



Safety Data Sheet
Tetrahydrofuran
Revision 4, Date 03 May 18

1. IDENTIFICATION

Product Name	Tetrahydrofuran
Other Names	1,4-epoxybutane; Butylene oxide; Cyclotetramethylene oxide; Diethylene oxide; THF
Uses	Solvent; reaction medium; synthesis; fabrication of articles.
Chemical Family	No Data Available
Chemical Formula	C ₄ H ₈ O
Chemical Name	Furan, tetrahydro-
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 2
 Serious Eye Damage/Irritation - Category 2A
 Carcinogenicity - Category 2
 Specific Target Organ Toxicity (Single Exposure) - Category 3

Pictograms



Signal Word

Danger

Hazard Statements

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
AUH019 May form explosive peroxides

Precautionary Statements

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P233 Keep container tightly closed.
P201 Obtain special instructions before use.
P261 Avoid breathing mist/vapours/spray.
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.
P271 Use only outdoors or in a well-ventilated area.
 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.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
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].
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Storage **P304 + P340** IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
 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	3.1B	Flammable liquid - high hazard
	Health Hazards	6.1D	Substances that are acutely toxic - Harmful
		6.3A	Substances that are irritating to the skin
		6.4A	Substances that are irritating to the eye
		6.7B	Substances that are suspected human carcinogens
		6.9B	Substances that are harmful to human target organs or systems

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Tetrahydrofuran	C ₄ H ₈ O	109-99-9	>95 %
Stabilizer (e.g. 2,6-di-tert-butyl-4-methylphenol or p-cresol or hydroquinone)	Unspecified	Unspecified	0.025 - 0.05 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Do not induce vomiting. Get immediate medical advice/attention. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Never give anything by mouth to an unconscious person.
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. Get immediate medical advice/attention. *Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
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 warm and at rest in a position comfortable for breathing. Call a Poison Centre or doctor/physician for advice. 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	If exposed or concerned, get medical advice/attention. Treat symptomatically. 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.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	Alert Fire Brigade and tell them location and nature of hazard. 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. *Public Safety Hazard: Effects may spread beyond the immediate vicinity. All non-essential personnel should be instructed to move at least 250 metres away from the incident. People should be warned to stay indoors with all doors and windows closed, preferably in rooms upstairs and facing away from the incident. Ignition sources should be eliminated and any ventilation stopped. The possible need for subsequent evacuation should be considered, but in most cases it will be safer to remain in a building than to evacuate.
Flammability Conditions	HIGHLY FLAMMABLE LIQUID & VAPOUR: Low flashpoint – Will be easily ignited by heat, sparks or flames at ambient temperatures. Severe fire hazard when exposed to heat, flame and/or oxidisers.

Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), alcohol-resistant 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, fine water spray 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. Heating may cause expansion or decomposition leading to violent rupture of containers. 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. *WARNING: Long standing in contact with air and light may result in the formation of potentially explosive peroxides.
Hazardous Products of Combustion	Fire may produce irritating, toxic and/or corrosive gases, including carbon dioxide (CO ₂) and other pyrolysis products typical of burning organic material.
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	-15 °C
Lower Explosion Limit	1.8 %
Upper Explosion Limit	11.8 %
Auto Ignition Temperature	321 °C
Hazchem Code	•2YE

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) within at least 50 m - All equipment used in handling the product must be earthed. Do not touch or walk through spilled material. Clean up all spills immediately! 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 containers for later 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	Peroxide-containing residues can often be rendered innocuous by pouring into an excess of sodium carbonate solution.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses.
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	Control personal contact with the substance, by using protective equipment (see SECTION 8). 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 - Use only outdoors or in a well-ventilated area. Prevent concentration in hollows and sumps. Obtain special instructions before use - Do not handle until all safety precautions have been read and understood. Avoid breathing mist/vapours and contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). HIGHLY FLAMMABLE LIQUID & VAPOUR: 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 equipment and non-sparking tools. Take action to prevent static discharges.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Do NOT store in pits, depressions, basements or areas where vapours may be trapped. Rotate all stock to prevent ageing. Use on First In-First Out basis. Keep containers securely sealed. Vent tanks through flame arrestors. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Keep away from incompatible materials (see SECTION 10). Store locked up. *May form explosive peroxides on standing or following concentration by distillation. Review of stocks and testing for peroxide content at 3-monthly intervals is recommended, together with safe disposal of peroxidic samples.

Container

Store in original containers in approved flame-proof area. Check that containers are clearly labelled and free from leaks.

*Containers, even those that have been emptied, may contain explosive vapours. Do NOT cut, drill, grind, weld or perform similar operations on or near containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**General**

For Tetrahydrofuran (CAS No. 109-99-9):

- Safe Work Australia Exposure Standard: TWA = 100 ppm (295 mg/m³); Absorption through the skin may be a significant source of exposure (Sk).

- New Zealand Workplace Exposure Standard [Next review 2021]: TWA = 100 ppm (295 mg/m³); Suspected carcinogen (6.7B); Skin absorption (skin).

*Tetrahydrofuran (THF) Odour Threshold Value: 30.5 ppm (detection); 61 ppm (recognition).

THF is an upper respiratory irritant at concentrations exceeding 400 ppm. At concentrations in the order of 25,000 ppm THF is narcotic to both animals and humans. The TLV-TWA is thought to minimise the potential for upper respiratory tract irritation and to provide a sufficient margin of safety against THF-induced systemic injury.

STABILIZER: 2,6-di-tert-butyl-4-methylphenol (CAS No. 128-37-0):

- Safe Work Australia Exposure Standard: TWA = 10 mg/m³

- New Zealand Workplace Exposure Standard: TWA = 10 mg/m³; Dermal sensitiser (dsen).

STABILIZER: p-cresol (CAS No. 106-44-5):

- Safe Work Australia Exposure Standard for Cresol, all isomers: TWA = 5 ppm (22 mg/m³); Absorption through the skin may be a significant source of exposure (Sk).

- New Zealand Workplace Exposure Standard for Cresol, all isomers [Next review 2022]: TWA = 5 ppm (22 mg/m³); Skin absorption (skin).

STABILIZER: Hydroquinone (CAS No. 123-31-9):

- Safe Work Australia Exposure Standard: TWA = 2 mg/m³; Suspected human carcinogen (Carc. 2).

- New Zealand Workplace Exposure Standard [Adopted 2020]: TWA = 1 mg/m³; Skin absorption (skin); Dermal sensitiser (dsen).

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: Where the concentration of gas/particulates in the breathing zone approaches or exceeds the Exposure Standard, respiratory protection is required. Recommended: Type A Filter of sufficient capacity (refer to AS/NZS 1715 & 1716). Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted.

- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses with side shields; Chemical goggles.

- Hand protection: Wear protective gloves. Recommended: Wear chemical protective gloves, e.g. PVC.

- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls; PVC Apron; PVC protective suit may be required if exposure severe. For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets). Wear safety footwear or safety gumboots, e.g. Rubber.

Special Hazards Precautions

Purchases of peroxidisable chemicals should be restricted to ensure that the chemical is used completely before it can become peroxidised. A responsible person should maintain an inventory of peroxidisable chemicals or annotate the general chemical inventory to indicate which chemicals are subject to peroxidation.

Work Hygienic Practices

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Do NOT allow clothing wet with material to stay in contact with skin.

9. PHYSICAL AND CHEMICAL PROPERTIES**Physical State**

Liquid

Appearance

Mobile liquid

Odour

Ether-like

Colour

Colourless

pH

5 (20% aqueous)

Vapour Pressure

19.1 kPa (@ 20 °C)

Relative Vapour Density	2.5 Air = 1
Boiling Point	66 °C
Melting Point	-108.5 °C
Freezing Point	-108.5 °C
Solubility	Miscible with water, alcohols, ketones, esters and hydrocarbons
Specific Gravity	0.891 (Water = 1)
Flash Point	-15 °C
Auto Ignition Temp	321 °C
Evaporation Rate	8.0 (BuAc = 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	72.11 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	No Data Available
Volatile Percent	100 %
VOC Volume	No Data Available
Additional Characteristics	WARNING: Long standing in contact with air and light may result in the formation of potentially explosive peroxides.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	Risk of violent reaction or explosion! May form explosive peroxides.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	Caution: Use of water spray when fighting fire may be inefficient.
Properties That May Initiate or Contribute to Fire Intensity	HIGHLY FLAMMABLE LIQUID & VAPOUR: Low flashpoint – Will be easily ignited by heat, sparks or flames at ambient temperatures. Severe fire hazard when exposed to heat, flame and/or oxidisers.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating, toxic and/or corrosive gases, including carbon dioxide (CO ₂) and other pyrolysis products typical of burning organic material.
Release of Invisible Flammable Vapours and Gases	Vapours will form explosive mixtures with air.

10. STABILITY AND REACTIVITY

General Information	Presence of a stabilising inhibitor prevents/retards peroxide formation. Forms potentially explosive peroxides upon long standing in air. These peroxides may explode if concentrated by evaporation or distillation.
Chemical Stability	Product is considered stable; Unstable in the presence of incompatible materials. May form explosive peroxides. *Product is considered stable under normal handling and storage conditions when it is inhibited and properly stored.
Conditions to Avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid prolonged storage. Do not store in unsealed containers.
Materials to Avoid	Incompatible/reactive with strong acids, bases, oxidising agents.
Hazardous Decomposition Products	Fire/decomposition may produce irritating, toxic and/or corrosive gases, including carbon dioxide (CO ₂) and other pyrolysis products typical of burning organic material.
Hazardous Polymerisation	Hazardous polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION

General Information

- Acute toxicity: May be harmful if swallowed. Ingestion of tetrahydrofuran may not, in itself, produce internal injury; however, contaminating levels of furan, present in certain grades of commercial product, may produce liver and kidney injury. The intake of alcoholic beverages may enhance the toxic effects of tetrahydrofuran. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.
- Skin corrosion/irritation: Skin contact with tetrahydrofuran may produce smarting and reddening of the skin and after prolonged exposures, contact (non-allergic) dermatitis may result due to the degreasing effect of the substance.
- Eye damage/irritation: Causes serious eye irritation. Eye contact may cause significant inflammation with pain. Corneal injury may occur; permanent impairment of vision may result unless treatment is prompt and adequate. Repeated or prolonged exposure to irritants may cause inflammation, characterised by a temporary redness of the conjunctiva; temporary impairment of vision and/or other transient eye damage/ulceration may occur.
- Respiratory/skin sensitisation: There was no contact dermatitis or sensitisation observed in 196 volunteers exposed to the chemical dermally (exposure concentration not reported) [NICNAS].
- Germ cell mutagenicity: Based on the data available, the chemical is not genotoxic.
- Carcinogenicity: Suspected of causing cancer. Tetrahydrofuran (CAS No. 109-99-9) is classified by the IARC Monographs as "Possibly carcinogenic to humans" (Group 2B). The chemical showed some evidence of carcinogenicity in rodents, when exposed through inhalation. However, the evidence is not conclusive as to the human relevance of the observed tumours [NICNAS].
- Reproductive toxicity: Based on the data available, the chemical is not considered a reproductive or developmental toxin.
- STOT (single exposure): May cause respiratory irritation. Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual. Overexposure to tetrahydrofuran, by inhalation, may result in irritation of the mucous membranes and may produce coughing, chest pains, nausea, dizziness, headache and narcosis. Exposure to high concentrations can affect the central nervous system due to the strong narcotic effect of the material.
- STOT (repeated exposure): Based on the data available, the chemical is not considered to cause serious damage to health by repeated exposure. Repeated exposure to tetrahydrofuran (THF) and its congeners has been associated with cytolytic hepatitis and fatty degeneration of the liver.
- Aspiration toxicity: No information available.

Acute

Ingestion

- Acute toxicity (Oral):
- LD50, Rat: 1,650 mg/kg bw [Supplier's SDS].
 - LD50, Rat: >2,000 mg/kg bw (2,050 - 6,210 mg/kg bw) [NICNAS].

Other

- Acute toxicity (Dermal):
- LD50, Rat: >2,000 mg/kg [Supplier's SDS].

Inhalation

- Acute toxicity (Inhalation):
- LC50, Rat: >22.05 mg/l (6 h) [Supplier's SDS].

Carcinogen Category

Cat. 2

12. ECOLOGICAL INFORMATION

Ecotoxicity

- For Tetrahydrofuran (THF):
- LC50, Fish: 2 - 160 mg/L (96 h).
 - EC50, Algae/aquatic plants: 310.515 mg/L (96 h).
 - NOEC, Fish: >=5 mg/L (24 h).

Persistence/Degradability

- For Tetrahydrofuran (THF):
- Persistence: Low (Water/Soil); Low (Air).

Mobility

- For Tetrahydrofuran (THF):
- Mobility in soil: Low (KOC = 4.881).

Environmental Fate

Acute short term toxic environmental effects of THF may include the death of animals, birds, fish and death or low growth rate in plants. Acute effects are seen 2 to 4 days after animals or plants are exposed to tetrahydrofuran. Chronic toxic effects include shortened life span, reproductive problems, lowered fertility, and changes in appearance or behaviour in exposed animals. These effects have been seen long after the first exposure(s).
*Do NOT discharge into sewer or waterways.

Bioaccumulation Potential

- For Tetrahydrofuran (THF):
- Bioaccumulative potential: Low (LogKOW = 0.46).

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Recycle, wherever possible, or dispose of by burial in a land-fill specifically licensed to accept chemical and/or pharmaceutical wastes or incineration in a licensed apparatus. Do NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases, disposal to sewer may be subject to local laws and regulations and these should be considered first.

Special Precautions for Land Fill

Decontaminate empty containers. Flush containers with water immediately on emptying to prevent formation of peroxides.

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

ADG Code

Proper Shipping Name	TETRAHYDROFURAN
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	2056
Hazchem	•2YE
Pack Group	II
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	TETRAHYDROFURAN
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	2056
Hazchem	•2YE
Pack Group	II
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	TETRAHYDROFURAN
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
EPG	14 Liquids - Highly Flammable
UN Number	2056
Hazchem	•2YE
Pack Group	II
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	TETRAHYDROFURAN
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Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
ERG	127 Flammable Liquids (Polar / Water-Miscible)
UN Number	2056
Hazchem	2YE
Pack Group	II
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	TETRAHYDROFURAN
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	2056
Hazchem	2YE
Pack Group	II
Special Provision	No Data Available
EMS	F-E, S-D
Marine Pollutant	No

Air Transport

IATA DGR

Proper Shipping Name	TETRAHYDROFURAN
Class	3 Flammable Liquids
Subsidiary Risk(s)	No Data Available
UN Number	2056
Hazchem	2YE
Pack Group	II
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	HSR001224
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National/Regional Inventories

Australia (AIIIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Listed
Europe (EINECS)	203-726-8
Europe (REACH)	01-2119444314-46-XXXX
Japan (ENCS/METI)	Not Determined
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 (NCSF)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes	TEFURA0995, TEFURA1000, TEFURA1001, TEFURA1002, TEFURA1003, TEFURA1004, TEFURA1005, TEFURA1006, TEFURA1007, TEFURA1008, TEFURA1009, TEFURA1010, TEFURA1011, TEFURA1012, TEFURA1013, TEFURA1014, TEFURA1015, TEFURA1016, TEFURA1017, TEFURA1018, TEFURA1019, TEFURA1020, TEFURA1100, TEFURA1500, TEFURA2000, TEFURA2500, TEFURA3000, TEFURA3500, TEFURA3600, TEFURA3601, TEFURA3700, TEFURA4000, TEFURA4001, TEFURA4500, TEFURA5000, TEFURA5010, TEFURA5500, TEFURA6000, TEFURA7000, TEFURA8000, TEFURA9000, TEFURA9990
Revision	4
Revision Date	03 May 2018
Reason for Issue	updated sds
Key/Legend	<p> < 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 </p>

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

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