic alcoholic odour

**Melting Point**

-117°C

**Boiling Point**

78°C

**Solubility in Water**

Soluble

**Specific Gravity**

(H₂O=1) 0.79-0.81

**pH Value**

Not available

**Vapour Pressure**

44 mmHg at 20°C

**Vapour Density**

(Air=1) 1.59 at 15°C

**Evaporation Rate**

2.53 (n-Butyl acetate=1)

**Colour**

Colourless

**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.
Ignition Temperature 392°C

Flammable Limits
LEL 3.5%

Flammable Limits
UEL 19.0%

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions of storage and handling.

Hazardous Polymerization Will not occur.

Materials to Avoid Strong oxidising agents.

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

Conditions to Avoid Heat, flames and other sources of ignition.

11. TOXICOLOGICAL INFORMATION

Toxicology Information Acute toxicity data for product is given below:

Inhalation Inhalation of product vapours may cause irritation of the nose, throat and respiratory system. If vapours are formed inhalation may cause CNS depression with symptoms similar to those seen if product is swallowed.

Ingestion Ingestion of this product may irritate the gastric tract causing nausea and vomiting. Ingestion may cause CNS depression with symptoms including drowsiness, dizziness, fatigue, confusion and possible unconsciousness.

Skin May be irritating to skin. The symptoms may include redness, itching and swelling.

Eye May be irritating to eyes. The symptoms may include redness, itching and tearing.

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.

Acute Toxicity - LD50 (Rat): 7,060 mg/kg
Oral
LD50 (Mouse): 3,450 mg/kg

Acute Toxicity - Inhalation
LC50 (Rat): 20,000 ppm/10h
LC50 (Rat): >8,000 ppm/4h

12. ECOLOGICAL INFORMATION

Environment Protection
Do not discharge this material into waterways, drains and sewers.

Mobility
Not available

Persistence / Degradability
Not available

Bioaccumulation
Not available

Ecotoxicity
No ecological data are available for this material.

13. 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.

Product Disposal:
Product wastes are controlled wastes and should be disposed of in accordance with all applicable local and national regulations. This product can be disposed through a licensed commercial waste collection service. In this specific case the product is water-based and therefore, after further dilution to render it non-combustible, can be sent through a Waste Water Treatment Plant, and after treatment can be discharged into environment through the sewerage or drainage systems as authorized.

Personal protective clothing and equipment as specified in Section 8 of this SDS must be worn during handling and disposal of this product. The ventilation requirements as specified in the same section must also be followed, and the precautions given in Section 7 of this SDS regarding handling must also be followed. Do not dispose directly into the sewerage system. Do not discharge into drains or watercourses or dispose where ground or surface waters may be affected.

In New Zealand, the disposal agency or contractor must comply with the New Zealand Hazardous Substances (Disposal) Regulations 2001. Further details regarding disposal can be obtained on the EPA New Zealand website under specific group standards.

Container Disposal:
The container or packaging must be cleaned and rendered incapable of holding any substance. It can then be disposed of in a manner
consistent with that of the substance it contained. In this instance the packaging can be disposed through a commercial waste collection service.
Alternatively, the container or packaging can be recycled if the hazardous residues have been thoroughly cleaned or rendered non-hazardous.
In New Zealand, the packaging (that may or may not hold any residual substance) that is lawfully disposed of by householders or other consumers through a public or commercial waste collection service is a means of compliance with regulations.

14. TRANSPORT INFORMATION

Australia Road and Rail
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 Road and Rail
This material is classified as Dangerous Goods Class 3 - Flammable Liquid according to NZS 5433:2012 Transport of Dangerous Goods on Land.
Must not be loaded in the same freight container or on the same vehicle with:
- Class 1, Explosives
- Division 2.1, Flammable gases
- Division 2.3, Toxic gases
- Division 4.2, Spontaneously combustible substances
- Division 5.1, Oxidising substances
- Division 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:
- Division 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:
- Division 4.2, Spontaneously combustible substances
- Division 4.3, Dangerous when wet substances
- Division 5.1, Oxidising substances
- Division 5.2, Organic peroxides

Marine Transport (IMO/IMDG):
Classified as Dangerous Goods by the criteria of the International
UN No.: 1170
Proper Shipping Name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Class: 3
Packaging Group: II
EMS No.: F-E, S-D
Special Provision: 144

Air Transport (ICAO/IATA):
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.
UN No.: 1170
Proper Shipping Name: ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Class: 3
Packaging Group: II
Label: Flammable Liquid
Packaging Instructions (passenger & cargo): 353
Packaging Instructions (cargo only): 364
Special Provision: A3, A58, A180

15. REGULATORY INFORMATION

Not classified as Hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC), Australia.
Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Risk Phrase
R11 Highly flammable.

Safety Phrase
S7 Keep container tightly closed.
S16 Keep away from sources of ignition - No smoking.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33 Take precautionary measures against static discharges.
S23(2) Do not breathe vapour.
S36/37 Wear suitable protective clothing and gloves.

Poisons Schedule Not Scheduled
Hazard Category: Highly Flammable

AICS (Australia): All constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

National Legislation:

New Zealand:
Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.
All components of this product are listed on the New Zealand Inventory of Chemicals (NZIoC) or exempted.

HSNO (CCID) Name: Ethanol, >50% in a non hazardous diluent

HSNO Approval Number: HSR006424

16. OTHER INFORMATION

SDS History:
MSDS Reviewed: August 2012
MSDS Supersedes: August 2007

Poisons Schedule: Not Scheduled

Hazard Category: Highly Flammable

End of MSDS

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