

SAFETY DATA SHEET



Revision date: 15-Feb-2024

Revision Number 7

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier

Product Name METHANOL
Product Code(s) 000030111801

Other means of identification

UN number or ID number 1230
Synonyms Methyl alcohol; Wood alcohol; Carbinol.

Recommended use of the chemical and restrictions on use

Recommended use Solvent.
Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier

Ixom Operations Pty Ltd (Incorporated in Australia)
NZBN: 9429041465226 Address: 166 Totara Street
Mt Maunganui South
New Zealand

Telephone Number: +64 9 368 2700
Facsimile: +64 9 368 2710

For further information, please contact

Contact Point Product Safety Department

Emergency telephone number

Emergency Telephone 0 800 734 607 (ALL HOURS)

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

GHS Classification

SIGNAL WORD

Danger

Approval Number: HSR001186

Flammable liquids

Category 2

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Vapors)	Category 3
Serious eye damage/eye irritation	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

Label elements**Hazard statements**

H225 - Highly flammable liquid and vapor
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 prolonged or repeated exposure

Precautionary Statements - Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical, ventilating, lighting equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Do not breathe fume, gas, mist, vapours, spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Wear protective gloves / protective clothing / eye protection / face protection

Precautionary Statements - Response

Specific treatment (see First aid on this SDS)
IF EXPOSED: Call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor/physician if you feel unwell
Remove/Take off immediately all contaminated clothing
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth
In case of fire: Use extinguishing media as outlined in Section 5 of this Safety Data Sheet to extinguish.

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical name	CAS No.	Weight-%
Methanol (methyl alcohol)	67-56-1	>60 - <100

4. FIRST AID MEASURESDescription of first aid measures

General advice	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor. Show this safety data sheet to the doctor in attendance. Immediately call a POISON CENTER or doctor/physician
Inhalation	Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Eye contact	Do not rub affected area. Keep eye wide open while rinsing. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get immediate medical advice/attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.

Most important symptoms and effects, both acute and delayed

Symptoms	Irritation. May cause redness and tearing of the eyes. Vapors may cause drowsiness and dizziness.
-----------------	---

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically. Metabolic acidosis may occur up to 12 hours after ingestion. Administration of ethanol reduces toxic effects by blocking the metabolic route to formaldehyde/formic acid production in the body.
---------------------------	---

5. FIRE FIGHTING MEASURESSuitable Extinguishing Media

Suitable Extinguishing Media	Alcohol resistant foam is the preferred firefighting medium but, if it is not available, fine water spray or water fog can be used.
-------------------------------------	---

Unsuitable extinguishing media	High volume water jet.
---------------------------------------	------------------------

Specific hazards arising from the chemical

Specific hazards arising from the chemical Highly flammable. Keep product and empty container away from heat and sources of ignition. May form explosive mixtures with air. Most vapors are heavier than air. Vapors may spread along ground and collect in low or confined areas (sewers, basements, tanks). Pay attention to flashback.

Hazardous combustion products Carbon oxides. Formaldehyde.

Special protective actions for fire-fighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Hazchem code •2WE

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal precautions ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Avoid contact with skin, eyes, and clothing. Do not breathe vapor or mist. Do not touch or walk through spilled material. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges. Use personal protective equipment as required. Wash thoroughly after handling.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use non-sparking tools.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on safe handling Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking. All equipment may need to be explosion-proof based on a risk assessment. Avoid contact with skin, eyes, and clothing. Do not breathe vapor or mist. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Use personal protection

equipment. Wash thoroughly after handling. Keep in an area equipped with sprinklers. Handle in accordance with good industrial hygiene and safety practice. Not to be used by pregnant workers and workers who have recently given birth or who are breastfeeding.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from foodstuffs and sources of heat or ignition. Keep container closed when not in use.

Incompatible materials Oxidizing agents. Strong acids. Strong bases. Lead. Aluminium. Zinc.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Biological occupational exposure limits

Chemical name	New Zealand	ACGIH
Methanol (methyl alcohol) 67-56-1	15 mg/L urine end of shift Methyl alcohol	

Methyl alcohol (Methanol): WES-TWA 200 ppm, 262 mg/m³; WES-STEL 250 ppm, 328 mg/m³, skin, bio - BEI 15mg/L (in urine)

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

WES - STEL (Workplace Exposure Standard - Short Term Exposure Limits) - The 15 minute average exposure standard. Applies to any 15 minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both short-term and eight-hour, time-weighted average exposures should be determined.

'Skin' Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

'bio' - Biological Exposure Index.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls

Engineering controls Ensure adequate ventilation, especially in confined areas. Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering

controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, RESPIRATOR.



Eye/face protection	Goggles.
Hand protection	Impervious gloves.
Skin and body protection	Antistatic boots. Wear fire/flamm resistant/retardant clothing. Overalls.
Respiratory protection	If determined by a risk assessment an inhalation risk exists, wear an organic vapour respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.
Environmental exposure controls	No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Color	Colourless
Odor	Alcohol
Odor threshold	4.2-5960 ppm

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	ca. -98°C	
Boiling point / boiling range	ca. 64.5°C	
Flash point	6°C	
Evaporation rate	4.1 (butyl acetate = 1)	
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	36.5%	
Lower flammability or explosive limits	5.5%	
Vapor pressure	ca. 125 hPa @20°C	
Vapor density	ca. 1.1 (air=1)	
Relative density	0.791-0.801	
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known

Autoignition temperature	440°C	
Hyphen	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	

Other information**10. STABILITY AND REACTIVITY**Reactivity

Reactivity Hygroscopic: absorbs moisture or water from surrounding air.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

Possibility of hazardous reactions

Possibility of hazardous reactions Heating causes rise in pressure with risk of bursting.

Conditions to avoid

Conditions to avoid Heat, flames and sparks. Static discharge (electrostatic discharge). Moisture.

Incompatible materials

Incompatible materials Oxidizing agents. Strong acids. Strong bases. Lead. Aluminium. Zinc.

Hazardous decomposition products

Hazardous decomposition products Carbon oxides. Formaldehyde.

11. TOXICOLOGICAL INFORMATIONAcute toxicityInformation on likely routes of exposure

Product Information Methanol is more toxic to humans and primates than to most experimental animals, due to differences in how it is metabolized. Non-primates do not appear to experience the acidosis or vision effects observed in humans and primates.

No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

Inhalation May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. In confined or poorly ventilated areas, vapors can readily accumulate and can cause unconsciousness and death. Toxic by inhalation.

Eye contact Causes serious eye irritation.

Skin contact	May cause irritation. Prolonged skin contact may defat the skin and produce dermatitis. Toxic in contact with skin.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache). MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. Toxic if swallowed.
Symptoms	Irritation. May cause redness and tearing of the eyes. Vapors may cause drowsiness and dizziness.

Acute toxicity**Numerical measures of toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Methanol (methyl alcohol)	= 6200 mg/kg (Rat)	= 15840 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP. (OSHA - Occupational Safety and Health Administration) (IARC - International Agency for Research on Cancer) (NTP - National Toxicology Program).
Reproductive toxicity	H361 - Suspected of damaging fertility or the unborn child.
STOT - single exposure	No information available.
STOT - repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	No information available.
Chronic effects:	Chronic exposure to methanol from skin contact, inhalation or swallowing, at concentrations greater than 1000 ppm can result in permanent blindness and central nervous system effects. Absorption of methanol into the body results in the production of metabolic toxins, formaldehyde and formic acid, which causes metabolic acidosis and selective injurious effects to the eye tissues.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Ecotoxicity Keep out of waterways.

Terrestrial ecotoxicity There is no data for this product.

Chemical name	EarthWorm	Avian	Honeybees
Methanol (methyl alcohol)	LC50 > 1 mg/cm ² (Eisenia foetida 48 h filter paper)	-	-

Chemical name	Algae/aquatic plants	Fish	Crustacea
Methanol (methyl alcohol)	-	LC50: =28200mg/L (96h, Pimephales promelas) LC50: >100mg/L (96h, Pimephales promelas) LC50: 19500 - 20700mg/L (96h, Oncorhynchus mykiss) LC50: 18 - 20mL/L (96h, Oncorhynchus mykiss) LC50: 13500 - 17600mg/L (96h, Lepomis macrochirus)	-

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation This chemical shows a low bioaccumulation potential.

Mobility

Mobility in soil No information available.

Chemical name	Partition coefficient
Methanol (methyl alcohol)	-0.77

Other adverse effects

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of product in packaging/container in a way that is consistent with the Hazardous Substances (Disposal) Notice 2017 and the Act, and Hazardous Substances (Amendments and Revocations) Notice 2020. Treat the chemical using a method that changes the characteristics or composition of the chemical so that the chemical is no longer a hazardous chemical; or export the chemical from New Zealand as waste. Class 2, 3 and 4 chemicals - may not be disposed of into or onto a landfill or sewage facility. They may only be burnt in certain situations. Class 2.1.1, 3.1 and 4.1.1 chemicals may only be discharged into the environment as waste if the substance will not at any time come into contact with class 1 or class 5 substances; and there will be no ignition source in the vicinity of the disposal site at any time and if the substance were to ignite, no person, or place where a person may legally be, would be exposed to an unsafe level of heat radiation.

Contaminated packaging

For packages that have been in direct contact with hazardous chemicals, the person must ensure that the package is rendered incapable of containing any chemical. It must be disposed of in a manner that is consistent with the requirements for disposal of the chemical that it contained, taking into account the material the package is manufactured from. Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous chemical (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the chemical to be classified as hazardous (class 6, 8, or 9 chemical). Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION**ROAD AND RAIL TRANSPORT**

Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

UN number or ID number	1230
Proper shipping name	METHANOL
Transport hazard class(es)	3
Subsidiary hazard class	6.1
Packing group	II
Hazchem code	•2WE

IATA

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN number	1230
UN proper shipping name	METHANOL
Transport hazard class(es)	3
Subsidiary hazard class	6.1
Packing group	II

IMDG

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN number	1230
UN proper shipping name	METHANOL
Transport hazard class(es)	3
Subsidiary hazard class	6.1
Packing group	II
IMDG EMS Fire	F-E
IMDG EMS Spill	S-D
Marine pollutant	No

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****New Zealand****National regulations**

This chemical is subject to NZ EPA Hazardous Substances regulations which require details of Competent Persons.

International Inventories

NZIoC	This material is listed on the New Zealand Inventory of Chemicals.
TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AIIC	This material is listed on the Australian Inventory of Industrial Chemicals.

Legend:**NZIoC** - New Zealand Inventory of Chemicals**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AIIC**- Australian Inventory of Industrial Chemicals**International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**16. OTHER INFORMATION**

Supplier Safety Data Sheet 02/ 2020

Prepared By	This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).
Issuing Date:	15-Feb-2024
Reason(s) For Issue:	Revised Primary SDS Change in Physical Properties

Revision Note:

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet