

## Safety Data Sheet DIETHYL ETHER

SDS no. 4U73SGAS • Version 1.0 • Date of issue: 2026-01-11

### SECTION 1: Identification

#### GHS Product identifier

Product name DIETHYL ETHER

#### Other means of identification

Product Product Code

DIETHYL ETHER AR, stabilised with BHT	EA012
DIETHYL ETHER Anhydrous AR, stabilised with BHT	EA036
DIETHYL ETHER TG	ET012

#### Recommended use of the chemical and restrictions on use

Organic synthesis, anaesthetic, smokeless powder, industrial solvent (nitrocellulose, alkaloids, fats, waxes, oils, perfumes, gums), extractant, analytical reagent and laboratory reagent.

#### Supplier's details

Name	ChemSupply Australia Pty Ltd
Address	38-50 Bedford Street 5013 Gillman South Australia Australia

Telephone	08 8440 2000
email	www.chemsupply.com.au

#### Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

### SECTION 2: Hazard identification

#### General hazard statement

Dangerous goods of Class 3 (Flammable Liquid) are incompatible in a placard load with any of the following: Class 1, Class 2.1, if both the Class 3 and Class 2.1 dangerous goods are in bulk, Class 2.3, Class 4.2, Class 5, Class 6, if the Class 3 dangerous goods are nitromethane, Class 7.

#### Classification of the substance or mixture

#### GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, oral, Cat. 4
- Specific target organ toxicity following single exposure, Cat. 3
- Flammable liquids, Cat. 1

#### GHS label elements, including precautionary statements

#### Pictograms

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### Signal word

### Warning

#### Hazard statement(s)

H302  
H336  
H224

Harmful if swallowed  
May cause drowsiness or dizziness  
Extremely flammable liquid and vapor

#### Precautionary statement(s)

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233

Keep container tightly closed.

P240

Ground and bond container and receiving equipment.

P241

Use explosion-proof [electrical/ventilating/lighting/...] equipment.

P242

Use non-sparking tools.

P243

Take action to prevent static discharges.

P261

Avoid breathing dust/fume/gas/mist/vapors/spray.

P264

Wash hands thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P271

Use only outdoors or in a well-ventilated area.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312

IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell,

P303+P361+P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P304+P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312

Call a POISON CENTER/doctor/physician if you feel unwell.

P370+P378

In case of fire: Use agents recommended in Section 5 of SDS for extinction

P403+P233

Store in a well-ventilated place. Keep container tightly closed.

P405

Store locked up.

P501

Dispose of contents/container to an approved waste disposal facility

## SECTION 3: Composition/information on ingredients

### Mixtures

<b>Molecular weight</b>	74.14
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Information on Composition: Product contains butylated hydroxy toluene (BHT) as preservative.

Component	Identification	Weight %	Classifications
Ethyl ether	CAS no.: 60-29-7 EC no.: 200-467-2 Index no.: 603-022-00-4	<= 100 %	CLASSIFICATIONS: Flammable liquids, Cat. 1; Acute toxicity, oral, Cat. 4; Specific target organ toxicity, single exposure, Cat. 3. HAZARDS: H224 - Extremely flammable liquid and vapor; H302 - Harmful if swallowed; H336 - May cause drowsiness or dizziness.

## SECTION 4: First-aid measures

### Description of necessary first-aid measures

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General advice	First aid is not generally required. If in doubt, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.  First Aid Facilities: Maintain eyewash fountain in work area.
If inhaled	If inhaled, remove from contaminated area to fresh air immediately, avoid becoming a casualty. Make patient comfortable, keep warm and at rest until fully recovered. If breathing is difficult (or develops a bluish skin discolouration), supply oxygen by a qualified person. Apply artificial respiration with a respiratory medical device if not breathing. Do not use mouth to mouth resuscitation. Seek medical advice.
In case of skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
In case of eye contact	If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If persistent irritation occurs, obtain medical attention.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

### Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### Indication of immediate medical attention and special treatment needed, if necessary

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

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## SECTION 5: Fire-fighting measures

### Suitable extinguishing media

Specific Methods: Caution: Use of water spray when fighting fire may be inefficient.

Small fire: Use alcohol resistant foam (if not available, normal foam can be used), dry chemical, CO<sub>2</sub> or water spray.

Large fire: Use foam, fog or water spray - Do not use water jets.

If safe to do so, move undamaged containers from fire area. Cool containers with flooding quantities of water until well after fire is out. Avoid getting water inside containers.

### Specific hazards arising from the chemical

Hazards from Combustion Products: May liberate toxic fumes oxides of carbon.

HIGHLY FLAMMABLE: product has a low flash point - Will be easily ignited by heat, sparks or flames at ambient temperatures.

Vapours will form explosive mixtures with air. Vapours will travel to source of ignition and flash back. Fire may produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. Liquid is lighter than water. Vapours are heavier than air and will collect in low or confined areas (drains, basements, tanks). Vapours from run-off may create an explosion hazard.

### Special protective actions for fire-fighters

SCBA and structural firefighter's uniform may provide limited protection. Fully-encapsulating, gas-tight suits should be worn for maximum protection.

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

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### Methods and materials for containment and cleaning up

ELIMINATE all ignition sources (no smoking, flares, sparks or flame) within at least 50m - All equipment used in handling the product must be earthed.

Do not touch or walk through spilled material.

Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas.

Vapour-suppressing foam may be used to control vapours.

Absorb spill with earth, sand or other non-combustible material - Use clean, non-sparking tools to collect material and place it in loosely-covered metal or plastic containers for later disposal. Water spray may be used to knock down or divert vapour clouds.

SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

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## SECTION 7: Handling and storage

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

### Conditions for safe storage, including any incompatibilities

Unsuitable Materials: No aluminium, tin, or zinc containers.

Other Information: Periodically test for peroxide formation on long-term storage. If peroxide formation is suspected, do not move or open container/s. Do not distill or allow to evaporate to near dryness. Opened containers should be purged with nitrogen and resealed.

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## SECTION 8: Exposure controls/personal protection

### Control parameters

#### CAS: 60-29-7

Ethyl ether

AU/SWA (Australia): 500 ppm; 1520 mg/m<sup>3</sup> STEL inhalation; 400 ppm; 1210 mg/m<sup>3</sup> TWA inhalation

### Appropriate engineering controls

Provide sufficient ventilation. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flame proof exhaust ventilation system is required. Refer to AS 1940-The storage and handling of flammable and combustible liquids and AS 2430-Explosive gas atmospheres for further information concerning ventilation requirements.

### Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

#### Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

#### Body protection

Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

#### Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference

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should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/ NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

### SECTION 9: Physical and chemical properties

#### Basic physical and chemical properties

Physical state	Liquid
Appearance	Colourless, transparent, volatile and mobile liquid.
Color	No data available.
Odor	Pleasant aromatic odour.
Odor threshold	0.3 ppm (100% recognition)
Melting point/freezing point	-116.3 °C
Boiling point or initial boiling point and boiling range	34.6 °C
Flammability	EXTREMELY FLAMMABLE. Keep away from heat, sparks or naked flames. Use flameproof equipment and fittings to prevent flammability risk. Electrically link and ground metal containers for transfer of the product to prevent accumulation of static electricity.
Lower and upper explosion limit/ flammability limit	Flammable Limits - Lower: 1.70% Flammable Limits - Upper: 36%
Flash point	-40 °C (Closed cup).
Explosive properties	Forms explosive peroxides upon prolonged exposure to air and light. Peroxides may explode violently when heated.
Auto-ignition temperature	180 °C
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	No data available.
Kinematic viscosity	Viscosity: ; Kinematic Viscosity: 0.322 - 0.343 centistokes @ 20 °C. [88] Dynamic Viscosity: 0.23 - 0.245 cP @ 20 °C.
Solubility	Solubility in Water: Slightly soluble in water. Solubility in Organic Solvents: Soluble in all proportions with simple alcohols (e.g. ethanol, butanol), benzene, xylene, petroleum ether, chloroform and most other organic solvents.
Partition coefficient n-octanol/ water (log value)	Log P(o/w) = 0.89
Vapor pressure	563 mm Hg @ 20 °C
Evaporation rate	11.1-11.8 (n-butyl acetate = 1)
Density and/or relative density	Specific Gravity: 0.71
Relative vapor density	2.56 (air=1)

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Particle characteristics	No data available.
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#### Supplemental information regarding physical hazard classes

Specific Properties or Risk: May form explosive peroxides.

Surface Tension: 17.06 mN/m (17.06 dynes/cm) @ 20 °C

#### Further safety characteristics (supplemental)

Saturated Vapour Concentration: Approximately 58% (581700 ppm) @ 20 °C.

Other Information: Conversion factor: 1 ppm = 3.03 mg/m<sup>3</sup>

Critical temperature: 194 °C

Dielectric constant: 4.335 @ 20 °C

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## SECTION 10: Stability and reactivity

### Reactivity

Stable under normal conditions of storage and handling.

Risk of ignition. Vapours may form explosive mixtures with air

### Chemical stability

Normally stable. Upon prolonged exposure to air and light, slowly forms peroxides or polyperoxides, which are dangerously explosive, even below 100 °C and may explode when heated, or spontaneously when concentrated. Old containers may contain explosive peroxides.

### Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Product can be stabilised with BHT (2,6-di-tert.-butyl-4-emthylphenol).

### Conditions to avoid

Heat, air and light. Extremes of temperatures and direct sunlight.

### Incompatible materials

Strong oxidisers, light, air, heat, strong acids, halogens, halogen-halogen compounds, nonmetals, nonmetallic oxyhalides, strong oxidizing agents, chromyl chloride, turpentine oils and/or turpentine substitutes, nitrates, metallic chlorides.

### Hazardous decomposition products

Oxides of carbon and peroxides.

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## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

Acute Toxicity - Oral: LD50 (rat): 1215 mg/kg.

Ingestion: Harmful if swallowed. May initially cause exhilaration, excitement, irritability and pugnacity, but leads to depression, confusion, drowsiness and stupor. After accidental swallowing the substance may pose a risk of aspiration. Passage into the lung (vomiting!) can result in a condition resembling pneumonia (chemical pneumonitis).

Inhalation: Vapours may cause mucosal irritation, drowsiness and dizziness. Repeated exposures above the TLV may cause nasal irritation, loss of appetite, salivation, headache, euphoria, excitation, ataxia (impaired locomotor coordination) and inebriation and which can be followed by narcosis, collapse, unconsciousness and coma at high concentrations. Respiratory paralysis and death cannot be excluded.

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#### **Skin corrosion/irritation**

Drying-out effect resulting in rough and chapped skin. Secondary inflammation and dermatitis may result.

#### **Serious eye damage/irritation**

May cause soreness and irritation.

Serious eye damage/irritation: Not classified based on available information.

#### **Respiratory or skin sensitization**

Not classified based on available information.

#### **Germ cell mutagenicity**

Not classified based on available information.

#### **Carcinogenicity**

Not classified based on available information.

#### **Reproductive toxicity**

Not classified based on available information.

#### **Specific target organ toxicity (STOT) - single exposure**

Not classified based on available information.

#### **Specific target organ toxicity (STOT) - repeated exposure**

Not classified based on available information.

#### **Aspiration hazard**

Not classified based on available information.

#### **Additional information**

Chronic Effects: Repeated or prolonged skin contact may cause skin dryness and cracking. Prolonged and severe exposure may cause unconsciousness.

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## SECTION 12: Ecological information

#### **Persistence and degradability**

Biological degradability: slightly.

#### **Bioaccumulative potential**

Low bioaccumulation potential ( $\log P(o/w) < 1$ ) Distribution:  $\log P(o/w)$ : 0.89.

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## SECTION 13: Disposal considerations

#### **Disposal methods**

##### **Product disposal**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

##### **Sewage disposal**

Low bioaccumulation potential ( $\log P(o/w) < 1$ ) Distribution:  $\log P(o/w)$ : 0.89.

##### **Other disposal recommendations**

Do not discharge this material into waterways, drains and sewers.

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## SECTION 14: Transport information

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#### ADG (Road and Rail)

UN Number: 1155

Class: 3

Packing Group: I

Proper Shipping Name: DIETHYL ETHER (ETHYL ETHER)

#### Hazchem emergency action code (EAC)

3YE

#### IMDG

UN Number: 1155

Class: 3

Packing Group: I

EMS Number:

Proper Shipping Name: DIETHYL ETHER (ETHYL ETHER)

#### IATA

UN Number: 1155

Class: 3

Packing Group: I

Proper Shipping Name: DIETHYL ETHER (ETHYL ETHER)

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## SECTION 15: Regulatory information

### Safety, health and environmental regulations specific for the product in question

#### Australia SUSMP

Poison Schedule: S6

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## SECTION 16: Other information

### Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

### Preparation information

All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. ChemSupply Australia Pty Ltd accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.

Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), [hcis.safeworkaustralia.gov.au](http://hcis.safeworkaustralia.gov.au)

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)