

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

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



Precautionary statement – 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 ... thoroughly after handling.
Precautionary statement – Response	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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Precautionary statement – Storage	P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Precautionary statement – Disposal	P403+P235 Store in a well-ventilated place. Keep cool.
Precautionary statement – Disposal	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

Inhalation	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.
Ingestion	Rinse mouth thoroughly with water immediately. Give plenty of water to drink. Do not induce vomiting. Seek medical advice.
Skin	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.
Eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical attention.
First Aid Facilities	Maintain eyewash fountain and safety shower in work area.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
Other Information	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

Hazards from Combustion	Oxides of carbon.
Products	
Specific Methods	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.
Specific hazards arising from the chemical	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.
Hazchem Code	•2YE
Precautions in connection with Fire	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

Spills & Disposal	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.
Personal Precautions	Evacuate the area of all non-essential personnel. Remove ignition sources
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)

7. Handling and storage

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Precautions for Safe Handling	Do not breathe vapour. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Take precautionary measures against static discharges.
Conditions for safe storage, including any incompatibilities	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.
Storage Regulations	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	
Other Exposure Information	A time weighted average (TWA) has been established for Ethyl alcohol (Safe Work Australia) of 1,880 mg/m ³ , (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.					
Appropriate engineering controls	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.					
Respiratory Protection	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.					
Eye Protection	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: PVC, neoprene, or nitrile rubber gloves.					
Hand Protection	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.					
Personal Protective Equipment	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.					
Footwear	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.					
Body Protection	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.					
Hygiene Measures						

9. Physical and chemical properties

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

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Flammability	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.
Auto-Ignition Temperature	422 °C - 95%
Flammable Limits - Lower	3.5% - 100%
Flammable Limits - Upper	19% - 100%
Molecular Weight	46.08
Other Information	Taste: Pungent taste.

10. Stability and reactivity

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

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat): 7060 mg/kg
Acute Toxicity - Dermal	LD50 (rabbit): 15800 mg/kg (anhydrous substance).
Acute Toxicity - Inhalation	LC50 (rat): 38 mg/l/10h
Ingestion	May cause nausea, vomiting, headache, dizziness, gastric irritation and CNS depression.
Inhalation	Irritating to the mucous membranes and respiratory tract. Risk of absorption. May cause headaches, dizziness, nausea and possible CNS effects.
Skin	May cause irritation. Will have a degreasing action on the skin.
Eye	May cause irritation and watering. High concentrations of vapours may cause irritation.
Carcinogenicity	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.
Health Hazard	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.
Chronic Effects	Repeated or prolonged skin contact may cause chronic dermatitis. May cause liver and kidney disorders.
Mutagenicity	No evidence of mutagenic properties.

12. Ecological information

Ecotoxicity	In high concentrations: Toxic for aquatic organisms. When used properly, no impairments in the function of waste-water-treatment plants are to be expected.
Persistence and degradability	Readily biodegradable. Degree of elimination: 94%
Mobility	log P(o/w): -0.32.
Bioaccumulative Potential	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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Short Summary of Assessment of Environmental Impact	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.
Acute Toxicity - Fish	LC50 (L. idus): 8140 mg/l/48 h (anhydrous substance).
Acute Toxicity - Daphnia	EC50(Daphnia magna): 9268 - 14221 mg/l/48 h (anhydrous substance).
Acute Toxicity - Algae	IC5(Sc. quadricauda): 5000 mg/l/d (anhydrous substance).
Acute Toxicity - Bacteria	CE5(Ps. putida): 6500 mg/l/16 h (anhydrous substance).
Acute Toxicity - Other Organisms	EC5(Protozoa: E. sulcatum): 65 mg/l/72 h (anhydrous substance).

13. Disposal considerations

Disposal Considerations	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

Transport Information	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.
U.N. Number	1170
UN proper shipping name	ETHANOL (ETHYL ALCOHOL)
Transport hazard class(es)	3
Hazchem Code	•2YE
Packaging Method	3.8.3RT1
Packing Group	II
EPG Number	3A1
IERG Number	14

15. Regulatory information

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

16. Other Information

Literature References	'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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Contact Person/Point	Paul McCarthy Ph. (08) 8440 2000
Empirical Formula & Structural Formula	CH ₃ CH ₂ OH
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