

1. IDENTIFICATION

Product Name	Ethoxy Propyl Acetate (EPA)
Other Names	2-ethoxy-1-methylethyl acetate; 2-Propanol, 1-ethoxy-, acetate; Ethyl Proxitol Acetate
Uses	Manufacture of substances; Coatings; Cleaning agents; Specialty solvent.
Chemical Family	No Data Available
Chemical Formula	C7H14O3
Chemical Name	1-Ethoxy-2-propyl 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

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
Specific Target Organ Toxicity (Single Exposure) - Category 3

Pictograms

Signal Word Warning

Hazard Statements **H226** Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.

Precautionary Statements	Prevention	P261	Avoid breathing mist/vapours/spray.	
		P233	Keep container tightly closed.	
		P240	Ground and bond container and receiving equipment.	
		P241	Use explosion-proof electrical/ventilating/lighting and all other equipment.	
		P242	Use non-sparking tools.	
		P243	Take action to prevent static discharges.	
		P280	Wear protective gloves/eye protection/face protection.	
		P235	Keep cool.	
		P271	Use only outdoors or in a well-ventilated area.	
		P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.	
		Response	P370 + P378	In case of fire: Alcohol resistant foam is the preferred fire-fighting medium but, if it is not available, normal foam can be used.
			P312	Call a POISON CENTER or doctor if you feel unwell.
			P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
		Storage	P304 + P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.			
Disposal	P405	Store locked up.		
	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)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications Physical Hazards **3.1C** Flammable liquid - medium hazard

3. COMPOSITION/INFORMATION ON INGREDIENTS**Ingredients**

Chemical Entity	Formula	CAS Number	Proportion
1-Ethoxy-2-propyl acetate	C7H14O3	54839-24-6	<=100 %

4. FIRST AID MEASURES**Description of necessary measures according to routes of exposure**

Swallowed	IF SWALLOWED: Rinse mouth thoroughly with water. Do not induce vomiting. Get medical advice/attention immediately. If vomiting occurs, the head should be kept low to prevent aspiration. Keep affected person under observation.
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. *Splash in eye requires examination by eye specialist.
Skin	IF ON SKIN (or hair): Remove and isolate contaminated clothing and shoes. Immediately flush skin and hair with running water for at least 15 minutes. Wash skin with soap and water. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse. *In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor/physician for advice. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep affected person under observation.
Advice to Doctor	Treat symptomatically. Keep victim calm and warm. Effects may be delayed. Show this Safety Data Sheet (SDS) to the medical personnel. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	Move containers from fire area if you can do it without risk. Cool containers with water spray until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire.
Flammability Conditions	FLAMMABLE LIQUID & VAPOUR: Will be easily ignited by heat, sparks or flames.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), alcohol-resistant foam or water spray for extinction - Do not use water jet as an extinguisher, as this will spread the fire. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. *CAUTION: This product has a very low flash point: Use of water spray when fighting fire may be inefficient.
Fire and Explosion Hazard	Risk of violent reaction or explosion! Vapours may form explosive mixtures with air. Vapours may travel to source of ignition and flash back. Most vapours are heavier than air; They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapour explosion hazard indoors, outdoors or in sewers. Containers may explode when heated. Many liquids are lighter than water.
Hazardous Products of Combustion	Fire may produce irritating, toxic and/or corrosive gases, including oxides of Carbon, acrid smoke or fumes.

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Special Fire Fighting Instructions	Contain runoff from fire control water - Runoff may cause pollution. Runoff to sewer may create fire or explosion hazard!
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
Flash Point	53 °C [Closed cup]
Lower Explosion Limit	1%
Upper Explosion Limit	9.8 %
Auto Ignition Temperature	325 °C
Hazchem Code	•3Y

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flame). All equipment used in handling the product must be earthed. Do not touch or walk through spilled material - Take care as floors and other surfaces may become slippery! Avoid breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers (see SECTION 13). *Use clean, non-sparking tools to collect absorbed material. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.
Containment	Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. *A vapour-suppressing foam may be used to reduce vapours. Water spray may reduce vapour, but may not prevent ignition in closed spaces.
Decontamination	Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8). *If ventilation is inadequate, suitable respiratory protection must be worn.

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours/spray and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required; In case of inadequate ventilation, wear respiratory protection (see SECTION 8). FLAMMABLE LIQUID & VAPOUR: Keep away from heat, hot surfaces, sparks, open flames and ignition sources - No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take action to prevent static discharges. Restrict line velocity during pumping. Avoid splash filling. Do not use compressed air for filling, discharging or handling operations.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Avoid exposure to air, light and moisture. Keep away from heat, hot surfaces, sparks, open flames and ignition sources - No smoking. Keep away from food, drink and animal feeding stuffs. Keep away from incompatible materials (see SECTION 10). Store locked up. Storage facilities should be bunded to avoid release to the environment.
Container	Keep in the original container or suitable/compatible material, i.e. Carbon steel, mild steel, stainless steel. Only store in correctly labelled containers. *Do not store in Aluminium; May attack some plastics, rubber and coatings.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. Derived no-effect levels (DNELs) for Workers: - Inhalation, short-term, systemic effects: 608 mg/m ³ . - Inhalation, long-term, systemic effects: 302 mg/m ³ . - Dermal, long-term, systemic effects: 103 mg/m ³ .
Exposure Limits	No Data Available
Biological Limits	Predicted no-effect concentrations (PNECs): - Freshwater: 1.3 mg/l - Marine water: 0.13 mg/l - Freshwater sediment: 6.4 mg/kg - Marine water sediment: 0.64 mg/kg - Soil: 1.34 mg/kg - STP: 62.5 mg/l
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. Use explosion-proof electrical/ventilating/lighting equipment.
Personal Protection Equipment	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended filter type: A (organic vapour). Respirator selection must be based on exposure levels, the hazards of the product and the safe working limits of the selected respirator. When spraying, wear a suitable supplied-air respirator. - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Safety goggles; If risk of splashing, wear face shield. - Hand protection: Wear protective gloves. Recommended: For exposure up to 8 hrs, wear Butyl rubber or Nitrile rubber gloves. For short-term/splash protection, Polyvinyl chloride (PVC) gloves are suitable. Check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. - Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Impervious protective clothing. Wear antistatic and flame-retardant clothing, if a local risk assessment deems it so.
Special Hazards Precautions	Extensive use of the product in areas with inadequate ventilation may result in the accumulation of hazardous vapour concentrations.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas. Contaminated clothing should be placed in a closed container for disposal or decontamination.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Characteristic, ester
Colour	Colourless
pH	No Data Available
Vapour Pressure	2.3 hPa (@ 20 °C)
Relative Vapour Density	No Data Available
Boiling Point	153 - 160 °C (1013 hPa)
Melting Point	No Data Available
Freezing Point	-89 °C
Solubility	Soluble in water (69.6 g/l) - Soluble in organic solvents 20°C
Specific Gravity	0.941 g/cm ³ [ASTM D4052]
Flash Point	53 °C [Closed cup]
Auto Ignition Temp	325 °C
Evaporation Rate	No Data Available
Bulk Density	0.941 g/cm ³

Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	146.2 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	log Pow: 0.76
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	1.33 mm ² /s (@ 40 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	Electrical conductivity: >10,000 pS/m
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	FLAMMABLE LIQUID & VAPOUR: Will be easily ignited by heat, sparks or flames.
Reactions That Release Gases or Vapours	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.
Release of Invisible Flammable Vapours and Gases	Vapours may form explosive mixtures with air.

10. STABILITY AND REACTIVITY

General Information	Contact with air and light may form explosive peroxides!
Chemical Stability	Stable at normal ambient temperatures and when used as recommended.
Conditions to Avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid exposure to air, light and moisture.
Materials to Avoid	Incompatible/reactive with oxidising agents, strong acids, strong alkalis, Aluminium, Copper. May attack some plastics, rubber and coatings.
Hazardous Decomposition Products	A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	- Acute toxicity: Low toxicity if swallowed, in contact with skin and if inhaled. Liquid irritates mucous membranes and may cause abdominal pain if swallowed. Ingestion may cause irritation and gastrointestinal symptoms, including upset stomach. Symptoms following overexposure may include stomach pain, nausea, vomiting, diarrhoea, headache, dizziness
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and intoxication.

- Skin corrosion/irritation: Not irritating to skin. Prolonged and frequent contact may cause redness and irritation. Product has a defatting effect on skin - Repeated exposure may cause skin dryness or cracking. May cause allergic contact eczema.
- Eye damage/irritation: Not irritating to eyes. Symptoms following overexposure may include redness, pain, visual disturbances, blurred vision. Repeated exposure may cause chronic eye irritation. Vapour or spray in the eyes may cause irritation and smarting.
- Respiratory/skin sensitisation: Not sensitising.
- Germ cell mutagenicity: No information available.
- Carcinogenicity: No evidence that the product can cause cancer.
- Reproductive toxicity: No evidence of toxicity to reproduction.
- STOT (single exposure): May cause drowsiness or dizziness. Gas or vapour in high concentrations may irritate the respiratory system. Symptoms following overexposure may include headache, fatigue, nausea, vomiting. Prolonged inhalation of high concentrations may damage respiratory system. The product contains organic solvents. Overexposure may depress the central nervous system, causing dizziness and intoxication.
- STOT (repeated exposure): Not classified as a specific target organ toxicant after repeated exposure. Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.
- Aspiration toxicity: Not an aspiration hazard. Based on available data, the classification criteria are not met.

Acute

Ingestion	Acute toxicity (Oral): - LD50, Rat: >5,000 mg/kg [Supplier's SDS].
Other	Acute toxicity (Dermal): - LD50, Rabbit: >5,000 mg/kg [Supplier's SDS].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - LC0, Fish (Onchorhynchus mykiss (Rainbow trout)): 140 mg/l (96 h). - EC50, Aquatic invertebrates (Daphnia magna): 110 mg/l (48 h). - EC50, Algae/aquatic plants (Selastrum capricornutum): >100 mg/l (72 h). - NOEC, Aquatic invertebrates: >100 mg/l
Persistence/Degradability	Readily biodegradable. Oxidises rapidly by photochemical reactions in air.
Mobility	The product is water-soluble and may spread in water systems. If product enters soil it will be mobile and may contaminate groundwater.
Environmental Fate	The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.
Bioaccumulation Potential	Not expected to bioaccumulate significantly.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Recover or recycle, if possible. Dispose of contents/container via a licensed waste disposal contractor and in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Contaminated packages must be completely emptied before sending away for laundering and re-use. When handling waste, the safety precautions applying to handling of the product should be considered.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	ESTERS, N.O.S. (2-ethoxy-1-methylethyl 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 (Malaysia)

ADR Code

Proper Shipping Name	ESTERS, N.O.S. (2-ethoxy-1-methylethyl 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-ethoxy-1-methylethyl 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-ethoxy-1-methylethyl 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-ethoxy-1-methylethyl acetate)
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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-ethoxy-1-methylethyl 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	HSR002495
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National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Listed
Europe (EINECS)	259-370-9
Europe (REACH)	01-2119475116-39-

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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)	Listed

16. OTHER INFORMATION

Related Product Codes	ETPRAC1000, ETPRAC2000, ETPRAC2100, ETPRAC2101, ETPRAC2200, ETPRAC2201, ETPRAC2300, ETPRAC3000
Revision	4
Revision Date	09 Sep 2022
Key/Legend	<p>< Less Than > Greater Than</p> <p>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</p>

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mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health 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