

# ABSOLUTE

ChemWatch Company

Chemwatch Hazard Alert Code: 3

Chemwatch: 1170-1

Issue Date: 28/05/2014

Version No: 13.1.1.1

Print Date: 22/09/2014

Material Safety Data Sheet according to NOHSC and ADG requirements

Initial Date: Not Available

S.Local.AUS.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### Product Identifier

|                               |   |
|-------------------------------|---|
| Product name                  | ABSOLUTE  |
| Chemical Name                 | ABSOLUTE  |
| Synonyms                      | 200 proof ethyl alcohol, 75181, AM404, C2-H6-O, C2H5OH, DAA AA 100SG 100HG 100AR, Ethanol, Ethyl alcohol, Fermentation alcohol (LLP ethanol T2 type), ME751, Pkh26 linker, Prod. Code: 10106-10107-14006-14007-etc., absolute undenatured ethanol, anhydrous anhydrol spirits of wine, cologne spirit, ethanol, ethanol, DAA 100 SG, ethyl alcohol, ethyl hydrate hydroxide, fermentation alcohol molasses alcohol, grain alcohol, methyl carbinol, potato alcohol, rectified spirit D.A.A./M |
| Proper shipping name          | ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  |
| Chemical formula              | C2H6O   |
| Other means of identification | Not Available   |
| CAS number                    | 64-17-5   |

### Relevant identified uses of the substance or mixture and uses advised against

|                          |  |
|--------------------------|--|
| Relevant identified uses | Used in alcoholic beverages in suitable dilution; general solvent in laboratory and industry; manufacture of denatured alcohol; pharmaceuticals (lotions, tonics, colognes); in perfumes; organic synthesis. As an octane booster in gasoline; an antiseptic. [~Drier ~] |
|--------------------------|--|

### Details of the manufacturer/importer

|                         |   |   |   |
|-------------------------|---|---|---|
| Registered company name | CSR   | HiChem Industries   | Merck   |
| Address                 | 9 Help Street Chatswood 2067<br>NSW Australia                         | 73 Hallam South Road Hallam 3803 VIC<br>Australia   | 207 Colchester Road Kilsyth 3137<br>VIC Australia                                       |
| Telephone               | +61 2 9235 8000   | +61 3 9796 3400   | +61 3 9728 7600   |
| Fax                     | +61 2 9235 8044   | +61 3 9796 4500   | +61 3 9728 1351   |
| Website                 | <a href="http://www.csr.com.au/msds/">http://www.csr.com.au/msds/</a> | <a href="http://www.hichem.com.au/hicheminfo/MSDS/MSDS.html">http://www.hichem.com.au/hicheminfo/MSDS/MSDS.html</a> | <a href="http://203.221.251.46/msds/msds.aspx">http://203.221.251.46/msds/msds.aspx</a> |
| Email                   | Not Available   | <a href="mailto:enquiries@hichem.com.au">enquiries@hichem.com.au</a>  | <a href="mailto:admin@merck.com.au">admin@merck.com.au</a>                              |

### Emergency telephone number

|                                   |               |               |               |
|-----------------------------------|---------------|---------------|---------------|
| Association / Organisation        | Not Available | Not Available | Not Available |
| Emergency telephone numbers       | Not Available | Not Available | Not Available |
| Other emergency telephone numbers | Not Available | Not Available | Not Available |

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

**HAZARDOUS SUBSTANCE. DANGEROUS GOODS.** According to the Criteria of NOHSC, and the ADG Code.

CHEMWATCH HAZARD RATINGS

**ABSOLUTE**

|              | Min | Max |
|--------------|-----|-----|
| Flammability | 3   |     |
| Toxicity     | 0   |     |
| Body Contact | 2   |     |
| Reactivity   | 1   |     |
| Chronic      | 0   |     |

0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme

|                         |  |                   |
|-------------------------|--|-------------------|
| <b>Poisons Schedule</b> | Not Applicable   |                   |
| <b>Risk Phrases [2]</b> | <b>R11</b>   | Highly flammable. |
| <b>Legend:</b>          | 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI |                   |



Relevant risk statements are found in section 2

|                                |   |
|--------------------------------|---|
| <b>Indication(s) of danger</b> | F |
|--------------------------------|---|

**SAFETY ADVICE**

|            |   |
|------------|---|
| <b>S02</b> | Keep out of reach of children.                  |
| <b>S07</b> | Keep container tightly closed.                  |
| <b>S16</b> | Keep away from sources of ignition. No smoking. |

**Other hazards**

|  |   |
|--|---|
|  | Inhalation and/or ingestion may produce health damage*.     |
|  | May produce discomfort of the respiratory system and skin*. |
|  | Cumulative effects may result following exposure*.          |
|  | Vapours potentially cause drowsiness and dizziness*.        |

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

**Substances**

| CAS No  | %[weight] | Name                     |
|---------|-----------|--------------------------|
| 64-17-5 | >96       | <a href="#">absolute</a> |

**Mixtures**

See section above for composition of Substances

**SECTION 4 FIRST AID MEASURES**

**Description of first aid measures**

|                     |   |
|---------------------|---|
| <b>Eye Contact</b>  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with fresh running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>                       |
| <b>Skin Contact</b> | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>   |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor.</li> </ul> |

Continued...

**ABSOLUTE**

|                  |  |
|------------------|--|
| <b>Ingestion</b> | <ul style="list-style-type: none"> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> </ul> |
|------------------|--|

**Indication of any immediate medical attention and special treatment needed**

For acute or short term repeated exposures to ethanol:

- ▶ Acute ingestion in non-tolerant patients usually responds to supportive care with special attention to prevention of aspiration, replacement of fluid and correction of nutritional deficiencies (magnesium, thiamine pyridoxine, Vitamins C and K).
- ▶ Give 50% dextrose (50-100 ml) IV to obtunded patients following blood draw for glucose determination.
- ▶ Comatose patients should be treated with initial attention to airway, breathing, circulation and drugs of immediate importance (glucose, thiamine).
- ▶ Decontamination is probably unnecessary more than 1 hour after a single observed ingestion. Cathartics and charcoal may be given but are probably not effective in single ingestions.
- ▶ Fructose administration is contra-indicated due to side effects.

**SECTION 5 FIREFIGHTING MEASURES**

**Extinguishing media**

|  |  |
|--|--|
|  | <ul style="list-style-type: none"> <li>▶ Alcohol stable foam.</li> <li>▶ Dry chemical powder.</li> <li>▶ BCF (where regulations permit).</li> <li>▶ Carbon dioxide.</li> </ul> |
|--|--|

**Special hazards arising from the substrate or mixture**

|                             |  |
|-----------------------------|--|
| <b>Fire Incompatibility</b> | <ul style="list-style-type: none"> <li>▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result</li> </ul> |
|-----------------------------|--|

**Advice for firefighters**

|                              |  |
|------------------------------|--|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> </ul> |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Liquid and vapour are highly flammable.</li> <li>▶ Severe fire hazard when exposed to heat, flame and/or oxidisers.</li> <li>▶ Vapour may travel a considerable distance to source of ignition.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> </ul>  |

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

|                     |  |
|---------------------|--|
| <b>Minor Spills</b> | <ul style="list-style-type: none"> <li>▶ Remove all ignition sources.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> </ul>   |
| <b>Major Spills</b> | <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> </ul> |

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

**SECTION 7 HANDLING AND STORAGE**

**Precautions for safe handling**

|                      |  |
|----------------------|--|
| <b>Safe handling</b> | <ul style="list-style-type: none"> <li>▶ Containers, even those that have been emptied, may contain explosive vapours.</li> <li>▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers.</li> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> </ul> |
|----------------------|--|

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|                          |   |
|--------------------------|---|
| <b>Other information</b> | <ul style="list-style-type: none"> <li>▶ Store in original containers in approved flame-proof area.</li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> <li>▶ <b>DO NOT store in pits, depressions, basements or areas where vapours may be trapped.</b></li> <li>▶ Keep containers securely sealed.</li> </ul> |
|--------------------------|---|

**Conditions for safe storage, including any incompatibilities**

|                                |  |
|--------------------------------|--|
| <b>Suitable container</b>      | <ul style="list-style-type: none"> <li>▶ Packing as supplied by manufacturer.</li> <li>▶ Plastic containers may only be used if approved for flammable liquid.</li> <li>▶ Check that containers are clearly labelled and free from leaks.</li> <li>▶ For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type.</li> </ul> |
| <b>Storage incompatibility</b> | <ul style="list-style-type: none"> <li>▶ Avoid strong bases.</li> <li>▶ Avoid oxidising agents, acids, acid chlorides, acid anhydrides, chloroformates.</li> </ul>   |

**PACKAGE MATERIAL INCOMPATIBILITIES**

Not Available

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Control parameters**

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

**INGREDIENT DATA**


| Source                       | Ingredient | Material name | TWA                   | STEL          | Peak          | Notes         |
|------------------------------|------------|---------------|-----------------------|---------------|---------------|---------------|
| Australia Exposure Standards | absolute   | Ethyl alcohol | 1880 mg/m3 / 1000 ppm | Not Available | Not Available | Not Available |

**EMERGENCY LIMITS**

| Ingredient | TEEL-0        | TEEL-1        | TEEL-2        | TEEL-3        |
|------------|---------------|---------------|---------------|---------------|
| ABSOLUTE   | Not Available | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH    |
|------------|---------------|-----------------|
| absolute   | 15,000 ppm    | 3,300 [LEL] ppm |

**Exposure controls**

|   |  |
|---|--|
| <b>Appropriate engineering controls</b> | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>                       |
| <b>Personal protection</b>              |   |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.</li> </ul>  |
| <b>Skin protection</b>                  | See Hand protection below  |
| <b>Hands/feet protection</b>            | <ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> |
| <b>Body protection</b>                  | See Other protection below   |
| <b>Other protection</b>                 | <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ PVC Apron.</li> <li>▶ PVC protective suit may be required if exposure severe.</li> </ul>   |

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|                        |                 |
|------------------------|-----------------|
|                        | ▶ Eyewash unit. |
| <b>Thermal hazards</b> | Not Available   |

**Recommended material(s)**

**Respiratory protection**

**GLOVE SELECTION INDEX**

Glove selection is based on a modified presentation of the: **"Forsberg Clothing Performance Index"**.  
The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:  
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| Material         | CPI |
|------------------|-----|
| BUTYL            | A   |
| NEOPRENE         | A   |
| NITRILE          | A   |
| NITRILE+PVC      | A   |
| PE/EVAL/PE       | A   |
| PVC              | B   |
| NATURAL RUBBER   | C   |
| NATURAL+NEOPRENE | C   |

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

|   |   |  |                |
|---|---|--|----------------|
| <b>Appearance</b>                                   | Colourless highly flammable liquid; mixes with water. Sweet, fragrant odour. Burning taste. Mixes with ether, chloroform. |  |                |
| <b>Physical state</b>                               | Liquid  | <b>Relative density (Water = 1)</b>            | 0.79 @ 20 C    |
| <b>Odour</b>  | Not Available   | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available   | <b>Auto-ignition temperature (°C)</b>          | 365            |
| <b>pH (as supplied)</b>                             | Not Applicable  | <b>Decomposition temperature</b>               | Not available. |
| <b>Melting point / freezing point (°C)</b>          | -130 to -114.1  | <b>Viscosity (cSt)</b>                         | Not Available  |
| <b>Initial boiling point and boiling range (°C)</b> | 78.3  | <b>Molecular weight (g/mol)</b>                | 46.08          |
| <b>Flash point (°C)</b>                             | 13  | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | 2.53 BuAC = 1   | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | Flammable.  | <b>Oxidising properties</b>                    | Not Available  |
| <b>Upper Explosive Limit (%)</b>                    | 19  | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available  |
| <b>Lower Explosive Limit (%)</b>                    | 3.3   | <b>Volatile Component (%vol)</b>               | < 100          |
| <b>Vapour pressure (kPa)</b>                        | 5.3 @ 20 C  | <b>Gas group</b>                               | IIA            |
| <b>Solubility in water (g/L)</b>                    | Miscible  | <b>pH as a solution(1%)</b>                    | Not Applicable |

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|                                 |            |                |               |
|---------------------------------|------------|----------------|---------------|
| <b>Vapour density (Air = 1)</b> | 1.9 @ 20 C | <b>VOC g/L</b> | Not Available |
|---------------------------------|------------|----------------|---------------|

**SECTION 10 STABILITY AND REACTIVITY**

|   |  |
|---|--|
| <b>Reactivity</b>                         | See section 7  |
| <b>Chemical stability</b>                 | <ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul> |
| <b>Possibility of hazardous reactions</b> | See section 7  |
| <b>Conditions to avoid</b>                | See section 7  |
| <b>Incompatible materials</b>             | See section 7  |
| <b>Hazardous decomposition products</b>   | See section 5  |

**SECTION 11 TOXICOLOGICAL INFORMATION**

**Information on toxicological effects**

| <b>Inhaled</b>                        | <p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p> <p>There is some evidence to suggest that the material can cause respiratory irritation in some persons.</p>  |          |                     |                                       |                             |   |             |   |
|---------------------------------------|--|----------|---------------------|---------------------------------------|-----------------------------|---|-------------|---|
| <b>Ingestion</b>                      | <p>Accidental ingestion of the material may be damaging to the health of the individual.</p> <p>Ingestion of ethanol (ethyl alcohol, "alcohol") may produce nausea, vomiting, bleeding from the digestive tract, abdominal pain, and diarrhoea. Effects on the body:</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>Blood concentration</th> <th>Effects</th> </tr> </thead> <tbody> <tr> <td>&lt;1.5 g/L</td> <td>Mild: impaired vision, co-ordination and reaction time; emotional instability</td> </tr> <tr> <td>1.5-3.0 g/L</td> <td>Moderate: Slurred speech, confusion, inco-ordination, emotional instability, disturbances in perception and senses, possible blackouts, and impaired objective performance in standardized tests. Possible double vision, flushing, fast heart rate, sweating and incontinence.</td> </tr> </tbody> </table> |          | Blood concentration | Effects                               | <1.5 g/L                    | Mild: impaired vision, co-ordination and reaction time; emotional instability | 1.5-3.0 g/L | Moderate: Slurred speech, confusion, inco-ordination, emotional instability, disturbances in perception and senses, possible blackouts, and impaired objective performance in standardized tests. Possible double vision, flushing, fast heart rate, sweating and incontinence. |
| Blood concentration                   | Effects  |          |                     |                                       |                             |   |             |   |
| <1.5 g/L                              | Mild: impaired vision, co-ordination and reaction time; emotional instability  |          |                     |                                       |                             |   |             |   |
| 1.5-3.0 g/L                           | Moderate: Slurred speech, confusion, inco-ordination, emotional instability, disturbances in perception and senses, possible blackouts, and impaired objective performance in standardized tests. Possible double vision, flushing, fast heart rate, sweating and incontinence.  |          |                     |                                       |                             |   |             |   |
| <b>Skin Contact</b>                   | <p>Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>There is some evidence to suggest that the material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.</p>  |          |                     |                                       |                             |   |             |   |
| <b>Eye</b>                            | <p>There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain.</p> <p>Direct contact of the eye with ethanol (alcohol) may cause an immediate stinging and burning sensation, with reflex closure of the lid, and a temporary, tearing injury to the cornea together with redness of the conjunctiva. Discomfort may last 2 days but usually the injury heals without treatment.</p>   |          |                     |                                       |                             |   |             |   |
| <b>Chronic</b>                        | <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>Prolonged exposure to ethanol may cause damage to the liver and cause scarring. It may also worsen damage caused by other agents.</p>   |          |                     |                                       |                             |   |             |   |
| <b>absolute</b>                       | <table border="1" style="width: 100%;"> <thead> <tr> <th>TOXICITY</th> <th>IRRITATION</th> </tr> </thead> <tbody> <tr> <td>Inhalation (rat) LC50: 20,000 ppm/10h</td> <td>Eye (rabbit): 500 mg SEVERE</td> </tr> </tbody> </table>   | TOXICITY | IRRITATION          | Inhalation (rat) LC50: 20,000 ppm/10h | Eye (rabbit): 500 mg SEVERE |   |             |   |
| TOXICITY                              | IRRITATION   |          |                     |                                       |                             |   |             |   |
| Inhalation (rat) LC50: 20,000 ppm/10h | Eye (rabbit): 500 mg SEVERE  |          |                     |                                       |                             |   |             |   |

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|                                     |                                   |
|-------------------------------------|-----------------------------------|
| Inhalation (rat) LC50: 64000 ppm/4h | Eye (rabbit):100mg/24hr-moderate  |
| Oral (rat) LD50: 7060 mg/kg         | Skin (rabbit):20 mg/24hr-moderate |
|                                     | Skin (rabbit):400 mg (open)-mild  |
| Not Available                       | Not Available                     |

\* Value obtained from manufacturer's msds  
unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

|                 |  |
|-----------------|--|
| <b>ABSOLUTE</b> | The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. |
|-----------------|--|

|  |   |                                 |   |
|--|---|---------------------------------|---|
| <b>Acute Toxicity</b>                    | ☉ | <b>Carcinogenicity</b>          | ☉ |
| <b>Skin Irritation/Corrosion</b>         | ☉ | <b>Reproductivity</b>           | ☉ |
| <b>Serious Eye Damage/Irritation</b>     | ☉ | <b>STOT - Single Exposure</b>   | ☉ |
| <b>Respiratory or Skin sensitisation</b> | ☉ | <b>STOT - Repeated Exposure</b> | ☉ |
| <b>Mutagenicity</b>                      | ☉ | <b>Aspiration Hazard</b>        | ☉ |

Legend:   
 ✓ – Data required to make classification available  
 ✗ – Data available but does not fill the criteria for classification  
 ☉ – Data Not Available to make classification

**CMR STATUS**

Not Applicable

**SECTION 12 ECOLOGICAL INFORMATION**

**Toxicity**

For Ethanol:  
 log Kow: -0.31 to -0.32;  
 Koc 1: Estimated BCF= 3;  
 Half-life (hr) air: 144;  
 Half-life (hr) H2O surface water: 144;  
 Henry's atm m3 /mol: 6.29E-06;  
 BOD 5 if unstated: 0.93-1.67,63%  
 COD: 1.99-2.11,97%;  
 ThOD : 2.1.

Environmental Fate: Terrestrial - Ethanol quickly biodegrades in soil but may leach into ground water; most is lost by evaporation. Ethanol is expected to have very high mobility in soil. Volatilization of ethanol from moist soil surfaces is expected to be an important fate process.

**Persistence and degradability**

| Ingredient    | Persistence: Water/Soil | Persistence: Air |
|---------------|-------------------------|------------------|
| Not Available | Not Available           | Not Available    |

**Bioaccumulative potential**

| Ingredient    | Bioaccumulation |
|---------------|-----------------|
| Not Available | Not Available   |

**Mobility in soil**

| Ingredient    | Mobility      |
|---------------|---------------|
| Not Available | Not Available |

**SECTION 13 DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

|                                     |   |
|-------------------------------------|---|
| <b>Product / Packaging disposal</b> | Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. |
|-------------------------------------|---|

Continued...

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A Hierarchy of Controls seems to be common - the user should investigate:

- ▶ Reduction
- ▶ Reuse
- ▶ Recycling
- ▶ Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.

**SECTION 14 TRANSPORT INFORMATION**

**Labels Required**

|                         |   |
|-------------------------|---|
|                         |  |
| <b>Marine Pollutant</b> | NO  |
| <b>HAZCHEM</b>          | •2YE  |

**Land transport (ADG)**

|                                     |  |
|-------------------------------------|--|
| <b>UN number</b>                    | 1170   |
| <b>Packing group</b>                | II   |
| <b>UN proper shipping name</b>      | ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) |
| <b>Environmental hazard</b>         | No relevant data   |
| <b>Transport hazard class(es)</b>   | Class : 3<br>Subrisk : Not Applicable                                |
| <b>Special precautions for user</b> | Special provisions : 144<br>Limited quantity : 1 L                   |

**Air transport (ICAO-IATA / DGR)**

|                                     |   |
|-------------------------------------|---|
| <b>UN number</b>                    | 1170  |
| <b>Packing group</b>                | II  |
| <b>UN proper shipping name</b>      | Ethyl alcohol; Ethyl alcohol solution; Ethanol; Ethanol solution  |
| <b>Environmental hazard</b>         | No relevant data  |
| <b>Transport hazard class(es)</b>   | ICAO/IATA Class : 3<br>ICAO / IATA Subrisk : Not Applicable<br>ERG Code : 3L  |
| <b>Special precautions for user</b> | Special provisions : A3A58A180<br>Cargo Only Packing Instructions : 364<br>Cargo Only Maximum Qty / Pack : 60 L<br>Passenger and Cargo Packing Instructions : 353<br>Passenger and Cargo Maximum Qty / Pack : 5 L<br>Passenger and Cargo Limited Quantity Packing Instructions : Y341<br>Passenger and Cargo Limited Maximum Qty / Pack : 1 L |

**Sea transport (IMDG-Code / GGVSee)**

|                                |  |
|--------------------------------|--|
| <b>UN number</b>               | 1170   |
| <b>Packing group</b>           | II   |
| <b>UN proper shipping name</b> | ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) |
| <b>Environmental hazard</b>    | No relevant data   |



**ABSOLUTE**

|                                     |                    |                |
|-------------------------------------|--------------------|----------------|
| <b>Transport hazard class(es)</b>   | IMDG Class         | 3              |
|                                     | IMDG Subrisk       | Not Applicable |
| <b>Special precautions for user</b> | EMS Number         | F-E , S-D      |
|                                     | Special provisions | 144            |
|                                     | Limited Quantities | 1 L            |

**Inland waterways transport (ADNR / River Rhine): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**SECTION 15 REGULATORY INFORMATION**

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

|   |   |
|---|---|
| <b>absolute(64-17-5) is found on the following regulatory lists</b> | "Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "Australia Hazardous Substances Information System - Consolidated Lists" |
|---|---|

**SECTION 16 OTHER INFORMATION**

**Other information**

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references)

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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