



SAFETY DATA SHEET METHOXY PROPYL ACETATE REVISION 4, DATE 28 FEB 19

1. IDENTIFICATION

Product Name	Methoxy propyl acetate
Other Names	1-Methoxy-2-propanol, acetate; PGMEA; PMA; Propylene glycol methyl ether acetate; Propylene glycol monomethyl ether acetate
Uses	Solvent for coatings; Industrial use.
Chemical Family	No Data Available
Chemical Formula	C ₆ H ₁₂ O ₃
Chemical Name	2-Propanol, 1-methoxy-, acetate
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

Not Scheduled

Redox Ltd
Corporate Office Sydney
Locked Bag 15 Minto NSW 2566 Australia
2 Swettenham Road Minto NSW 2566 Australia
All Deliveries: 4 Holmes Road Minto NSW 2566 Australia

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Australia
Adelaide
Brisbane
Melbourne
Perth
Sydney

New Zealand
Auckland
Christchurch
Hawke's Bay
UK
London

Malaysia
Kuala Lumpur
USA
Los Angeles
Oakland
Mexico
Saltillo



Globally Harmonised System

Hazard Classification		Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)	
Hazard Categories		Flammable Liquids - Category 3	
Pictograms			
Signal Word		Warning	
Hazard Statements		H226	Flammable liquid and vapour.
Precautionary Statements	Prevention	P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
		P233	Keep container tightly closed.
		P240	Ground and 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.
	Response	P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
		P370 + P378	In case of fire: Use dry chemical, alcohol resistant foam or dry sand for extinction.
	Storage	P403 + P235	Store in a well-ventilated place. Keep cool.
	Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Propylene glycol monomethyl ether acetate	C ₆ H ₁₂ O ₃	108-65-6	>=99.5 %
Ingredients determined not to be hazardous	Unspecified	Unspecified	Balance %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink a glass of water. Do not induce vomiting. Get immediate medical advice/attention. Never give anything by mouth to an unconscious person.
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Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN (or hair): Remove contaminated clothing and shoes immediately. Flush skin and hair with running water for at least 15 minutes. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Apply resuscitation if victim is not breathing - Do not use direct mouth-to-mouth method if victim ingested or inhaled the substance; use alternative respiratory method or proper respiratory device - Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically. Symptoms may be delayed. Keep victim calm and warm - Obtain immediate medical care. Ensure that attending medical personnel are aware of identity and nature of product(s) involved, and take precautions to protect themselves. Show this safety data sheet (SDS) to the doctor in attendance.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	Fight fire from a safe distance, with adequate cover. If safe to do so, move undamaged containers from fire area. Cool container with water spray until well after fire is out. Avoid getting water inside containers.
Flammability Conditions	HIGHLY FLAMMABLE: Low flashpoint – Will be easily ignited by heat, sparks or flames at ambient temperatures.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction - Do not use water jets. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. - Caution: Use of water spray when fighting fire may be inefficient.
Fire and Explosion Hazard	Risk of violent reaction or explosion: Vapours will form explosive mixtures with air. Vapours will travel to source of ignition and flash back. Containers may explode when heated. Fire exposed containers may vent contents through pressure relief valves. Many liquids are lighter than water. Many vapours are heavier than air and will collect in low or confined areas. Vapours from runoff may create an explosion hazard.
Hazardous Products of Combustion	Fire may produce irritating, toxic and/or corrosive gases, including Carbon oxides.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways; Vapours from runoff may create an explosion hazard.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) and chemical protective clothing. SCBA and structural firefighting uniform provide limited protection.
Flash Point	42 °C [Closed cup]
Lower Explosion Limit	1.3 %
Upper Explosion Limit	13.1 %
Auto Ignition Temperature	318 - 354 °C
Hazchem Code	•3Y

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources - All equipment used in handling the product must be earthed. Do not touch or walk through spilled material - Slippery when spilt. Avoid breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Absorb spill with earth, sand or other non-combustible material - Use clean, non-sparking tools to collect material and place it in suitable, properly labelled containers for disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Vapour-suppressing foam may be used to control vapours. Water spray may be used to knock down or divert vapour clouds.
Decontamination	Wash area down with excess water.

Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. Large spill: Immediately contact Police or Fire Brigade; Consider initial downwind evacuation of areas within at least 300 m.
Personal Precautionary Measures	SCBA and gas-tight suits should be worn when dealing with damaged or leaking containers and where there is no risk of ignition. SCBA and structural firefighting uniform provide limited protection where there is a risk of ignition.

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation, especially in confined areas. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours and contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/eye protection/face protection (see SECTION 8). Flammable liquid & vapour: Keep away from heat and sources of ignition - No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed - check regularly for leaks. Avoid exposure to air and moisture. Keep cool; Keep away from heat and sources of ignition - No smoking. Keep away from foodstuffs and incompatible materials (see SECTION 10).
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	For 1-Methoxy-2-propanol acetate (CAS No. 108-65-6): - Safe Work Australia Exposure Standard: TWA = 50 ppm (274 mg/m ³); STEL = 100 ppm (548 mg/m ³); Absorption through the skin may be a significant source of exposure (Sk).
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Organic vapour respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Tightly fitting safety goggles. - Hand protection: Wear protective gloves. Recommended: Impervious gloves, e.g. Butyl rubber. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Wear fire/flamm resistant/retardant clothing and antistatic boots.
Special Hazards Precautions	Vapour heavier than air - prevent concentration in hollows or sumps. Do not enter confined spaces where vapour may have collected.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Transparent liquid
Odour	Ether-like
Colour	Colourless

pH	No Data Available
Vapour Pressure	0.5 MPa (@ No Data Available)
Relative Vapour Density	4.6 Air = 1
Boiling Point	146 °C
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	Miscible with water
Specific Gravity	0.96 (Water = 1)
Flash Point	42 °C [Closed cup]
Auto Ignition Temp	318 - 354 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	132.16 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	1.1 mm ² /s (@ 25 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	Risk of violent reaction or explosion.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	HIGHLY FLAMMABLE: Low flashpoint – Will be easily ignited by heat, sparks or flames at ambient temperatures.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating, toxic and/or corrosive gases, including Carbon oxides.
Release of Invisible Flammable Vapours and Gases	Vapours will form explosive mixtures with air.

10. STABILITY AND REACTIVITY

General Information	Contact with incompatible substances can cause decomposition or other chemical reactions. May form peroxides in the presence of air.
Chemical Stability	Stable under proper operation and storage conditions.
Conditions to Avoid	Keep away from heat and sources of ignition.

Materials to Avoid	Incompatible/reactive with strong oxidising agents, strong acids and strong bases.
Hazardous Decomposition Products	Fire/decomposition may produce irritating, toxic and/or corrosive gases, including Carbon oxides.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none">- Acute toxicity: Low toxicity if swallowed; large amounts may cause nausea and vomiting. Absorption through the skin may be a significant source of exposure.- Skin corrosion/irritation: May cause skin irritation. Repeated exposure may cause skin dryness or cracking.- Eye damage/irritation: May cause slight, temporary eye irritation.- Respiratory/skin sensitisation: No information available.- Germ cell mutagenicity: No information available.- Carcinogenicity: Not listed (IARC, NTP).- Reproductive toxicity: No information available.- STOT (single exposure): Mist/vapours may cause respiratory tract irritation (mucous membranes), coughing, headache.- STOT (repeated exposure): Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. May affect respiratory system, liver and kidneys.- Aspiration toxicity: No information available.
Acute	
Ingestion	Acute toxicity (Oral): <ul style="list-style-type: none">- LD50, Rat: 8,532 mg/kg [Supplier's SDS].
Other	Acute toxicity (Dermal): <ul style="list-style-type: none">- LD50, Rabbit: >5,000 mg/kg [Supplier's SDS].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Acute aquatic toxicity: <ul style="list-style-type: none">- LC50, Fish: >100 mg/L (96 h).- EC50, Crustacea: 370 mg/L (48 h).- ErC50, Algae: >1,000 mg/L (72 h). Chronic aquatic toxicity: <ul style="list-style-type: none">- NOEC, Crustacea: >100 mg/L- NOEC, Algae: 1,000 mg/L
Persistence/Degradability	Readily biodegradable.
Mobility	No information available.
Environmental Fate	Prevent entry into drains and waterways.
Bioaccumulation Potential	Not expected to bioaccumulate.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Burn in a chemical incinerator equipped with an afterburner and scrubber.

14. TRANSPORT INFORMATION**Land Transport (Australia)**

ADG Code

Proper Shipping Name	ESTERS, N.O.S. (2-Propanol, 1-methoxy-, acetate)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	3272
Hazchem	•3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (Canada)

TDG Regulations

Proper Shipping Name	ESTERS, N.O.S. (2-Propanol, 1-methoxy-, acetate)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
ERG	127 Flammable Liquids (Polar / Water-Miscible)
UN Number	3272
Hazchem	•3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	ESTERS, N.O.S. (2-Propanol, 1-methoxy-, acetate)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	3272
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	ESTERS, N.O.S. (2-Propanol, 1-methoxy-, acetate)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	3272
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	ESTERS, N.O.S. (2-Propanol, 1-methoxy-, acetate)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
ERG	127 Flammable Liquids (Polar / Water-Miscible)
UN Number	3272
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	ESTERS, N.O.S. (2-Propanol, 1-methoxy-, acetate)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	3272
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available
EMS	F-E, S-D
Marine Pollutant	No

Air Transport

IATA DGR

Proper Shipping Name	ESTERS, N.O.S. (2-Propanol, 1-methoxy-, acetate)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	3272
Hazchem	3Y
Pack Group	III
Special Provision	No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code

Additives Process Chemicals and Raw Materials Flammable Group Standard 2020 HSR002495
*HSR001219 (Revoked)

National/Regional Inventories

Australia (AIIIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	203-603-9
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes

MEPRAC1000, MEPRAC1001, MEPRAC1002, MEPRAC1003, MEPRAC1004, MEPRAC2000, MEPRAC2400, MEPRAC3000, MEPRAC3001, MEPRAC3002, MEPRAC3010, MEPRAC3011, MEPRAC3012, MEPRAC3013, MEPRAC3014, MEPRAC3020, MEPRAC3021, MEPRAC3100, MEPRAC3700, MEPRAC3701, MEPRAC3800, MEPRAC3801, MEPRAC3802, MEPRAC3900, MEPRAC4000, MEPRAC4001, MEPRAC4002, MEPRAC4003, MEPRAC4004, MEPRAC4100, MEPRAC4200, MEPRAC4300, MEPRAC4400, MEPRAC4500, MEPRAC4600, MEPRAC4610, MEPRAC4700, MEPRAC4800, MEPRAC4801, MEPRAC4900, MEPRAC4901, MEPRAC4905, MEPRAC5000

Revision

4

Revision Date

28 Feb 2019

Reason for Issue

Updated SDS

Key/Legend

< Less Than

> Greater Than

AICS Australian Inventory of Chemical Substances**atm** Atmosphere**CAS** Chemical Abstracts Service (Registry Number)**cm²** Square Centimetres

CO₂ Carbon Dioxide
COD Chemical Oxygen Demand
deg C (°C) Degrees Celcius
EPA (New Zealand) Environmental Protection Authority of New Zealand
deg F (°F) Degrees Farenheit
g Grams
g/cm³ Grams per Cubic Centimetre
g/l Grams per Litre
HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury
inH₂O Inch of Water
K Kelvin
kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or L Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH₂O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight