

**SAFETY DATA SHEET****Hazardous Substance, Dangerous Goods**Product name: **Model Engine Fuel - Class B - Limited maximum quantity 4000ml per inner pack****1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION**

Supplier: Model Engines PTY Ltd  
ABN: 96 619 026 934  
Street Address: Unit 1, 32 Bluett Drive  
Smeaton Grange, NSW, 2567

Telephone: 02 4647 0184

Emergency  
Telephone number +61 411 128 284  
SDS date 24/01/2023

**2. HAZARDS IDENTIFICATION****CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA****PICTOGRAM**

Flame

Health Hazard  
WARNING

Toxic

**RISK PHRASES**

R11 Highly Flammable  
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed  
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

**SAFETY PHRASES**

S1/2 Keep locked up and out of reach of children  
S7 Keep container tightly closed  
S16 Keep away from sources of ignition - No smoking.  
S36/37 Wear suitable protective clothing and gloves  
S45 In case of accident or of you feel unwell seek medical advice immediately (show the label where possible)

**HAZARD STATEMENTS**

H226 Flammable liquid and vapour

H301+H311	Toxic if swallowed or in contact with skin
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enter airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs blood, thyroid and respiratory system through prolonged or repeated exposure

### **ENVIRONMENTAL HAZARD**

H412	Harmful to aquatic life with long lasting effect
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### **PRECAUTIONARY STATEMENTS**

P102	Keep out of reach of children
P202	Do not handle until all safety precautions have been read and understood
P210	Keep away from sparks and open flames - No smoking
P260	Do not breath vapours
P271	Use only outdoors or in a well-ventilated area
P273	Avoid release to the environment
P280	Wear protective gloves, clothing, eye and respiratory protection
P308 + P313	If exposed or concerned: Get medical advice/ attention

### **RESPONSE STATEMENT**

P310	If swallowed immediately call poison centre or doctor. Do not induce vomiting
P303+P361+353	If on skin: take off immediately all contaminated clothing. Rinse skin with water
P304+P340	If inhaled, remove to fresh air and keep comfortable for breathing
P305+P351	If in eyes: rinse cautiously with water for at least 15 minutes
P306+P361	If on clothing, take off contaminated clothing
P308+P313	If exposed or concerned get medical attention
P330	Rinse mouth
P370	In case of fire use foam, carbon dioxide, dry chemical to extinguish fire
P376	Stop leaks if safe to do so
P391	Collect spillage

### **STORAGE STATEMENTS**

P403	Keep cool - store in a well-ventilated place
P405	Store locked up

### **DISPOSAL STATEMENTS**

P501 Dispose of content and/or container in accordance with local, regional, national or international regulations

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

<b>UN number</b>	<b>1992</b>	<b>DG Class</b>	<b>3</b>
<b>Packing Group</b>	<b>II</b>	<b>Subsidiary risk(s)</b>	<b>6.1</b>
<b>Hazchem code</b>	<b>2WE</b>		

### 3. COMPOSITION INFORMATION

Ingredient	Identification	Classification	Content
Methanol	CAS: 67-56-1 EC: 200-659-6	F: R11T; R23/24/25 T: R39/23/24/25	60 to 70% depending oil cont.
Nitromethane	CAS: 75-52-5 EC: 200-876-6	F: H226 T: H302	5 to 30% depending on formulation

### 4. FIRST AID MEASURES

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing for at least 20 minutes until advised to stop by a Poison Information Centre or doctor .

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. Seek medical attention.

**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 a Poison Information Centre or a doctor.

**Ingestion** Swallowing methanol is potentially life threatening. Onset of symptoms may be delayed for 18 to 24 hours after digestion. 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** Acute exposure to methanol, either through ingestion or breathing high airborne concentrations can result in symptoms appearing between 40 minutes and 72 hours after exposure. Symptoms and signs are usually limited to CNS, eyes and gastrointestinal tract. Because of the initial CNS's effects of headache, vertigo, lethargy and confusion, there may be an impression of ethanol intoxication. Blurred vision, decreased acuity and photophobia are common complaints. Treatment with ipecac or lavage is indicated in any patient presenting within two 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. Treatment protocols are available from most major hospitals and early collaboration with appropriate hospitals is recommended.

**First aid facilities** Eye wash facilities and safety shower should be available.

## 5. FIRE FIGHTING MEASURES

<b>Flammability</b>	Highly flammable. 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. Vapour may form explosive mixtures with air.
<b>Fire and explosion</b>	Methanol burns with a clean clear flame that is almost invisible in daylight. Stay upwind! Isolate and restrict area access. Concentrations of greater than 25% methanol in water can be ignited. Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use water fog to cool intact containers and nearby storage area.
<b>Extinguishing</b>	Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways. Small fires: Dry chemical, CO <sub>2</sub> , water spray. Large fires: Water spray, AFFF(R) (Aqueous Film Forming Foam (alcohol resistant)) type with either a 3% or 6% foam proportioning system. Preferred medium: Alcohol resistant foam is the preferred firefighting medium.
<b>Hazchem code</b>	<p>2WE</p> <p>2 Water fog (or fire water spray if fog unavailable)</p> <p>W Full protective equipment including Self Contained Breathing apparatus</p> <p>E Evacuation of people in the vicinity if the incident should be considered.</p>

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Full face, positive pressure self-contained breathing apparatus or airline, and protective clothing must be worn. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### Environmental precautions

Prevent product from entering drains and waterways. Biodegrades easily in water. Methanol in fresh or salt water may have serious effects on aquatic life. A study of methanol's toxic effects on sewage sludge bacteria reported little effect on digestion at 0.1% while 0.5% methanol retarded digestion. Methanol will be broken down to carbon dioxide and water.

### Methods of cleaning up

Flammable liquid. Release can cause an immediate fire/explosion hazard. Eliminate all sources of ignition, stop leak and use absorbent materials. Collect liquid with explosion proof pumps. Do not walk through spill product as it may be on fire and not visible.

Large Spills: If necessary, contain spill by bunding. Fluorocarbon alcohol resistant foams may be applied to spill to diminish vapour and fire hazard.

Maximize methanol recovery for recycling or reuse. Collect liquid with explosion proof pumps.

Small Spills: Soak up spill with non-combustible absorbent material. Recover methanol and dilute with water to reduce fire hazard. Prevent spilled methanol from entering sewers, confined spaces, drains, or waterways. Restrict access to unprotected personnel. Put material in suitable, covered, labelled containers. Flush area with water.

**References** See Section 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

**Storage** Store in a cool, dry, well-ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

Bulk storage: Tanks must be grounded, vented and should have vapour emission controls. Tanks must be banded. Large storage areas should have appropriate fire protection systems. Anhydrous methanol is non-corrosive to most metals at ambient temperatures except for leads, nickel, monel, cast iron and high silicon iron. Coating of copper (or copper alloys), zinc (including galvanized steel), or aluminium are unsuitable for storage. These materials may be attacked slowly by the methanol. Storage tanks of welded construction are normally satisfactory. They should be designed and built in conformance with good engineering practice for the material being stored. While plastics can be used for short term storage, they are generally not recommended for long-term storage due to deterioration effect and the subsequent risk of contamination.

**Handling** Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact or inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure standards

Ingredients	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Methanol	SWA (AUS)	200	262	250	328

### Biological limits

Ingredients	Reference	Determinant	Sampling Time	BEI
Methanol	ACGIH BEI	Methanol in urine	End of shift	15 mg/L

### Engineering controls

Avoid inhalation. Use 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****Eye/Face**

Wear a face shield and chemical splash goggles when transferring is taking place.

**Hands**

Butyl and nitrile rubbers are recommended for gloves.

**Body**

Wear coveralls and chemical resistant footwear, as specified by the workplace.

**Respiratory**

Where an inhalation risk exists, wear a Type A (organic vapour) respirator. If spraying, wear a Type A-Class P1 (Organic gases/vapours and Particulate) respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES (Methanol)

<b>Appearance</b>	CLEAR COLOURLESS LIQUID- May contain colour for visual impact
<b>Odour</b>	MILD CHARACTERISTIC ALCOHOL ODOUR
<b>Flammability</b>	HIGHLY FLAMMABLE
<b>Flash Point</b>	20C to 24C depending blend application type
<b>Boiling Point</b>	64.7 C @ 101.3 kPa
<b>Melting Point</b>	-97.7 C
<b>Evaporation Rate</b>	4.1 (n-Butyl acetate = 1)
<b>pH</b>	NOT AVAILABLE
<b>Vapour Density</b>	1.105 (Air = 1)
<b>Specific Gravity</b>	0.791
<b>Solubility (water)</b>	SOLUBLE
<b>Vapour pressure</b>	12.8 kPa @ 20 C
<b>Upper explosion limit</b>	36.5 %
<b>Lower explosion limit</b>	6.7 %
<b>Partition coefficient</b>	Log P (oct) = -0.82
<b>Autoignition temperature</b>	470 C
<b>Decomposition temp</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	Detection: 4.2 - 5960 ppm (geometric mean) 160 ppm; Recognition: 53 - 8940 (geometric mean) 690 ppm
<b>Critical temperature</b>	239.4 C
<b>% Volatiles</b>	100 %

## 10. STABILITY AND REACTIVITY

**Chemical stability**

Stable under recommended conditions of storage

<b>Conditions to avoid</b>	Avoid heat, sparks, open flames and other ignition sources
<b>Material to avoid</b>	Incompatible with oxidising agents (eg. Hypochlorite), acids (eg. nitric acid), alkalis (eg. sodium hydroxide), heat and ignition sources
<b>Hazardous decomposition products</b>	May evolve formaldehyde, carbon dioxide, and carbon monoxide when heated to decomposition
<b>Hazardous reactions</b>	Polymerization is not expected to occur.

## 11. TOXICOLOGICAL INFORMATION

<b>Health Hazard Summary</b>	Toxic - irritant. This product has the potential to cause adverse health effects. Use safe work practices to avoid eye or skin contact and 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 if high level exposure, causing visual problems and possible blindness.	
<b>Eye</b>	Irritant. Contact may result in irritation, lacrimation, pain and redness. May result in burns with prolonged contact	
<b>Inhalation</b>	Toxic. Over exposure is may result in irritation of the nose and throat, coughing, nausea and headache. Over exposure may result in dizziness, drowsiness, weakness, fatigue, breathing difficulties and unconsciousness. Continued exposure can result in health effects as per ingestion.	
<b>Skin</b>	Toxic - irritant. Contact may result in drying and de-fatting of the skin, rash and dermatitis. May be absorbed through skin with harmful effects.	
<b>Ingestion</b>	Toxic. Ingestion may result in nausea, vomiting, abdominal pain, diarrhoea, dizziness and drowsiness. Ingestion of large quantities may result in acidosis, visual effects, optic nerve damage, circulatory and respiratory collapse, coma and death.	
<b>Toxicity data</b>	Methanol (67-56-1)	
	LC50 (inhalation)	50 g/m <sup>3</sup> / 2 hrs (mouse)
	LCLo (inhalation)	1000 ppm (monkey)
	LD50 (ingestion)	5628 mg/kg (rat)
	LD50 (skin)	15,800 mg/kg (rabbit)
	LDLo (ingestion)	143 mg/kg (human)
	LDLo (skin)	393 mg/kg (monkey)
	TCLo (inhalation)	300 ppm (human-visual effects)
	TDLo (ingestion)	3429 mg/kg (human-visual change)

## 12. ECOLOGICAL INFORMATION

<b>Toxicity</b>	Methanol in fresh or salt water may have serious effect on aquatic life. A study on methanol's toxic effects on sewage sludge bacteria reported little effect on digestion at 0.1% while 0.5% methanol retarded digestion. Methanol will be broken down into carbon dioxide and water.
<b>Persistence and degradability</b>	Biodegrades easily in water.
<b>Bioaccumulative potential</b>	No information provided
<b>Mobility in soil</b>	No information provided
<b>Other adverse effects</b>	No information provided

### 13. DISPOSAL CONSIDERATIONS

<b>Waste disposal</b>	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.
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

### 14. TRANSPORT INFORMATION

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



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG/ IMO)	AIR TRANSPORT (IATA/ ICAO)
<b>UN No:</b>	1992	1992	1992
<b>Proper shipping name</b>	Model Fuel		
<b>DG class/ Division</b>	3	3	3
<b>Subsidiary risk</b>	6.1	6.1	6.1
<b>Packing group</b>	II	II	II
<b>GTEPG</b>	3A3		
<b>Hazchem code</b>	2WE		
<b>EMS</b>	F-E, S-D		

**15. REGULATORY INFORMATION**

<b>Poison schedule</b>	Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
<b>Inventory Listing(s)</b>	AUSTRALIA: AICS (Australian Inventory of Chemical Substances)

**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.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES: The recommendation for protective equipment contained within this 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.

**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 ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviation	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	GHS	Globally Harmonized System
	IARC	International Agency for Research on Cancer
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	PEL	Permissible Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average