1. IDENTIFICATION

Product Name	**Methoxypropyl Acetate**
Other Names	1-Methoxy-2-propanol, acetate; 2-Acetoxy-1-Methoxypropane; 2-Methoxy-1-Methylethyl Acetate; 2-Propanol, 1-methoxy-, acetate; Methoxy Propyl Acetate (PMA)
Uses	Manufacture of substance Use as a process solvent Formulation & (re)packing of substances and mixtures Uses in coatings Use in cleaning agents Agrochemical uses
Chemical Family	No Data Available
Chemical Formula	No Data Available
Chemical Name	Methoxypropyl Acetate
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	2132A E. Dominguez Street Carson CA 90810 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

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Not scheduled

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/bond container and receiving equipment.
		P241	Use explosion-proof electrical/ventilating/lighting/equipment.
		P242	Use only non-sparking tools.
		P243	Take precautionary measures against static discharge.
	Response	**P303 + P361 + P353**	IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/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)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Propylene Glycol Monomethyl Ether Acetate	No Data Available	108-65-6	>99.70 %
2-Methoxypropyl Acetate	No Data Available	70657-70-4	<0.30 %
(2-Methoxypropyl Acetate Is Present Below Levels Which Affect The Classification Of The Material)	No Data Available		No Data Available

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Rinse mouth with water. Give plenty of water to drink. Do NOT induce vomiting. Never make an unconscious person vomit or drink fluids. Seek medical attention.
Eye	Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical attention.
Skin	Remove contaminated clothing immediately and wash skin with soap and water. If irritation occurs, seek medical advice.
Inhaled	Remove victim from exposure to fresh air - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm and at rest. Seek medical attention if any discomfort continues.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient
	No information available on medical conditions aggravated by exposure to this product.

Medical Conditions Aggravated by Exposure	

5. FIRE FIGHTING MEASURES

General Measures	Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk.
Flammability Conditions	Product is a flammable liquid.
Extinguishing Media	Alcohol-resistant foam, carbon dioxide, dry powder or water fog. Do NOT use water jet as an extinguisher, as this will spread the fire. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids Use water to keep fire exposed containers cool and disperse vapours.
Fire and Explosion Hazard	Vapours are heavier than air and may spread near ground to sources of ignition. Heat may cause the containers to explode. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids
Hazardous Products of Combustion	During fire, Carbon oxides is formed.
Special Fire Fighting Instructions	Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit.
Flash Point	45.5 °C Closed Cup
Lower Explosion Limit	1.3 %
Upper Explosion Limit	13.1 %
Auto Ignition Temperature	333 °C
Hazchem Code	•3Y

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Shut off all possible sources of ignition. Avoid sparks, flames, heat and smoking. Avoid accidents, clean up immediately. Increase ventilation. Avoid walking through spilled product as it is slippery when spilled. Use clean, non-sparking tools and equipment. Avoid breathing vapours, mist or gas.
Clean Up Procedures	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.
Containment	Stop leak if safe to do so. Isolate the area.
Environmental Precautionary Measures	Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management.
Evacuation Criteria	Evacuate all unnecessary personnel.
Personal Precautionary Measures	Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling	Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Storage tanks and other containers must be grounded. Static electricity and formation of sparks must be prevented. Use explosion proof electric equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours. Avoid prolonged or repeated exposure. Keep away from heat, sparks and open flame. Risk of vapour concentration on the floor and in low-lying areas.

Always remove oil with soap and water or skin cleaning agent, never use organic solvents. Do not use oil-contaminated clothing or shoes, and do not put rags moistened with oil into pockets.

Storage

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep containers tightly sealed when not in use.
Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Ground and bond storage containers. Store away from incompatible materials as listed in section 10.

Keep away from heat, sparks and open flame.
Keep out of direct sunlight.
This product has a UN Classification of 3272 and a Dangerous Goods Class 3 (flammable) according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.

Container

Store in original packaging as approved by manufacturer.
Suitable containers: mild steel, stainless steel.
Unsuitable containers: aluminium, copper
Galvanised containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General

The following exposure standard has been established by The Australian Safety and Compensation Council (ASCC); Product Name: Methoxy-2-propanol acetate CAS number: 108-65-6 TWA = 50ppm (274mg/m3) STEL = 100ppm (548mg/m3). Notice: Sk

No exposure standard has been established for this product by the New Zealand Ministry of Business, Innovation & Employment.

The following information has also been provided:
Name: Methoxy Propyl Acetate (PMA) STD: WEL = Workplace Exposure Limit.
TWA - 8 Hrs 50 ppm(Sk) 274mg/m3(Sk) STEL - 15 Min 100ppm(Sk) 548mg/m3(Sk)

DNEL
Industry Dermal Long Term Systemic Effects 153.5 mg/kg/day
Industry Inhalation. Long Term Systemic Effects 275 mg/m3
Consumer Dermal Long Term Systemic Effects 54.8 mg/kg/day
Consumer Inhalation. Long Term Systemic Effects 33 mg/m3
Consumer Oral Long Term Systemic Effects 1.67 mg/kg/day

PNEC
Freshwater 0.635 mg/l
Marinewater 0.0635 mg/l
STP 100 mg/l
Sediment Freshwater 3.29 mg/kg
Sediment Marinewater 0.329 mg/kg
Soil 0.29 mg/kg

Exposure Limits

No Data Available

Biological Limits

No information available on biological limit values for this product.

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.
Vapour heavier than air – prevent concentration in hollows and sumps.

Personal Protection Equipment

RESPIRATOR: If ventilation is insufficient, suitable respiratory protection must be provided. (AS1715/1716).
EYES: Wear approved safety goggles. (AS1336/1337).
HANDS: Neoprene gloves are recommended. When prolonged or repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes) is recommended. (AS2161).
CLOTHING: Wear suitable protective clothing as protection against splashing or contamination and anti-static footwear (AS3765/2210).

Work Hygienic Practices

Provide eyewash station.
Wash hands at the end of each work shift and before eating, smoking and using the toilet.
Promptly remove any clothing that becomes contaminated.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Liquid

Appearance	Liquid
Odour	Ether Aromatic.
Colour	Colourless
pH	No Data Available
Vapour Pressure	3.59 hPa OECD Test Guideline 104 (@ 20 °C)
Relative Vapour Density	No Data Available
Boiling Point	145 - 146 °C
Melting Point	< -65.99 Deg C
Freezing Point	No Data Available
Solubility	198 g/l 25°C
Specific Gravity	No Data Available
Flash Point	45.5 °C Closed Cup
Auto Ignition Temp	333 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	0.97 Relative
Specific Heat	No Data Available
Molecular Weight	132.16
Net Propellant Weight	No Data Available
Octanol Water Coefficient	1.2
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	1.13 mm2/s (@ 25 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No Data Available
Potential for Dust Explosion	Product is a liquid.
Fast or Intensely Burning Characteristics	Vapours are heavier than air and may spread near ground to sources of ignition.
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	Heat may cause the containers to explode. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids
Properties That May Initiate or Contribute to Fire Intensity	Vapours are heavier than air and may spread near ground to sources of ignition.
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal temperature conditions and recommended use.
Conditions to Avoid	Avoid Heat, sparks, flames. Avoid excessive heat for prolonged periods of time.
Materials to Avoid	Strong oxidizing agents, Strong acids and strong bases. May form peroxides in the presence of air. May react with oxygen to form unstable peroxides. Peroxides are thermally

Hazardous Decomposition Products	unstable and shock sensitive. During fire, toxic gases (CO, CO2) are formed.
Hazardous Polymerisation	Will not polymerise.

11. TOXICOLOGICAL INFORMATION

General Information	LD50 Oral - Rat - female - 8,532 mg/kg LD50 Dermal - Rat - male and female - > 2,000 mg/kg Skin - Rabbit Result: No skin irritation (OECD Test Guideline 404) Eyes - Rabbit Result: No eye irritation Maximisation Test (GPMT) - Guinea pig, Did not cause sensitisation on laboratory animals, (OECD Test Guideline 406) Reverse mutation assay, Result: negative, S. typhimurium Other Health Effects: This substance has no evidence of carcinogenic properties.
EyeIrritant	Irritating to eyes.
Ingestion	Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.
Inhalation	May cause irritation to the respiratory system. Vapours may cause headache, fatigue, dizziness and nausea.
SkinIrritant	May cause defatting of the skin, but is not an irritant. Not a skin sensitiser.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	Toxicity to fish mortality LC50 - Salmo gairdneri - 100 - 180 mg/l - 96 h, (OECD Test Guideline 203) Toxicity to daphnia and other aquatic invertebrates, static test EC50 - Daphnia magna (Water flea) - > 500 mg/l - 48 h
Persistence/Degradability	Biotic/Aerobic - Exposure time 28 d, Result: 83 % - Readily biodegradable, (OECD Test Guideline 301F) Biochemical Oxygen Demand (BOD), 0.36 mg/l Chemical Oxygen Demand (COD), 1.74 mg/g
Mobility	Potential for mobility in soil is very high. Adsorption/Desorption Coefficient Soil Koc ~ 1.7 Henry's Law Constant 0.00000422 atm m3/mol
Environmental Fate	Do NOT let product reach waterways, drains and sewers.
Bioaccumulation Potential	Bioconcentration potential is low. Bioaccumulation factor BCF < 100 Partition coefficient 1.2
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice. Do NOT puncture or incinerate even when empty. This material and container must be disposed of as a HAZARDOUS WASTE.

14. TRANSPORT INFORMATION

Land Transport (Australia)
ADG

Proper Shipping Name	ESTERS, N.O.S. (2-METHOXY-1-METHYLETHYL ACETATE, 2-METHOXYPROPYL 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

Sea Transport
IMDG

Proper Shipping Name	ESTERS, N.O.S. (2-METHOXY-1-METHYLETHYL ACETATE, 2-METHOXYPROPYL 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	FE,SD
Marine Pollutant	No

Air Transport
IATA

Proper Shipping Name	ESTERS, N.O.S. (2-METHOXY-1-METHYLETHYL ACETATE, 2-METHOXYPROPYL 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)

15. REGULATORY INFORMATION

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

National/Regional Inventories

Australia (AICS)	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, MEPRAC3100, MEPRAC3700, MEPRAC3701, MEPRAC3800, MEPRAC3801, MEPRAC3900, MEPRAC4000, MEPRAC4001, MEPRAC4002, MEPRAC4003, MEPRAC4004, MEPRAC4100, MEPRAC4200, MEPRAC4300, MEPRAC4400, MEPRAC4500, MEPRAC4600, MEPRAC3010, MEPRAC3013, MEPRAC3014, MEPRAC3012, MEPRAC3011, MEPRAC3021, MEPRAC3020, MEPRAC4700, MEPRAC4610
Revision	3
Revision Date	11 Jun 2015
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