

Infosafe No™	1CH89	Issue Date : October 2015	RE-ISSUED by ACR
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Product Name : **ETHANOL Udenatured**

Classified as hazardous

## 1. Identification

GHS Product Identifier	ETHANOL Udenatured		
Company Name	AUSTRALIAN CHEMICAL REAGENTS (ACR) (ABN 19 008 264 211)		
Address	38 - 50 Bedford Street Gillman S.A. 5013 Australia		
Telephone/Fax Number	Tel: (08) 8440 2000 Fax: (08) 8440 2001		
Recommended use of the chemical and restrictions on use	Solvent for resins, fats, fatty acids, oils, hydrocarbons; extraction medium; manufacture of acetaldehyde, acetic acid, ethylene, butadiene, 2-ethyl hexanol, dyes, pharmaceuticals, elastomers, detergents, cleaning preparations, surface coatings, cosmetics, explosives, antifreeze, beverages, antiseptic, gasohol, yeast-growth medium, octane booster in gasoline and laboratory reagent.		
Other Names	<u>Name</u>	<u>Product Code</u>	
	Ethyl alcohol		
	Ethanol 90% v/v	3096	
	Ethanol 80% v/v	3435	
	Ethanol 70% v/v	0623	
	Ethanol 60% v/v	3225	
Other Information	EMERGENCY CONTACT NUMBER: +61 08 8440 2000 Business hours: 8:30am to 5:00pm. Monday to Friday.		

Australian Chemical Reagents (ACR) does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Australian Chemical Reagents (ACR) with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Australian Chemical Reagents (ACR) is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

## 2. Hazard Identification

<b>GHS classification of the substance/mixture</b>	Eye Damage/Irritation: Category 2A Flammable Liquids: Category 2
<b>Signal Word (s)</b>	DANGER
<b>Hazard Statement (s)</b>	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation.
<b>Pictogram (s)</b>	Flame, Exclamation mark,



<b>Precautionary statement – Prevention</b>	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 ... thoroughly after handling.
<b>Precautionary statement – Response</b>	P280 Wear protective gloves/protective clothing/eye protection/face protection. 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. P337+P313 If eye irritation persists: Get medical advice/attention.

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<b>Precautionary statement – Storage</b>	P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
<b>Precautionary statement – Disposal</b>	P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container to an approved waste disposal plant.

### 3. Composition/information on ingredients

Chemical Characterization	Liquid				
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
	Ethyl alcohol	64-17-5	25-100 %		
	Water	7732-18-5	0-75 %		

### 4. First-aid measures

<b>Inhalation</b>	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.
<b>Ingestion</b>	Rinse mouth thoroughly with water immediately. Give plenty of water to drink. Do not induce vomiting. Seek medical advice.
<b>Skin</b>	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. If swelling, redness, blistering or irritation occurs seek medical advice.
<b>Eye contact</b>	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical attention.
<b>First Aid Facilities</b>	Maintain eyewash fountain and safety shower in work area.
<b>Advice to Doctor</b>	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
<b>Other Information</b>	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor at once.

### 5. Fire-fighting measures

<b>Hazards from Combustion</b>	Oxides of carbon.
<b>Products</b>	
<b>Specific Methods</b>	Caution: Use of water spray when fighting fire may be inefficient. Small fire: Use foam, dry chemical, CO2 or water spray. Large fire: Use foam, fog or water spray - Do not use water jets. If safe to do so, move undamaged containers from fire area. Cool containers with flooding quantities of water until well after fire is out.
<b>Specific hazards arising from the chemical</b>	HIGHLY FLAMMABLE: These products have a low flash point - Will be easily ignited by heat, sparks or flames at ambient temperatures. Vapours will form explosive mixtures with air. Vapours will travel to source of ignition and flash back. Fire may produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. Many liquids are lighter than water. Many vapours are heavier than air and will collect in low or confined areas (drains, basements, tanks). Vapours from run-off may create an explosion hazard.
<b>Hazchem Code</b>	•2YE
<b>Precautions in connection with Fire</b>	SCBA and structural firefighter's uniform may provide limited protection. Fully-encapsulating, gas-tight suits should be worn for maximum protection.

### 6. Accidental release measures

<b>Spills &amp; Disposal</b>	ELIMINATE all ignition sources (no smoking, flares, sparks or flame) within at least 50m - All equipment used in handling the product must be earthed. Do not touch or walk through spilled material. Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. Vapour-suppressing foam may be used to control vapours. Absorb spill with earth, sand or other non-combustible material - Use clean, non-sparking tools to collect material and place it in loosely-covered metal or plastic containers for later disposal. Water spray may be used to knock down or divert vapour clouds. SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.
<b>Personal Precautions</b>	Evacuate the area of all non-essential personnel. Remove ignition sources
<b>Personal Protection</b>	Wear protective clothing specified for normal operations (see Section 8)

### 7. Handling and storage

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<b>Precautions for Safe Handling</b>	Do not breathe vapour. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Take precautionary measures against static discharges.
<b>Conditions for safe storage, including any incompatibilities</b>	Keep in a cool, well-ventilated place. Keep away from heat and other sources of ignition. Store away from oxidizing agents. Store away from strong acids. Keep containers securely sealed and protected against physical damage. Do not store in pits or basements where vapours may become entrapped. Do not store in aluminium containers. Take precautionary measures against static electricity discharges.
<b>Storage Regulations</b>	Refer Australian Standard AS 1940 - 1993 'The storage and handling of flammable and combustible liquids'.

## 8. Exposure controls/personal protection

Occupational exposure limit values	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	Ethyl alcohol			1880	1000	
<b>Other Exposure Information</b>	A time weighted average (TWA) has been established for Ethyl alcohol (Safe Work Australia) of 1,880 mg/m <sup>3</sup> , (1,000 ppm). The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.					
<b>Appropriate engineering controls</b>	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing vapours or mists. Select and use respirators in accordance with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. When mists or vapours exceed the exposure standards then the use of the following is recommended: Approved respirator with organic vapour and dust/mist filters. Filter capacity and respirator type depends on exposure levels.					
<b>Respiratory Protection</b>	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.					
<b>Eye Protection</b>	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: PVC, neoprene, or nitrile rubber gloves.					
<b>Hand Protection</b>	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.					
<b>Personal Protective Equipment</b>	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use. Recommendation: Rubber boots.					
<b>Footwear</b>	Flame retardant protective clothing. Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.					
<b>Body Protection</b>	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.					
<b>Hygiene Measures</b>						

## 9. Physical and chemical properties

<b>Form</b>	Liquid
<b>Appearance</b>	Colourless, transparent, volatile liquid.
<b>Odour</b>	Ethereal vinous odour.
<b>Melting Point</b>	-117.3 °C - 100% -114 °C - 95%
<b>Boiling Point</b>	78.3 °C - 100% 78 °C - 95%
<b>Solubility in Water</b>	Miscible.
<b>Solubility in Organic Solvents</b>	Miscible with methanol, ether, chloroform and acetone.
<b>Specific Gravity</b>	0.7893 - 100% 0.8042 - 95% 0.8676 - 70%
<b>Volatile Component</b>	70 - 100%
<b>Flash Point</b>	9 °C - 100% 12.7 °C - 95%

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<b>Flammability</b>	HIGHLY FLAMMABLE. Keep away from heat, sparks or naked flames. Use flameproof equipment and fittings to prevent flammability risk. Electrically link and ground metal containers for transfer of the product to prevent accumulation of static electricity. Ensure adequate ventilation to prevent an explosive vapour-air mixture. Vapours will travel considerable distances to sources of ignition.
<b>Auto-Ignition Temperature</b>	422 °C - 95%
<b>Flammable Limits - Lower</b>	3.5% - 100%
<b>Flammable Limits - Upper</b>	19% - 100%
<b>Molecular Weight</b>	46.08
<b>Other Information</b>	Taste: Pungent taste.

## 10. Stability and reactivity

<b>Chemical Stability</b>	Stable under normal use conditons.
<b>Conditions to Avoid</b>	Heat, sparks, flame and build-up of static electricity.
<b>Incompatible Materials</b>	Oxidising agents, peroxides, acids, acid chlorides, acid anhydrides, alkali metals and ammonia.
<b>Hazardous Decomposition Products</b>	May liberate toxic fumes in fire producing carbon monoxide and or carbon dioxide.
<b>Hazardous Polymerization</b>	Will not occur.

## 11. Toxicological Information

<b>Acute Toxicity - Oral</b>	LD50 (rat): 7060 mg/kg
<b>Acute Toxicity - Dermal</b>	LD50 (rabbit): 15800 mg/kg (anhydrous substance).
<b>Acute Toxicity - Inhalation</b>	LC50 (rat): 38 mg/l/10h
<b>Ingestion</b>	May cause nausea, vomiting, headache, dizziness, gastric irritation and CNS depression.
<b>Inhalation</b>	Irritating to the mucous membranes and respiratory tract. Risk of absorption. May cause headaches, dizziness, nausea and possible CNS effects.
<b>Skin</b>	May cause irritation. Will have a degreasing action on the skin.
<b>Eye</b>	May cause irritation and watering. High concentrations of vapours may cause irritation.
<b>Carcinogenicity</b>	Ethanol [61-17-5] in alcoholic beverages are evaluated in the IARC Monographs (Vol. 96) as Group 1: Carcinogenic to humans, (based on effects of drinking alcoholic beverages). Safe Work Australia does not classify ethanol as a carcinogen.
<b>Health Hazard</b>	Though it is rapidly oxidized in the body and is therefore non-cumulative, ingestion of even moderate amounts causes lowering of inhibitions, often succeeded by dizziness, headache, or nausea. Larger intake causes loss of motor nerve control, shallow respiration, and in extreme cases unconsciousness and even death. Degree of intoxication is determined by concentration of alcohol in the brain. Of primary importance is the fact that intake of moderate amounts together with barbiturates or similar drugs is extremely dangerous and may even be fatal.
<b>Chronic Effects</b>	Repeated or prolonged skin contact may cause chronic dermatitis. May cause liver and kidney disorders.
<b>Mutagenicity</b>	No evidence of mutagenic properties.

## 12. Ecological information

<b>Ecotoxicity</b>	In high concentrations: Toxic for aquatic organisms. When used properly, no impairments in the function of waste-water-treatment plants are to be expected.
<b>Persistence and degradability</b>	Readily biodegradable. Degree of elimination: 94%
<b>Mobility</b>	log P(o/w): -0.32.
<b>Bioaccumulative Potential</b>	Low probability of bioaccumulation (log P(o/w) <1). Further ecologic data: BOD5: 0.93 - 1.67 g/g (anhydrous substance);

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<b>Short Summary of Assessment of Environmental Impact</b>	COD: 1.99 g/g (anhydrous substance); ThOD: 2.10 g/g (anhydrous substance). No ecological problems are to be expected when the product is handled and used with due care and attention.
<b>Acute Toxicity - Fish</b>	LC50 (L. idus): 8140 mg/l/48 h (anhydrous substance).
<b>Acute Toxicity - Daphnia</b>	EC50(Daphnia magna): 9268 - 14221 mg/l/48 h (anhydrous substance).
<b>Acute Toxicity - Algae</b>	IC50(Sc. quadricauda): 5000 mg/l/d (anhydrous substance).
<b>Acute Toxicity - Bacteria</b>	CE5(Ps. putida): 6500 mg/l/16 h (anhydrous substance).
<b>Acute Toxicity - Other Organisms</b>	EC5(Protozoa: E. sulcatum): 65 mg/l/72 h (anhydrous substance).

## 13. Disposal considerations

<b>Disposal Considerations</b>	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.
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## 14. Transport information

<b>Transport Information</b>	Dangerous goods of Class 3 (Flammable Liquid) are incompatible in a placard load with any of the following: Class 1, Class 2.1, if both the Class 3 and Class 2.1 dangerous goods are in bulk, Class 2.3, Class 4.2, Class 5, Class 6, if the Class 3 dangerous goods are nitromethane, Class 7.
<b>U.N. Number</b>	1170
<b>UN proper shipping name</b>	ETHANOL (ETHYL ALCOHOL)
<b>Transport hazard class(es)</b>	3
<b>Hazchem Code</b>	•2YE
<b>Packaging Method</b>	3.8.3RT1
<b>Packing Group</b>	II
<b>EPG Number</b>	3A1
<b>IERG Number</b>	14

## 15. Regulatory information

<b>Regulatory Information</b>	Listed in the Australian Inventory of Chemical Substances (AICS).
<b>Poisons Schedule</b>	Not Scheduled

## 16. Other Information

<b>Literature References</b>	'Standard for the Uniform Scheduling of Medicines and Poisons No. 6', Commonwealth of Australia, February 2015. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Substances Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'.
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<b>Contact Person/Point</b>	Paul McCarthy Ph. (08) 8440 2000
<b>Empirical Formula &amp; Structural Formula</b>	CH <sub>3</sub> CH <sub>2</sub> OH
	...End Of MSDS...

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