

PRODUCT NAME **METHANOL (COOGEE ENERGY)****1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

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Synonym(s) METHYL ALCOHOL • COOGEE ENERGY METHANOL

Use(s) CHEMICAL REAGENT • CHEMICAL SYNTHESIS • DENATURE ETHANOL • LABORATORY APPLICATIONS • SOLVENT

2. HAZARDS IDENTIFICATION**CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA****RISK PHRASES**

R11 Highly flammable.
R23/25 Toxic by inhalation and if swallowed.

SAFETY PHRASES

S16 Keep away from sources of ignition - No smoking.
S2 Keep out of reach of children.
S24 Avoid contact with skin.
S7 Keep container tightly closed.

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	1230	DG Class	3	Subsidiary Risk(s)	6.1
Pkg Group	II	Hazchem Code	2WE	EPG	3A3

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
METHANOL	C-H4-O	67-56-1	100%

4. FIRST AID MEASURES

Eye If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the PIC or a doctor, or for at least 15 minutes.

Inhalation If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

Skin If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre or a doctor.

Ingestion For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

Advice to Doctor Watch for toxic effects which may be delayed, including chemical pneumonitis. Contact Poison Information Centre for antidote treatment with ethyl alcohol. Central nervous system depression, and acidosis from methanol metabolites, including formaldehyde liver function and optic nerve, and other effects should be treated symptomatically.

First Aid Facilities Eye wash facilities and safety shower should be available.

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Flammability	Highly flammable. Vapours may form explosive mixtures with air. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, mobile phones etc. when handling. Earth containers when dispensing fluids.
Fire and Explosion	Highly flammable - explosive vapour. Evacuate area and contact emergency services. Toxic gases may be evolved when heated. Remain upwind and notify those downwind of hazard. Wear full protective equipment (see spill above) including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.
Extinguishing	Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.
Hazchem Code	2WE

6. ACCIDENTAL RELEASE MEASURES

Spillage	If spilt (bulk), contact emergency services if appropriate. Wear splash-proof goggles, butyl/nitrile gloves, a Type A (Organic vapour) respirator, coveralls and boots. Ventilate and clear area of all unprotected personnel. Absorb spill with sand or similar, collect and place in sealable containers for disposal.
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7. STORAGE AND HANDLING

Storage	Store in cool, dry, well ventilated area, removed from oxidising agents, acids, alkalis, direct sunlight, heat or ignition sources, foodstuffs, out of direct sunlight and out of the reach of children. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate fire protection.
Handling	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Stds	Ingredient	Reference	TWA		STEL	
			ppm	mg/m3	ppm	mg/m3
	Methanol	NOHSC (AUS)	200.0	262.0	250.0	328.0

Biological Limits	Ingredient	Reference	Determinant	Sampling Time	BEI

Engineering Controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Flammable/explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

PPE Wear splash-proof goggles, a PVC apron, neoprene or PVC gloves, a faceshield and safety glasses. Where an inhalation risk exists, wear a Type A (Organic vapour) respirator. At high vapour levels, wear an Air-line respirator.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	CLEAR COLOURLESS LIQUID	Solubility (water)	SOLUBLE
Odour	ALCOHOLIC ODOUR	Specific Gravity	0.79
pH	NOT AVAILABLE	% Volatiles	100 %

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Vapour Pressure	127 mm Hg @ 25°C	Flammability	HIGHLY FLAMMABLE
Vapour Density	1.11 (Air = 1)	Flash Point	12°C
Boiling Point	64.7°C	Upper Explosion Limit	36.5 %
Melting Point	-97.7°C	Lower Explosion Limit	6.7 %
Evaporation Rate	NOT AVAILABLE	Autoignition Temperature	470°C

10. STABILITY AND REACTIVITY

- Material to Avoid** Incompatible with oxidising agents (eg. hypochlorites, peroxides), acids (eg. sulphuric acid), strong alkalis (eg. hydroxides), heat and ignition sources.
- Decomposition** May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

- Health Hazard Summary** Toxic - irritant. Use safe work practices to avoid eye or skin contact and vapour inhalation. Methanol primarily affects the central nervous system, with symptoms of headache, nausea, vomiting and dizziness. Damage to the optic nerves may occur with chronic or high level exposure, causing visual problems and blindness. Experimental teratogen.
- Eye** A moderate eye irritant. May cause watering of the eyes, stinging or blurred vision and sensitivity to light.
- Inhalation** Toxic by inhalation. The vapour is irritating to the mucous membranes and respiratory tract. Inhalation of vapour can cause headache, nausea, central nervous system effects and visual impairment, possibly blindness. Continued exposure can result in health effects as per ingestion.
- Skin** Contact with skin will result in defatting and moderate irritation. Can be absorbed through the skin in harmful amounts. See "chronic" effects.
- Ingestion** Toxic if swallowed. Ingestion can result in nausea, vomiting, severe abdominal pain, back pain, central nervous system effects including optic nerve damage (hyperaemia etc), convulsions, blindness, loss of consciousness and ultimately proceed to coma and death. See "chronic" effects
- Toxicity Data** METHANOL (67-56-1)
 LC50 (Inhalation): 50 g/m³/2 hours (mouse)
 LD50 (Ingestion): 5628 mg/kg (rat)
 LD50 (Skin): 15,800 mg/kg (rabbit)

12. ECOLOGICAL INFORMATION

- Environment** If released to the atmosphere methanol degrades via reaction with photochemically produced hydroxyl radicals. It is expected to biodegrade in both soil and water. If spilt on soil it is expected to be susceptible to significant leaching, as well rapid evaporation from dry surfaces is likely to occur. Chronic aquatic toxicity possible above 32 ppm. Aquatic toxicity: Arthropoda toxicity No effect level (Daphnia) is 10 g/L/48 hours. Fish toxicity: TLm (Trout) is 8000 mg/L/48 hours. Amphibian toxicity: LDlo (frog) = 59 mg/kg.

13. DISPOSAL CONSIDERATIONS

- Waste Disposal** Wearing the protective equipment outlined, ensure all ignition sources are extinguished. For small quantities, absorb on paper, sand or similar and evaporate under a fume cupboard or open area. For large volumes, atomise into incinerator (mixing with more flammable solvent if required) or recycle by gravimetric separation, distilling & reusing. Contact the manufacturer for additional information if required.
- Legislation** Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

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Shipping Name	METHANOL				
UN No.	1230	DG Class	3	Subsidiary Risk(s)	6.1
Pkg Group	II	Hazchem Code	2WE	EPG	3A3

15. REGULATORY INFORMATION

Poison Schedule Classified as a Schedule 6 (S6) Poison using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

AICS All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Additional Information WORK PRACTICES - SOLVENTS: Organic solvents may present both a health and flammability hazard. It is recommended that engineering controls should be adopted to reduce exposure where practicable (for example, if using indoors, ensure explosion proof extraction ventilation is available). Flammable or combustible liquids with explosive limits have the potential for ignition from static discharge. Refer to AS 1020 (The control of undesirable static electricity) and AS 1940 (The storage and handling of flammable and combustible liquids) for control procedures.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

WORKPLACE CONTROLS AND PRACTICES: Unless a less toxic chemical can be substituted for a hazardous substance, ENGINEERING CONTROLS are the most effective way of reducing exposure. The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release. Isolating operations can also reduce exposure. Using respirators or protective equipment is less effective than the controls mentioned above, but is sometimes necessary.

ABBREVIATIONS:

ADB - Air-Dry Basis.

BEI - Biological Exposure Indice(s)

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

CNS - Central Nervous System.

IARC - International Agency for Research on Cancer.

M - moles per litre, a unit of concentration.

mg/m³ - Milligrams per cubic metre.

NOS - Not Otherwise Specified.

pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm - Parts Per Million.

TWA/ES - Time Weighted Average or Exposure Standard.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

COLOUR RATING SYSTEM: RMT has assigned all Chem Alert reports a colour rating of Green, Amber or Red for the sole purpose of providing users with a quick and easy means of determining the hazardous nature of a product. Safe handling recommendations are provided in all Chem Alert reports so as to clearly identify how users can control the hazards and thereby reduce the risk (or likelihood) of adverse effects. As a general guideline, a Green colour rating indicates a low hazard, an Amber colour rating indicates a moderate hazard and a Red colour rating indicates a high hazard.

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Report Status

This Chem Alert report has been independently compiled by RMT's scientific department utilising the original Material Safety Data Sheet ('MSDS') for the product provided to RMT by the manufacturer. The information is based on the latest chemical and toxicological research and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue.

This Chem Alert report does not constitute the manufacturer's original MSDS and is not intended to be a replacement for same. It is provided to subscribers of Chem Alert as a reference tool only, is not all-inclusive and does not represent any guarantee as to the properties of the product. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this Chem Alert report, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this Chem Alert report.

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End of Report