



# CSR MATERIAL SAFETY DATA SHEET

## Methanol

### SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name:</b>	Methanol
<b>Other Names:</b>	Methyl Alcohol, Wood Alcohol
<b>Product Codes/Trade Names:</b>	Methanol BS, Methanol ASTM, Methanol UVG
<b>Recommended Use:</b>	General organic solvent
<b>Applicable In:</b>	Australia
<b>Supplier:</b>	CSR Distillery Operations Pty Limited (ABN 85 009 660 191)
<b>Address:</b>	Unit 15/21 Sabre Drive, Port Melbourne, Victoria, 3207
<b>Telephone:</b>	1800 819 618
<b>Email Address:</b>	<a href="mailto:sales.distilleries@csr.com.au">sales.distilleries@csr.com.au</a>
<b>Web Site:</b>	<a href="http://www.csrethanol.com.au">www.csrethanol.com.au</a>
<b>Facsimile:</b>	1800 647 260
<b>Emergency Phone Number:</b>	000 Fire Brigade and Police (available in Australia only)
<b>Poisons Information Centre:</b>	13 11 26 (available in Australia only)

This Material Safety Data Sheet (MSDS) is issued by the Supplier in accordance with National standards and guidelines from the Australian Safety and Compensation Council (ASCC, formerly National Occupational Health and Safety Commission - NOHSC). The information in it must not be altered, deleted or added to. The Supplier will not accept any responsibility for any changes made to its MSDS by any other person or organization. The Supplier will issue a new MSDS when there is a change in product specifications and/or ASCC standards, codes, guidelines, or Regulations.

### SECTION 2: HAZARD IDENTIFICATION

**STATEMENT OF HAZARDOUS NATURE:** Classified as **Hazardous** according to the criteria of the Australian Safety and Compensation Council ASCC (formerly NOHSC) Approved Criteria For Classifying Hazardous Substances [NOHSC:1008] 3rd Edition.

**Methanol** is classified as **Dangerous** Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Risk Phrases	Safety Phrases
R11 - Highly flammable. R20/22 - Harmful by inhalation and if swallowed. R23/25 - Toxic by inhalation and if swallowed. R36/38 - Irritating to eyes and skin. R66 - Repeated exposure may cause skin dryness and cracking.	S1/2- Keep locked up and out of the reach of children. S7/9 - Keep container tightly closed and in a well ventilated place S16 - Keep away from sources of ignition - No smoking. S23 - Do not breathe vapour. S24/25 - Avoid contact with skin and eyes S29 - Do not empty into drains. S33 - Take precautionary measures against static discharges. S36/37/39 - Wear suitable protective clothing/ gloves and eye/face protection S45 - In case of accident or if you feel unwell seek medical advice immediately (show the label whenever possible.)

**SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Chemical Name:	Synonyms	Proportion:	CAS Number:
Methyl alcohol	Methanol	100%	67-56-1

**SECTION 4: FIRST AID MEASURES**

If poisoning occurs contact a doctor or Poisons Information Centre.	
<b>Swallowed:</b>	<p>If a very minor amount has been accidentally swallowed, then if conscious, rinse mouth with water and then dilute stomach contents by giving large amounts of water. Seek medical attention.</p> <p>Do not attempt to induce vomiting or give anything by mouth to an unconscious person. If person vomits, place person on their side in recovery position.</p>
<b>Eyes:</b>	Flush eye with water for a minimum of 15 minutes. Seek medical attention if irritation persists or any loss of vision occurs.
<b>Skin:</b>	Immediately remove all contaminated clothing. Wash affected skin with water. Launder contaminated clothing before re-use. If irritation persists, seek medical attention.
<b>Inhaled:</b>	Remove promptly to fresh air. If respiratory irritation, dizziness, nausea or unconsciousness occurs, seek immediate medical attention. Apply artificial respiration if breathing stops.
<b>First Aid Facilities:</b>	Safety showers, eye wash stations and first aid kits.
<b>Advice to Doctor:</b>	Treat according to standard texts on poisoning. Principal clinical manifestations are visual disturbances and acidosis.

**SECTION 5: FIRE FIGHTING MEASURES**

<b>Flammability:</b>	<p>Highly flammable liquid. May form flammable mixtures with air. Burns with a colourless flame. The vapour is heavier than air and may travel along the ground; distant ignition and flash back are possible.</p> <p>Run off to sewers and drains may cause explosions. Isolate for at least 800 metres in all directions if tanks or tankers are involved. The use of compressed air for filling, discharging, mixing or handling is prohibited due to the vapour hazard.</p> <p>All vessels must be earthed to avoid generation of static charges when agitating or transferring solvents. Avoid all ignition sources. Intrinsically safe equipment is necessary in areas where this chemical is being used.</p>
<b>Suitable extinguishing media:</b>	Use water fog (or if unavailable fine water spray), dry chemical, carbon dioxide or alcohol stable foam.
<b>Hazards from combustion products:</b>	Burning can produce carbon monoxide and/or carbon dioxide.
<b>Special protective precautions and equipment for fire fighters:</b>	<p>Use water to cool exposed containers. Heating can cause expansion or decomposition leading to violent rupture of containers. If safe to do so, remove containers from path of fire.</p> <p>Spills and leaks may be washed away with copious volumes of water, fog or spray.</p> <p>For major fires or where the atmosphere is either oxygen deficient or contains unacceptable levels of combustion products, firefighters must wear self-contained breathing apparatus with full face-mask and protective clothing.</p>
<b>HAZCHEM Code:</b>	2WE

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

<b>Emergency Procedure:</b>	<p>In the event of a spill eliminate all sources of ignition and take measures to prevent static discharge. No smoking. Use water spray to disperse vapour. Clear area of all personnel not directly involved in the clean up.</p> <p>All personnel involved in the containment and disposal procedures to wear protective equipment as described in Section 8 to prevent skin and eye contamination and inhalation of vapours.</p> <p>Ventilate area well and ensure the atmosphere is safe before personnel return to the work area.</p>
<b>Containment Procedure:</b>	<p>Stop and contain the spill for salvage or absorb in inert absorbent material (e.g. soil, sand, vermiculite) for disposal by an approved method. Prevent run-off into drains and waterways.</p> <p>If contamination of sewers or waterways has occurred, advise the local emergency services.</p>
<b>Clean Up Procedure:</b>	<p>Wash the cleaned up area with copious volumes of water to remove any trace amounts of product. Spills can be converted to non-flammable mixtures by dilution with water.</p> <p>Non-returnable containers should be de-gassed prior to disposal. Dispose of all waste containers and used drums in accordance with local authority guidelines.</p>

**SECTION 7: HANDLING AND STORAGE**

<b>Handling:</b>	<p>Use in well ventilated areas away from all ignition sources. Intrinsically safe equipment only must be used in area where this chemical is being used.</p> <p>The use of compressed air for filling, discharging, mixing or handling is prohibited due to the vapour hazard. Containers must be earthed to avoid generation of static charges when agitating or transferring product.</p>
<b>Storage:</b>	<p>Store in tightly closed containers in cool, dry, isolated and well ventilated areas away from heat, sources of ignition and incompatibles. Store away from oxidizing agents. Keep containers closed at all times. Check regularly for leaks.</p> <p>Do not eat, drink or smoke in areas of use or storage. Observe State Regulations concerning the storage and handling of Dangerous Goods. Store with all precautions required for handling flammable liquids.</p> <p>The requirement of Australian Standard AS 1940 should be observed in addition to AS 1020, AS 1076, AS 2380 and AS 3000.</p> <p>Empty containers retain residue (liquid and/or vapour) and are dangerous. Do not pressure cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition.</p>
<b>Incompatibilities:</b>	<p>Not to be stored or loaded with explosives (Class 1), flammable gases in bulk (Class 2.1), poisonous gases (Class 2.3), nitromethane (Class 3), spontaneously combustible substances (Class 4.2), oxidizing agents (Class 5.1), organic peroxides (Class 5.2), radioactive substances (Class 7) and foodstuff and foodstuff empties.</p> <p>Exemptions may apply.</p>

**SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>Exposure Standards:</b>	<p>National Occupational Exposure Standard (NES) Australian Safety &amp; Compensation Council, ASCC (formerly NOHSC)</p> <p>TWA - 200 ppm (262 mg/m<sup>3</sup>)</p> <p>STEL - 250 ppm (328 mg/m<sup>3</sup>)</p> <p>Carcinogen Category - None Allocated</p> <p>Notices - Sk</p>
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<b>Notes:</b>	<p>All occupational exposures to atmospheric contaminants should be kept to as low a level as is workable (practicable) and in all cases to below the National Standard.</p> <p>TWA (Time Weighted Average): the time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.</p> <p>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 work day.</p> <p>Sk Notice: absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.</p>
<b>Biological Limit Values:</b>	N/A
<b>ENGINEERING CONTROLS</b>	
<input type="checkbox"/> <b>Ventilation:</b>	Local exhaust ventilation and/or mechanical (general) exhaust is recommended where vapours are likely to be generated. All such equipment must be intrinsically safe.
<input type="checkbox"/> <b>Special Consideration for Repair &amp;/or Maintenance of Contaminated Equipment:</b>	<p>Empty containers retain residue (liquid and/or vapour) and are dangerous. Do not pressure cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition.</p> <p>Vapour is heavier than air – prevent concentration in hollows or sumps. Do not enter confined spaces where vapour may have collected. Keep containers closed when not in use.</p>
<b>PERSONAL PROTECTION</b>	
<input type="checkbox"/> <b>Personal Hygiene</b>	<p>Protective clothing (gloves, coveralls, boots, etc.) should be worn to prevent skin contact. Always wash hands before smoking, eating, drinking or using the toilet.</p> <p>Wash contaminated clothing and other protective equipment before storing or re-using.</p>
<input type="checkbox"/> <b>Skin Protection:</b>	Avoid skin contact by the use of approved chemical resistant gloves and aprons – PVC or Neoprene (AS 2161).
<input type="checkbox"/> <b>Eye Protection:</b>	<p>Avoid eye contact by wearing chemical goggles with side shields or face shield (AS/NZS 1336) whenever exposed to vapour or mist or if there is a risk of splashing liquid in the eyes.</p> <p>Safety showers with eye-wash should be provided in all areas where product is handled.</p>
<input type="checkbox"/> <b>Respiratory Protection:</b>	<p>None should be needed if engineering, storage and handling controls are adequate to ensure that atmospheric contamination is kept below the National Standard.</p> <p>Where vapour concentrations are likely to approach or exceed the National Standard, an approved organic vapour respirator (AS/NZS 1715 and 1716) must be worn.</p> <p>In high vapour concentrations at or above the occupational limit, consideration should be given to wearing powered positive pressure air purifying respirators or air-supplied hood type.</p> <p>In suspected oxygen deficient atmospheres, such as empty vessels or confined spaces, positive pressure full face-piece self-contained breathing apparatus should be worn.</p>
<input type="checkbox"/> <b>Smoking</b>	Smoking must be prohibited in all areas where this product is used - see safety information on flammability.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Clear colourless liquid
<b>Odour:</b>	Slight alcohol odour. Detectable at 2000-8800 ppm
<b>pH, at stated concentration:</b>	Not Available
<b>Vapour pressure:</b>	92 mm Hg @ 20°C
<b>Vapour Density:</b>	1.1 (air = 1.0)
<b>Boiling Point/range (°C):</b>	64.5°C
<b>Freezing/Melting Point (°C):</b>	-97.8°C
<b>Solubility:</b>	Complete
<b>Specific Gravity (H<sub>2</sub>O = 1):</b>	0.79
<b>FLAMMABLE MATERIALS</b>	
<input type="checkbox"/> <b>Flash Point:</b>	11°C
<input type="checkbox"/> <b>Flash Point Method:</b>	Closed or open cup
<input type="checkbox"/> <b>Flammable (Explosive) Limit - Upper:</b>	36%
<input type="checkbox"/> <b>Flammable (Explosive) Limit - Lower:</b>	7%
<input type="checkbox"/> <b>Autoignition Temperature:</b>	385°C
<b>ADDITIONAL PROPERTIES</b>	
<input type="checkbox"/> <b>Evaporation Rate</b>	500 (n-Butyl Acetate)
<input type="checkbox"/> <b>Molecular Weight</b>	32.04
<input type="checkbox"/> <b>Volatile Organic Compounds Content (VOC)</b> (as specified by the Green Building Council of Australia)	100%
<input type="checkbox"/> <b>% Volatiles</b>	100%

**SECTION 10: STABILITY AND REACTIVITY**

<b>Chemical Stability:</b>	Stable
<b>Incompatible Materials:</b>	May react violently with acids, acid chlorides, acid anhydrides, oxidizing agents, reducing agents and alkali metals. Protect from moisture.
<b>Conditions to avoid:</b>	Heat, sparks, flame and build-up of static electricity.
<b>Hazardous Decomposition Products:</b>	Burning can produce carbon monoxide and/or carbon dioxide.
<b>Hazardous Reactions:</b>	Hazardous polymerisation will not occur.

**SECTION 11: TOXICOLOGICAL INFORMATION****Toxicological Data:**

Acute toxicity:  
 LD50/oral/rat: 8000 mg/kg  
 LC50/inhalation/rat: 128.2 mg/l/4 h  
 LC50/inhalation/rat: 87.5 mg/l/6 h

Health effects information is based on reported effects in use from overseas and Australian reports.

In general methanol is much more toxic than ethanol and is more slowly metabolised. After a toxic dose excretion may occur through the lungs and kidneys for more than 4 days. It metabolises partly to formic acid, which may be responsible for its higher toxicity. Methanol is used to denature ethyl alcohol to make it undrinkable (as methylated spirits), but methylated spirits or even methanol itself may be abused leading to chronic poisoning with the effects described.

#### Effects: Acute

<b>Swallowed:</b>	Unlikely under normal occupational exposures, but methanol is very toxic by mouth and 60-120ml (1 g/kg) may be a fatal dose. Initial symptoms resemble ethanol intoxication (drunkenness) and may include fatigue, dizziness, headache, nausea, vomiting, abdominal pain, difficult breathing, and usually after some hours, blurred vision. Ingestion may cause acute poisoning with initial narcosis, progressing to coma and death where sufficient dosage has been ingested. Lesser dosage may lead to damage to liver, heart, kidneys, lungs and other organs including the retina and optic nerve.
<b>Eyes:</b>	Vapour and liquid can irritate the eyes resulting in redness, pain and swelling. Substantial acute poisoning, or chronic long-term abuse, can lead to temporary or permanent loss of sight.
<b>Skin:</b>	Brief skin contact may cause minor and short-lasting irritation. Prolonged contact (e.g. repeated daily contact, or working in clothing saturated with the product) may cause drying and cracking of the skin due to the defatting action. Dermatitis may also occur in some individuals.
<b>Inhaled:</b>	Vapour may cause irritation of the nose, throat and upper respiratory tract. Higher concentrations can cause drowsiness, headache, nausea, dizziness and eventually unconsciousness. Harmful if aspirated into the lungs – may cause chemical pneumonitis.

#### Effects: Chronic

Repeated exposure at over the occupational standard may lead to damage to liver, heart, kidneys, lungs and other organs including the retina and optic nerve.

#### Additional Notes

Nil

### SECTION 12: ECOLOGICAL INFORMATION

<b>Eco-toxicity:</b>	Toxicity to fish (acute): LC50/Rainbow trout: 10,800 mg/l/96 h
<b>Persistence and Degradability:</b>	Degree of elimination: 99% Evaluation: biodegradable
<b>Mobility:</b>	No data available.

### SECTION 13: DISPOSAL CONSIDERATIONS

Suitable for incineration by approved agent under controlled conditions if permitted by local authorities, otherwise disposal must be in accordance with local waste authority requirements.

Product must be contained and not disposed to sewerage systems, drains or waterways. Advise flammable nature. Empty containers must be decontaminated by rinsing with water.

**SECTION 14: TRANSPORT INFORMATION**

<b>Proper Shipping Name:</b>	METHANOL
<b>UN number:</b>	1230
<b>DG Class:</b>	3
<b>Subsidiary Risk 1:</b>	6.1
<b>Packaging Group:</b>	II
<b>HAZCHEM code:</b>	2WE
<b>Marine Pollutant:</b>	No
<b>Special Precautions for User:</b>	Refer to incompatibilities in section 7 and stability and reactivity information in section 10.
<b>ADDITIONAL TRANSPORT REQUIREMENTS:</b>	
Nil	

**SECTION 15: REGULATORY INFORMATION**

<b>Poisons Schedule:</b>	S6 – This material is a Scheduled Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.
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**SECTION 16: OTHER INFORMATION**

<b>For further information on this product, please contact:</b>	
CSR Distilleries Operations Pty Limited (ABN 85 009 660 191) 265 Whitehall Street, Yarraville, Victoria, 3013, Australia.	
<b>Phone:</b>	(03) 9676 7200 or 1800 819 618 (available in Australia only).
<b>Fax:</b>	(03) 9676 7220 or 1800 647 260 (available in Australia only).

**ADDITIONAL INFORMATION****Australian Standards References:**

AS 1020	The Control of Undesirable Static Electricity.
AS 1076	Code of Practice for selection, installation and maintenance of electrical apparatus and associated equipment for use in explosive atmospheres (other than mining applications) – Parts 1 to 13.
AS/NZS 1336	Recommended Practices for Occupational Eye Protection.
AS/NZS 1715	Selection, Use and Maintenance of Respiratory Protective Devices.
AS/NZS 1716	Respiratory Protective Devices.
AS 1940	The Storage and Handling of Flammable and Combustible Liquids.
AS 2161	Industrial Safety Gloves and Mittens (excluding electrical and medical gloves).
AS 2380	Electrical equipment for explosive atmospheres – Explosion Protection Techniques (Parts 1 to 9).
AS 3000	Electrical installations (known as the Australian/New Zealand Wiring Rules).

**Other References:**

NOHSC:2011(2003)	National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition, April
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	2003, National Occupational Health and Safety Commission.
NOHSC; 2012 (1994)	National Code of Practice for the Labelling of Workplace Substances, March 1994, Australian Government Publishing Service, Canberra.
NES	National Occupational Exposure Standards for workplace Atmospheric Contaminants (NES) Australian Safety and Compensation Council, ASCC (Formerly NOHSC) 1995 as amended.
ADG Code 6 <sup>th</sup> Edition	Australian Dangerous Goods Code 6 <sup>th</sup> Edition

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END OF MSDS