

1. IDENTIFICATION

Product Name	Ethyl 3-ethoxypropionate
Other Names	EEP
Uses	Industrial solvent.
Chemical Family	No Data Available
Chemical Formula	C7H14O3
Chemical Name	Propanoic acid, 3-ethoxy-, ethyl ester
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
Acute Hazard To The Aquatic Environment - Category 3

Pictograms

Signal Word Warning

Hazard Statements

H226	Flammable liquid and vapour.
H402	Harmful to aquatic life.
AUH066	Repeated exposure may cause skin dryness or cracking

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 and all other equipment.	
	P242	Use non-sparking tools.	
	P243	Take action to prevent static discharges.	
	P273	Avoid release to the environment.	
	P280	Wear protective gloves/protective clothing/eye protection/face protection.	
	Response	P370 + P378	In case of fire: Use carbon dioxide (CO ₂), dry chemical, regular foam extinguishing agent or water spray for extinction.
		P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications

Physical Hazards	3.1C	Flammable liquid - medium hazard
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3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Ethyl 3-ethoxypropionate	C7H14O3	763-69-9	>99 - 100 %

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

Swallowed	IF SWALLOWED: Rinse mouth. Do not induce vomiting. Get immediate medical advice/attention. *Because rapid absorption may occur through the lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach.
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, preferably an ophthalmologist.
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. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Keep victim calm and warm. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. *First Aid responders should pay attention to self-protection and use the recommended protective clothing (see SECTION 8).
Medical Conditions Aggravated by Exposure	Skin contact may aggravate preexisting dermatitis.

5. FIRE FIGHTING MEASURES

General Measures	Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. If safe to do so, move undamaged containers from fire area. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Avoid accumulation of water. Product may be carried across water surface spreading fire or contacting an ignition source.
Flammability Conditions	FLAMMABLE LIQUID & VAPOUR: Will be easily ignited by heat, sparks or flames.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction - Do not use straight streams (May spread 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. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids!
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	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include Carbon monoxide, Carbon dioxide.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may cause pollution. Runoff to sewer may create fire or explosion hazard! Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only

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Personal Protective Equipment	provide limited protection. *If contact is likely, change to full chemical-resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical-resistant clothing with self-contained breathing apparatus and fight fire from a remote location.
Flash Point	58 °C [Tag Closed Cup]
Lower Explosion Limit	1.05 %
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	377 °C
Hazchem Code	•3Y

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Ventilate enclosed spaces before entering. Vapour explosion hazard! 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. Avoid breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Pump with explosion-proof equipment or absorb with dry earth, sand or other non-combustible material and transfer to properly labelled containers. Use clean, non-sparking tools to collect absorbed material.
Containment	Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Dike far ahead of large spill for later disposal. *A vapour-suppressing foam may be used to reduce vapours. Water spray may reduce vapour, but may not prevent ignition in closed spaces.
Decontamination	No information available.
Environmental Precautionary Measures	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised and unprotected personnel away. Keep upwind and to higher ground.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. 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. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Ground and bond container and receiving equipment. Use explosion proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take precautionary measures against static discharge. Avoid release to the environment.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Keep away from incompatible materials (see SECTION 10).
Container	Keep in the original container. Do not store in Copper, Galvanised metals. *Containers, even those that have been emptied, can contain vapours. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product.
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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. *Use explosion-proof electrical/ventilating/lighting equipment.
Personal Protection Equipment	- Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines, when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. Recommended: Organic vapour cartridge with a particulate pre-filter (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. If exposure causes eye discomfort, use a full-face respirator. - Hand protection: Wear protective gloves. Recommended: Use chemical resistant gloves, e.g. Neoprene, Polyethylene, Ethyl vinyl alcohol laminate (EVAL), Polyvinyl chloride (PVC or vinyl), Viton. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Use protective clothing chemically resistant to this material. Selection of specific items, such as face shield, boots, apron, or full body suit will depend on the task.
Special Hazards Precautions	Many vapours are heavier than air and will collect in low or confined areas (e.g. drains, basements, tanks). Do NOT enter confined spaces where vapour may have collected.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Mild
Colour	Colourless
pH	No Data Available
Vapour Pressure	0.7 mmHg [Literature] (@ 20 °C)
Relative Vapour Density	5 Air = 1
Boiling Point	165 °C [Literature]
Melting Point	No Data Available
Freezing Point	-50 °C
Solubility	54.1 g/L water 20°C [Literature]
Specific Gravity	0.951 (Water = 1) [Literature]
Flash Point	58 °C [Tag Closed Cup]
Auto Ignition Temp	377 °C
Evaporation Rate	0.1 (Butyl Acetate = 1)
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	146.2 g/mol [Literature]
Net Propellant Weight	No Data Available
Octanol Water Coefficient	log Pow: 1.35 [Measured]
Particle Size	No Data Available

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Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	Dynamic: 1.3 cP - Kinematic: 1.33 mm ² /s (@ 20 °C)
Volatile Percent	No Data Available
VOC Volume	949 g/L
Additional Characteristics	Not expected to be a static-accumulating flammable liquid.
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	Violent steam generation or eruption may occur upon application of direct water stream to hot liquids! Material may float on water and any runoff may create an explosion or fire hazard if ignited.
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	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include Carbon monoxide, Carbon dioxide.
Release of Invisible Flammable Vapours and Gases	Vapours may form explosive mixtures with air.

10. STABILITY AND REACTIVITY

General Information	Exposure to elevated temperatures can cause product to decompose.
Chemical Stability	Stable under recommended storage conditions.
Conditions to Avoid	Avoid exposure to elevated temperatures. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
Materials to Avoid	Incompatible/reactive with strong acids, strong bases, strong oxidisers.
Hazardous Decomposition Products	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include Carbon monoxide, Carbon dioxide.
Hazardous Polymerisation	Polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none">- Acute toxicity: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Prolonged inhalation exposure is not expected to cause adverse effects.- Skin corrosion/irritation: Brief contact may cause slight skin irritation with local redness. Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage. May cause drying and flaking of the skin.- Eye damage/irritation: May cause slight temporary eye irritation. Corneal injury is unlikely. Vapour or mist may cause eye irritation.- Respiratory/skin sensitisation: Did not cause allergic skin reactions when tested in guinea pigs.- Germ cell mutagenicity: In vitro genetic toxicity studies were negative.- Carcinogenicity: No information available.- Reproductive toxicity: Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.- STOT (single exposure): The substance or mixture is not classified as specific target organ toxicant, single exposure.- STOT (repeated exposure): Based on available data, repeated exposures are not anticipated to cause significant adverse effects.
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- Aspiration toxicity: May be harmful if swallowed and enters airways.

Acute

Ingestion	Acute toxicity (Oral): - LD50, Rat (female): >4,300 mg/kg [Based on product testing; OECD 401 or equivalent]. - LD50, Rat (male): >5,000 mg/kg [Based on product testing; OECD 401 or equivalent].
Other	Acute toxicity (Dermal): - LD50, Rabbit (male): 4,080 mg/kg [Based on product testing; OECD Test Guideline 402]. - LD50, Rabbit (female): 4,679 mg/kg [Based on product testing; OECD Test Guideline 402].
Inhalation	Acute toxicity (Inhalation): - LC50, Rat (male): >998 ppm (6 h) vapour [OECD Test Guideline 403]. *No deaths occurred at this concentration.
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
Persistence/Degradability	Material is readily biodegradable (100 %, 28 d) [OECD Test Guideline 301B or Equivalent].
Mobility	Partition coefficient (Koc): 10 [Estimated].
Environmental Fate	Harmful to aquatic life - Avoid release to the environment.
Bioaccumulation Potential	- log Pow: 1.35 [Measured]. - BCF: 3.05 (Fish) [Estimated].
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	All disposal practices must be in compliance with all federal, state/provincial and local laws and regulations. Regulations may vary in different locations. Waste characterisations and compliance with applicable laws are the responsibility solely of the waste generator.
Special Precautions for Land Fill	For unused and uncontaminated product, the preferred options include sending to a licensed/permitted incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code	
Proper Shipping Name	ESTERS, N.O.S. (Ethyl-3-ethoxypropionate)
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	3272
Hazchem	•3Y
Pack Group	III

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Special Provision No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name ESTERS, N.O.S. (Ethyl-3-ethoxypropionate)
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. (Ethyl-3-ethoxypropionate)
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. (Ethyl-3-ethoxypropionate)
Class 3 Flammable Liquids
Subsidiary Risk(s) No Data Available
ERG 128 Flammable Liquids (Non-Polar / Water-Immiscible)
UN Number 3272
Hazchem •3Y
Pack Group III
Special Provision No Data Available

Sea Transport

IMDG Code

Proper Shipping Name ESTERS, N.O.S. (Ethyl-3-ethoxypropionate)
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-E
Marine Pollutant No

Air Transport

IATA DGR

Proper Shipping Name	ESTERS, N.O.S. (Ethyl-3-ethoxypropionate)
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 HSR001040 (Revoked)
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National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Listed
Europe (EINECS)	Not Determined
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	ETETPR1000, ETETPR1001, ETETPR1002, ETETPR1003, ETETPR1004, ETETPR2000, ETETPR2001, ETETPR2100, ETETPR2101, ETETPR3010, ETETPR3500, ETETPR4000, ETETPR4100, ETETPR5000, ETETPR8009, ETETPR8010, ETETPR9000, ETETPR9005, ETETPR9008
Revision	3
Revision Date	24 May 2022
Reason for Issue	New SDS
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 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</p>

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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