

### 1. IDENTIFICATION

<b>Product Name</b>	<b>Ethyl 3-ethoxypropionate</b>
<b>Other Names</b>	EEP; Ester EEP
<b>Uses</b>	Solvent.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	C7H14O3
<b>Chemical Name</b>	Propanoic acid, 3-ethoxy-, ethyl ester
<b>Product Description</b>	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.	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

<b>Hazard Classification</b>	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)		
<b>Hazard Categories</b>	Flammable Liquids - Category 3		
<b>Pictograms</b>			
<b>Signal Word</b>	Warning		
<b>Hazard Statements</b>	<b>H226</b>	Flammable liquid and vapour.	
<b>Precautionary Statements</b>	Prevention	<b>P210</b>	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
		<b>P233</b>	Keep container tightly closed.
		<b>P240</b>	Ground/bond container and receiving equipment.
		<b>P241</b>	Use explosion-proof electrical/ventilating/lighting and all other equipment.
		<b>P242</b>	Use only non-sparking tools.
	Response	<b>P243</b>	Take precautionary measures against static discharge.
		<b>P280</b>	Wear protective gloves/eye protection/face protection.
		<b>P370 + P378</b>	In case of fire: Alcohol resistant foam is the preferred fire-fighting medium but, if it is not available, normal foam can be used.
	Storage	<b>P303 + P361 + P353</b>	IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
		<b>P403 + P235</b>	Store in a well-ventilated place. Keep cool.
Disposal	<b>P501</b>	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)

<b>Dangerous Goods Classification</b>	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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### Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

<b>HSNO Classifications</b>	Physical Hazards	<b>3.1C</b>	Flammable liquid - medium hazard
	Health Hazards	<b>6.3B</b>	Substances that are mildly irritating to the skin
	Environmental Hazards	<b>9.1C</b>	Substances that are harmful in the aquatic environment

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Ingredients

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

## 4. FIRST AID MEASURES

### *Description of necessary measures according to routes of exposure*

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth. Do not induce vomiting. Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person.
<b>Eye</b>	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.
<b>Skin</b>	IF ON SKIN (or hair): Remove contaminated clothing and shoes immediately. Flush skin and hair with running water for at least 15 minutes; Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.
<b>Inhaled</b>	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; Administer oxygen if breathing is difficult.
<b>Advice to Doctor</b>	Treat symptomatically. Ensure that attending medical personnel are aware of identity and nature of product(s) involved, and take precautions to protect themselves.
<b>Medical Conditions Aggravated by Exposure</b>	Skin contact may aggravate preexisting dermatitis.

## 5. FIRE FIGHTING MEASURES

<b>General Measures</b>	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.
<b>Flammability Conditions</b>	FLAMMABLE LIQUID & VAPOUR: Low flash point - Will be easily ignited by heat, sparks or flames at ambient temperatures.
<b>Extinguishing Media</b>	Use dry chemical, Carbon dioxide (CO <sub>2</sub> ), 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.
<b>Fire and Explosion Hazard</b>	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. Many liquids are lighter than water - Material will float and may ignite on surface of water. Many vapours are heavier than air and will collect in low or confined areas. Vapours from runoff may create an explosion hazard. May irritate or burn skin and eyes. Vapours may cause dizziness or drowsiness.
<b>Hazardous Products of Combustion</b>	Fire may produce irritating, toxic and/or corrosive gases, including Carbon oxides.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution water - Runoff may pollute waterways; Vapours from runoff may create an explosion hazard.
<b>Personal Protective Equipment</b>	Wear self-contained breathing apparatus (SCBA) in combination with normal firefighting clothing (full fire kit).
<b>Flash Point</b>	59 °C [Closed cup]
<b>Lower Explosion Limit</b>	1.05 %
<b>Upper Explosion Limit</b>	9.8 %
<b>Auto Ignition Temperature</b>	377 °C
<b>Hazchem Code</b>	•3Y

## 6. ACCIDENTAL RELEASE MEASURES

<b>General Response Procedure</b>	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. Avoid breathing vapours and contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	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).
<b>Containment</b>	Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas. Dike for later disposal. Vapour-suppressing foam may be used to control vapours; Water spray may be used to knock down or divert vapour clouds.
<b>Decontamination</b>	No information available. Spillages and decontamination runoff should be prevented from entering drains and watercourses.

## Environmental Precautionary Measures

### 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).

## 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 and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). FLAMMABLE LIQUID & VAPOUR: Keep away from heat and all 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. Minimise exposure to air - After opening, purge container with nitrogen before re-closing. Keep away from heat and all sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10).  
- Periodically test for peroxide formation on long-term storage. Do not allow to evaporate to near dryness. Do not distill to near dryness. Addition of water or appropriate reducing materials will lessen peroxide formation.

### Container

Keep in the original container.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### General

Contains no substances with occupational exposure limit values.  
- Exposure Limit Values (supplier recommendation): TWA = 50 ppm; STEL = 100 ppm.

### Exposure Limits

No Data Available

### Biological Limits

No information available.

### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof electrical and ventilating equipment.

### 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: Safety glasses with side-shields or chemical splash goggles.  
- Hand protection: Wear protective gloves. Recommended: Chemical-resistant, impervious gloves.  
- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Depending on conditions of use, an impervious apron should be worn. Other equipment may be required depending on workplace standards.

### Special Hazards Precautions

No information available.

### Work Hygienic Practices

Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove contaminated clothing and shoes immediately and wash before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical State

Liquid

### Appearance

Liquid

### Odour

Ester

### Colour

Colourless

### pH

No Data Available

### Vapour Pressure

0.23 kPa (@ 20 °C)

<b>Relative Vapour Density</b>	5.0 Air = 1
<b>Boiling Point</b>	165 - 172 °C
<b>Melting Point</b>	No Data Available
<b>Freezing Point</b>	<-50 °C
<b>Solubility</b>	29 g/l water
<b>Specific Gravity</b>	0.95
<b>Flash Point</b>	59 °C [Closed cup]
<b>Auto Ignition Temp</b>	377 °C
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	>400 °C
<b>Density</b>	No Data Available
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	No Data Available
<b>Net Propellant Weight</b>	No Data Available
<b>Octanol Water Coefficient</b>	1.35 (log Pow)
<b>Particle Size</b>	No Data Available
<b>Partition Coefficient</b>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	Dynamic: 1.20 mPa.s (25 °C) - Kinematic: 1.328 mm <sup>2</sup> /s (20 °C) (@ No Data Available)
<b>Volatile Percent</b>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	No information available.
<b>Potential for Dust Explosion</b>	Not applicable.
<b>Fast or Intensely Burning Characteristics</b>	Risk of violent reaction or explosion.
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No information available.
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No information available.
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	FLAMMABLE LIQUID & VAPOUR: Low flash point - Will be easily ignited by heat, sparks or flames at ambient temperatures.
<b>Reactions That Release Gases or Vapours</b>	Fire/decomposition may produce irritating, toxic and/or corrosive gases, including Carbon oxides.
<b>Release of Invisible Flammable Vapours and Gases</b>	Vapours will form explosive mixtures with air.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	Forms peroxides of unknown stability.
<b>Chemical Stability</b>	Stable under recommended storage and handling conditions.
<b>Conditions to Avoid</b>	Keep away from heat and all sources of ignition. Take precautionary measures against static discharge.
<b>Materials to Avoid</b>	Incompatible/reactive with oxidising agents.
<b>Hazardous Decomposition Products</b>	Fire/decomposition may produce irritating, toxic and/or corrosive gases, including Carbon oxides.
<b>Hazardous Polymerisation</b>	Will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	Information on possible routes of exposure: - Ingestion: May cause irritation of mouth, throat, and stomach. Symptoms may include gastrointestinal irritation, nausea, vomiting and diarrhoea. - Eye contact: Causes eye irritation. Symptoms may include redness, discomfort/pain, tearing and conjunctivitis. - Skin contact: Direct skin contact may cause slight or mild, transient irritation. - Inhalation: May cause irritation of the nose, throat, mucous membranes and respiratory tract. Symptoms may include upper respiratory irritation, coughing and breathing difficulties. Inhalation of high concentrations may cause headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Chronic effects: Prolonged or repeated skin contact may cause drying and irritation. Prolonged overexposure may cause liver and kidney effects.
<b>Acute</b>	
<b>Ingestion</b>	Acute toxicity (Oral): - LD50, Rat (female): 4,309 mg/kg
<b>Other</b>	Acute toxicity (Dermal): - LD50, Rabbit (male): 4,080 mg/kg
<b>Carcinogen Category</b>	None

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Aquatic toxicity: - Acute LC50, Fish: 60.9 mg/l (96 h). - Acute EC50, Daphnia: 873 mg/l (48 h). - Acute EC50, Algae: >114.86 mg/l (72 h).
<b>Persistence/Degradability</b>	Readily biodegradable. - 100%, 28 d [CO2 Evolution Test].
<b>Mobility</b>	Known or predicted distribution to environmental compartments: - Log Koc: 1.52 [QSAR model].
<b>Environmental Fate</b>	Not expected to be harmful to aquatic organisms. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Prevent entry into drains and waterways.
<b>Bioaccumulation Potential</b>	Not expected to bioaccumulate. - Log Kow: 1.35 - BCF: 1.4
<b>Environmental Impact</b>	No Data Available

## 13. DISPOSAL CONSIDERATIONS

<b>General Information</b>	Dispose of contents/container in accordance with local/regional/national regulations.
<b>Special Precautions for Land Fill</b>	Contaminated packaging: Empty containers retain residue (liquid and/or vapour) and can be dangerous - follow label warnings even after container is emptied. Do not cut, weld, drill or grind on or near this container.

## 14. TRANSPORT INFORMATION

### Land Transport (Australia)

ADG Code

<b>Proper Shipping Name</b>	FLAMMABLE LIQUID, N.O.S. (Ethyl-3-ethoxypropionate)
<b>Class</b>	3 Flammable Liquids
<b>Subsidiary Risk(s)</b>	No Data Available

<b>EPG</b>	14 Liquids - Highly Flammable
<b>UN Number</b>	1993
<b>Hazchem</b>	•3Y
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

### Land Transport (Malaysia)

ADR Code

<b>Proper Shipping Name</b>	FLAMMABLE LIQUID, N.O.S. (Ethyl-3-ethoxypropionate)
<b>Class</b>	3 Flammable Liquids
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	14 Liquids - Highly Flammable
<b>UN Number</b>	1993
<b>Hazchem</b>	3Y
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

### Land Transport (New Zealand)

NZS5433

<b>Proper Shipping Name</b>	FLAMMABLE LIQUID, N.O.S. (Ethyl-3-ethoxypropionate)
<b>Class</b>	3 Flammable Liquids
<b>Subsidiary Risk(s)</b>	No Data Available
<b>EPG</b>	14 Liquids - Highly Flammable
<b>UN Number</b>	1993
<b>Hazchem</b>	3Y
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

### Land Transport (United States of America)

US DOT

<b>Proper Shipping Name</b>	FLAMMABLE LIQUID, N.O.S. (Ethyl-3-ethoxypropionate)
<b>Class</b>	3 Flammable Liquids
<b>Subsidiary Risk(s)</b>	No Data Available
<b>ERG</b>	128 Flammable Liquids (Non-Polar / Water-Immiscible)
<b>UN Number</b>	1993
<b>Hazchem</b>	3Y
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

### Sea Transport

IMDG Code

<b>Proper Shipping Name</b>	FLAMMABLE LIQUID, N.O.S. (Ethyl-3-ethoxypropionate)
<b>Class</b>	3 Flammable Liquids
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	1993
<b>Hazchem</b>	3Y
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available
<b>EMS</b>	F-E, S-D
<b>Marine Pollutant</b>	No

## Air Transport

IATA DGR

<b>Proper Shipping Name</b>	FLAMMABLE LIQUID, N.O.S. (Ethyl-3-ethoxypropionate)
<b>Class</b>	3 Flammable Liquids
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	1993
<b>Hazchem</b>	3Y
<b>Pack Group</b>	III
<b>Special Provision</b>	No Data Available

## National Transport Commission (Australia)

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

<b>Dangerous Goods Classification</b>	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** HSR001040

## National/Regional Inventories

<b>Australia (AICS)</b>	Listed
<b>Canada (DSL)</b>	Not Determined
<b>Canada (NDSL)</b>	Not Determined
<b>China (IECSC)</b>	Not Determined
<b>Europe (EINECS)</b>	Not Determined
<b>Europe (REACH)</b>	Not Determined
<b>Japan (ENCS/METI)</b>	Not Determined
<b>Korea (KECI)</b>	Not Determined
<b>Malaysia (EHS Register)</b>	Not Determined
<b>New Zealand (NZIoC)</b>	Listed
<b>Philippines (PICCS)</b>	Not Determined
<b>Switzerland (Giftliste 1)</b>	Not Determined



<b>Switzerland (Inventory of Notified Substances)</b>	Not Determined
<b>Taiwan (NCSR)</b>	Not Determined
<b>USA (TSCA)</b>	Not Determined

## 16. OTHER INFORMATION

<b>Related Product Codes</b>	ETETPR3000, ETETPR3020, ETETPR3100, ETETPR6000, ETETPR6001, ETETPR6002, ETETPR6003, ETETPR6700, ETETPR7000
<b>Revision</b>	4
<b>Revision Date</b>	17 Mar 2016
<b>Key/Legend</b>	<p>&lt; Less Than &gt; Greater Than  <b>AICS</b> Australian Inventory of Chemical Substances  <b>atm</b> Atmosphere  <b>CAS</b> Chemical Abstracts Service (Registry Number)  <b>cm<sup>2</sup></b> Square Centimetres  <b>CO<sub>2</sub></b> Carbon Dioxide  <b>COD</b> Chemical Oxygen Demand  <b>deg C (°C)</b> Degrees Celcius  <b>EPA (New Zealand)</b> Environmental Protection Authority of New Zealand  <b>deg F (°F)</b> Degrees Farenheit  <b>g</b> Grams  <b>g/cm<sup>3</sup></b> Grams per Cubic Centimetre  <b>g/l</b> Grams per Litre  <b>HSNO</b> Hazardous Substance and New Organism  <b>IDLH</b> Immediately Dangerous to Life and Health  <b>immiscible</b> Liquids are insoluable in each other.  <b>inHg</b> Inch of Mercury  <b>inH<sub>2</sub>O</b> Inch of Water  <b>K</b> Kelvin  <b>kg</b> Kilogram  <b>kg/m<sup>3</sup></b> Kilograms per Cubic Metre  <b>lb</b> Pound  <b>LC50</b> 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.  <b>LD50</b> 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.  <b>ltr</b> or <b>L</b> Litre  <b>m<sup>3</sup></b> Cubic Metre  <b>mbar</b> Millibar  <b>mg</b> Milligram  <b>mg/24H</b> Milligrams per 24 Hours  <b>mg/kg</b> Milligrams per Kilogram  <b>mg/m<sup>3</sup></b> Milligrams per Cubic Metre  <b>Misc</b> or <b>Miscible</b> Liquids form one homogeneous liquid phase regardless of the amount of either component present.  <b>mm</b> Millimetre  <b>mmH<sub>2</sub>O</b> Millimetres of Water  <b>mPa.s</b> Millipascals per Second  <b>N/A</b> Not Applicable  <b>NIOSH</b> National Institute for Occupational Safety and Health  <b>NOHSC</b> National Occupational Health and Safety Commission  <b>OECD</b> Organisation for Economic Co-operation and Development  <b>Oz</b> Ounce  <b>PEL</b> Permissible Exposure Limit  <b>Pa</b> Pascal  <b>ppb</b> Parts per Billion  <b>ppm</b> Parts per Million  <b>ppm/2h</b> Parts per Million per 2 Hours  <b>ppm/6h</b> Parts per Million per 6 Hours  <b>psi</b> Pounds per Square Inch  <b>R</b> Rankine  <b>RCP</b> Reciprocal Calculation Procedure  <b>STEL</b> Short Term Exposure Limit  <b>TLV</b> Threshold Limit Value</p>

**tne** Tonne  
**TWA** Time Weighted Average  
**ug/24H** Micrograms per 24 Hours  
**UN** United Nations  
**wt** Weight