



# SAFETY DATA SHEET

**PRODUCT NAME:** METHANOL

Issue Date: May 23

## IDENTIFICATION

**Product Name:** Methanol  
**Other Names:** Methyl alcohol; Wood alcohol; Carbinol.  
**Product Code:** CMETH20, ZMETH  
**Uses:** Industrial solvent, fuel, feedstock  
**Supplier:** HamChem Hamilton Chemicals Ltd, 75 Ruffell Rd, Hamilton  
Phone: 079744971 Web: [www.hamchem.co.nz](http://www.hamchem.co.nz) Email: [sales@hamchem.co.nz](mailto:sales@hamchem.co.nz)

- In emergency dial 111, and then ask for Fire, Ambulance or Police as necessary.
- In case of poisoning phone National Poisons Centre – 0800 764 766

## HAZARD IDENTIFICATION



### GHS Classifications

Flammable Liquid – Category 2  
Acute Toxicity (Oral) – Category 3  
Acute Toxicity (Dermal) – Category 3  
Acute Toxicity (Inhalation) – Category 3  
Eye Irritation – Category 2  
Reproductive Toxicity – Category 2  
Specific Target Organ Toxicity (Repeated Exposure) – Category 1

**Signal word:** DANGER

### Hazard Statements

H225 Highly flammable liquid and vapour.  
H301 Toxic if swallowed.  
H311 Toxic in contact with skin.  
H319 Causes serious eye irritation.  
H331 Toxic if inhaled.  
H361 Suspected of damaging fertility or the unborn child.  
H372 Causes damage to organs through repeated or prolonged exposure.

### Prevention

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ventilating/lighting equipment.  
P242 Use non-sparking tools.  
P243 Take action to prevent static discharges.  
P261 Avoid breathing fume/gas/mist/vapours/spray  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.

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P280 Wear protective gloves/clothing and protective eye/face protection.

**Response**

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or Doctor.  
P330 Rinse mouth.  
P302 + P352 IF ON SKIN (or hair): Wash with plenty of water (shower).  
P312 Call a POISON CENTRE or doctor if you feel unwell.  
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse  
P304 + P340 IF INHALED: Remove to fresh air and keep comfortable for breathing.  
P311 Call a POISON CENTRE or doctor.  
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.  
P308 + P313 If exposed or concerned: Get medical advice.  
P370 + P378 In case of fire: Use water fog or mist or alcohol-resistant foam.

**Storage**

P403 + P235 Store in well-ventilated place. Keep cool.  
P405 Store locked up.

**Disposal**

P501 Dispose of product to a landfill in accordance with any local regulations.

<b>COMPOSITION &amp; INFORMATION ON INGREDIENTS</b>
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Chemical Entity	CAS No.	Proportion (% w/w)
Methanol	67-56-1	99 - 100

<b>FIRST AID MEASURES</b>
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Consult the National Poisons Centre, telephone 0800 764 766 [0800 POISON] or a doctor in every case of suspected poisoning. If medical advice is needed, have product container or label at hand.

**INGESTION:** Do NOT induce vomiting. Call a Poison Centre or doctor immediately for advice. Do Not DELAY. Swallowing methanol is potentially life threatening. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into the lungs.

**INHALATION:** Move person to fresh air and keep warm and at rest. Call a Poison Centre or doctor immediately for advice. If breathing is difficult, give oxygen.

**SKIN:** Remove immediately all contaminated clothing and footwear. Wash affected area with plenty of water followed by soap and water. Get medical advice if irritation persists. Wash contaminated clothing/footwear before re-use.

**EYES:** Hold eyes open and rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do after the first 5 minutes. Continue rinsing for at least 15 minutes. Get medical attention if irritation persists.

**NOTES TO PHYSICIAN:** Acute exposure to methanol either through ingestion or inhalation of high concentrations can result in symptoms appearing between 40 minutes and 72 hours following exposure. Symptoms/signs are usually limited to the central nervous system (CNS), eyes and gastrointestinal tract. Initial CNS effects (headache, vertigo, lethargy, confusion) may give the impression of ethanol intoxication. Blurred vision, decreased acuity (ability to see, hear and understand) and photophobia (visual intolerance to light) are also common. Treatment with IPECAC or lavage is indicated for any patient presenting within 2 hours of ingestion. A profound metabolic acidosis occurs in severe poisoning and serum bicarbonate levels are a more accurate measure of severity than serum methanol levels. Ethanol significantly decreases the toxicity of methanol because it competes for the same metabolic enzymes.

<b>FIRE FIGHTING MEASURES</b>
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**FLASH POINT:** 11°C

**FLAMMABLE LIMITS:** LFL: 6% v/v UFL: 36.5 % v/v

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**EXTINGUISHING MEDIA:** Use dry chemical powder, carbon dioxide or water spray. For large fires use alcohol resistant foam. Do NOT use water in a jet.

**FIRE & EXPLOSION HAZARDS:** Methanol vapours may burn with an invisible or clear flame. Toxic gases and vapours may be generated; carbon monoxide, carbon dioxide, formaldehyde.

**SPECIFIC HAZARDS:** Vapors can accumulate in confined spaces resulting in toxicity and flammability hazards. Vapors can flow along surfaces to distant ignition sources and flash back. Closed containers may rupture violently and suddenly release large quantities of product. Cool fire exposed containers with water spray. Concentrations of >25% methanol in water can be ignited.

**FIRE-FIGHTING EQUIPMENT:** Wear self-contained breathing apparatus and personal protection clothing.

<b>ACCIDENTAL RELEASE MEASURES</b>
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**SPILLS:** Highly flammable liquid. Can burn without visible flame. Vapor forms explosive mixture with air. Isolate hazard area and keep unnecessary and unprotected people away from area. Stay upwind and keep out of low-lying areas. Wear personal protective equipment. Avoid contact with skin and eyes. Shut off leak if safe to do so. Remove or isolate ignition sources. Contain spill. Avoid run off into drains or sewers. Do not contaminate watercourses or the ground. Take precautions against static discharge. Bond or ground (earth) all equipment. Ventilate contaminated area. For large spills (more than a drum), recover liquid and transfer by mechanical means to labelled salvage tank that can be sealed for recovery or disposal of product. Allow residues to evaporate. Water can be used to disperse vapours and to clean spill area although prevent water from entering sewers or drains. Remove any contaminated soil and dispose of safely by waste management company. For small spills, absorb with an appropriate material, e.g., vermiculite, and dispose of waste safely in a labelled sealed container for recovery or disposal. If contamination of drains, sewers or waterways occurs immediately notify Emergency Services (111).

**DISPOSAL:** Dispose of contaminated waste or product to an approved landfill in accordance with local regulations.

<b>HANDLING &amp; STORAGE</b>
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**HANDLING:** Read label before use. Use only in well-ventilated areas. Avoid breathing vapours or direct contact with product. Wear personal protective equipment. Remove ignition sources. Avoid sparks. Electrostatic charge may be generated during pumping with risk of fire. Restrict line viscosity to avoid generation of electrostatic discharge. Take precautions to use bonded or grounded (earthed) equipment. No Smoking. Do not use compressed air for filling, discharging or handling. Use only in well-ventilated area. Keep container closed when not in use. Wear personal protective equipment to prevent breathing of and contact with product. Wear gloves and protect eyes from splashes. Wash hands and exposed skin after handling.

**STORAGE:** Ensure all storage areas have adequate fire-fighting equipment. Store in closed original container in a secure cool dry well-ventilated place, away from sunlight, ignition sources, heat, incompatible substances, aerosols, other flammables, oxidizing agents, and corrosives, out of reach of children, and away from food, drink and animal foodstuffs. Take precautions to avoid accumulation of vapours in pits and confined spaces. All equipment must be grounded/bonded when transferring product to avoid static discharge. Ensure all ignition sources eliminated or purge storage tanks with inert gas such as nitrogen. Anhydrous methanol is non-corrosive to most metals at ambient temperatures except for lead, nickel, monel, cast iron and high silicon iron. Coatings of copper (or copper alloys), zinc (including galvanized steel) or aluminium are unsuitable for storage. Polyethylene, neoprene, phenolic resins, polyesters, natural rubber, butyl rubber and polyvinyl chloride (unplasticised) shown more resistance to corrosion by methanol.

<b>EXPOSURE CONTROLS &amp; PERSONAL PROTECTION</b>
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**EXPOSURE GUIDELINES:** NZ Workplace Exposure Standard (WES) have been set for this substance.

	WES-TWA	WES-STEL
Methanol,	BIO skin 200 ppm (262 mg/m <sup>3</sup> )	250 ppm (328 mg/m <sup>3</sup> )

**ENGINEERING CONTROLS:** Use only in a well-ventilated area. If airborne concentrations unknown or exceed exposure limits, wear respiratory protective equipment. Where air-filtering respirators are unsuitable (e.g., air-borne concentrations are high, risk or oxygen deficiency, confined space) use positive pressure breathing apparatus.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** Wear impervious protective clothing including safety shoes or boots. Wear appropriate chemical resistant gloves, e.g., butyl or nitrile rubber. Avoid contact with eyes. Wear face shield or

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chemical goggles if splash or aerosol/mist exposure risk. Refer to the relevant AS/NZ standards for appropriate personal protective equipment.

<b>PHYSICAL &amp; CHEMICAL PROPERTIES</b>
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<b>Form:</b>	Liquid
<b>Colour:</b>	Clear, colourless
<b>Odour:</b>	Mild characteristic alcohol
<b>Boiling point (°C):</b>	64.7
<b>Flash point (°C):</b>	11.0
<b>Flammability limits in air (%v/v):</b>	6.0 to 36.5
<b>Auto ignition temperature (°C):</b>	464
<b>Vapour pressure (kPa at 20°C):</b>	12.8
<b>Density at 20°C, g/cc:</b>	0.82
<b>Solubility in water:</b>	Completely soluble
<b>pH:</b>	Not available
<b>Vapour density (air =1):</b>	1.105 (at 15 °C)
<b>Evaporation rate (nBuAc =1):</b>	4.1

<b>STABILITY &amp; REACTIVITY</b>
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**STABILITY (CONDITIONS TO AVOID):** Stable under normal storage and use conditions. Avoid heat, sparks, open flames and other ignition sources.

**INCOMPATIBILITY (MATERIALS TO AVOID):** Strong oxidizing agents, strong mineral or organic acids, and strong bases. Contact may result in a violent or explosive reaction. Corrosive to lead, aluminium, magnesium and platinum. May react with metallic aluminium or magnesium and generate hydrogen gas. May attack some forms of plastic, rubber and coatings.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Dependent on conditions under which decomposition occurs; gases (carbon monoxide, carbon dioxide, formaldehyde) will be evolved.

**HAZARDOUS POLYMERIZATION:** Not known to occur.

<b>TOXICOLOGICAL INFORMATION</b>
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**POTENTIAL HEALTH EFFECTS:** This section includes possible adverse effects, which might occur if this product is not handled in the recommended manner.

**INGESTION:** Toxic. Ingestion of even small amounts could potentially cause blindness and death. Symptoms/signs are usually limited to the central nervous system (CNS), eyes and gastrointestinal tract. Effects of sub lethal does can be nausea, headache, abdominal pain, vomiting and visual disturbances. Initial CNS effects (headache, vertigo, lethargy, confusion) may give the impression of ethanol intoxication. Blurred vision, decreased acuity (ability to see, hear and understand) and photophobia (visual intolerance to light) are common.

**INHALATION:** Toxic. May irritate the upper respiratory tract, cause headaches, drowsiness, nausea, confusion, loss of consciousness, gastrointestinal and visual disturbances. Odour threshold is several times higher than the WES concentration. Exposure to high concentration may cause permanent effects, unconsciousness and death.

**SKIN CONTACT:** Toxic. May be absorbed through skin resulting in harmful effects as described for inhalation router of exposure. Prolonged contact may also result in defatting of skin leading to dermatitis and aggravation of any pre-existing skin conditions.

**EYE CONTACT:** Mild to moderate irritant to eyes. Symptoms can include tearing, redness, and burning.

**SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:** Causes visual disturbances, e.g., blurring or vision, constriction of visible field, change in colour perception, temporary or permanent blindness.

**CANCER INFORMATION:** Not classified as carcinogen.

**TERATOLOGY (BIRTH DEFECTS) AND REPRODUCTIVE DEFECTS:** Not classified.

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**MUTAGENICITY (EFFECTS ON GENETIC MATERIAL):** Not a mutagen.

**Toxicity data:**

Oral, human LD50 300 mg/kg b.w.

Inhalation, LC50 (4hr) human 10 mg/L

**Additional information:** Persons with pre-existing skin disorders, eye problems, respiratory conditions or impaired liver or kidney functions may be more susceptible to the effects of this product.

<b>ECOLOGICAL INFORMATION</b>
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**ENVIRONMENTAL FATE:** This product has been classified as not being ecotoxic in the aquatic environment but is harmful terrestrial vertebrates. However, do NOT discharge to sewer or any waterway.

**MOVEMENT AND PARTITIONING:** Product is soluble in water.

**DEGRADATION AND PERSISTENCE:** Not expected to bio accumulate significantly and is readily biodegradable. Product is mobile in soil and may contaminate groundwater. Avoid contamination of drains and waterways. Oxidises by photo-chemical reactions in air.

**ECOTOXICOLOGY:** No EEL has been set for this substance.

<b>DISPOSAL CONSIDERATIONS</b>
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Recover and recycle (e.g., re-distillation) product whenever possible. Dispose of waste in accordance with Regional Authority or local council bylaws. Options may include via sewerage treatment facility (limitations on water diluted concentration would apply) or via incineration. Ensure empty containers are vented and dry. Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums. Send clean dry drums to recycler or metal scrap reclaimer. Do not use empty drums for storing other products.

<b>TRANSPORT INFORMATION</b>
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<b>UN No:</b>	1230
<b>Class-primary</b>	3 Flammable Liquid
<b>Subclass:</b>	6.1 Toxic
<b>Packing Group:</b>	II
<b>Proper Shipping Name:</b>	METHANOL
<b>Hazchem Code:</b>	3WE
<b>Marine Pollutant:</b>	No

<b>REGULATORY INFORMATION</b>
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**EPA New Zealand Approval Code:** HSR001186

**HSNO Hazard Classification:** 3.1B, 6.1C, 6.4A, 6.8B, 6.9A

**Restrictions:** Methanol is Restricted to Workplace only, due to the Acute Toxicity – Category 3 (6.1C) classifications as per the Hazardous Substances (Hazardous Property Controls) Notice 2017

<b>OTHER INFORMATION</b>
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**Key to abbreviations:**

CAS No.	Chemical Abstracts Service Number
EPA	Environmental Risk Management Authority
HSNO	Hazardous Substances & New Organisms
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
WES	Workplace Exposure Standard

**End of SDS.**

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