



## Safety Data Sheet

Date of Issue: 15.10.2020

Date of Expiry: 15.10.2025

### 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name : **ECP Limited**  
Address : PO Box 34125, Birkenhead, Auckland 0746  
Telephone : +64 9 480 4386  
Facsimile : +64 9 480 4385  
Emergency phone number : 0800 243 622 (24 hours)

<b>Product</b>	<b>Diethyl ether</b>			<b>Code</b>	<b>2160</b>
<b>CAS#</b>	<b>HSNO#</b>	<b>UN #</b>	<b>DG Class/es</b>	<b>Packing group #</b>	
60-29-7	HSR001124	1155	3	I	

**Recommended use** : Laboratory Investigations

### 2: Hazards identification

Flammable Liquids (Category A), H224  
Acute toxicity, Oral (Category D), H302  
Acute toxicity, Inhalation (Category E), H333  
Eye irritation (Category A), H319

#### 2.2 GHS Label elements, including precautionary statements

##### Pictogram



Signal word : **Danger**

##### Hazard statement(s)

H224 Extremely flammable liquid and vapour.  
H302 Harmful if swallowed.  
H316 Causes mild skin irritation.  
H319 Causes serious eye irritation.  
H333 May be harmful if inhaled.

##### Precautionary statement(s)

###### Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink, or smoke when using this product.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

## Response

P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing.  
Rinse skin with water/ shower.

P304 + P312 IF INHALED: Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P330 Rinse mouth. P337 + P313 If eye irritation persists: Get medical advice/ attention. P370 + P378  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

## 2.3 Other hazards

May form explosive peroxides., Repeated exposure may cause skin dryness or cracking.

## 3: Composition/information on ingredients

Substance / Mixture : Substance

### 3.1 Substances

**Synonyms** : Ether  
Ethyl ether  
**Formula** : C<sub>4</sub>H<sub>10</sub>O  
**Molecular weight** : 74.12 g/mol  
**CAS-No.** : 60-29-7  
**EC-No.** : 200-467-2  
**Index-No.** : 603-022-00-4

Component	Classification	Concentration
Diethyl ether	3.1 A; 6.1 D; 6.1 E; 6.4 A; H224, H302, H333, H319 Concentration limits: >= 20 %: STOT SE 3, H336;	<= 100 %

## 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

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

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Dry powder Dry sand

#### Unsuitable extinguishing media

Do NOT use water jet.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers

## 6: Accidental release measures

### 6.1 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

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

### 6.4 Reference to other sections

For disposal see section 13.

## 7: Handling and storage

### 7.1 Precautions for safe handling

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

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

Component	CAS No.	Value	Control parameters	Basis
Diethyl ether	60-29-7	WES-STEL	500 ppm 1,520 mg/m <sup>3</sup>	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants

		WES-TWA	400 ppm 1,210 mg/m <sup>3</sup>	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
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## 8.2 Exposure controls

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## 9: Physical and chemical properties

### Appearance

Form : liquid

Color : colorless

**Odor** : sweet, ether-like

**Odor threshold** : No data available.

**pH** : No data available

**Melting point/freezing point** : -116 °C

**Initial boiling point and boiling range** : 34.6 °C at 1,013 hPa

**Flash Point** : -40 °C - closed cup - DIN 51755 Part 1

**Evaporation rate** : No data available

**Flammability (solid, gas)** : No data available

### Upper/lower limit on flammability or explosive limits

Upper explosion limit : 36 % (V)

Lower explosion limit : 1.7 %(V)

**Vapor pressure** : 189 hPa at 0 °C  
389 hPa at 10 °C  
563 hPa at 20 °C  
863 hPa at 30 °C  
1,228 hPa at 40 °C  
2,311 hPa at 60 °C

**Vapor density** : 0.71 g/cm<sup>3</sup> at 20 °C

<b>Relative density</b>	: 0.9445 (25 °C)
<b>Water solubility</b>	: 65 g/l at 20 °C - completely soluble
<b>Partition coefficient (n-octanol/water)</b>	: log Pow: 1.1 - Bioaccumulation is not expected.
<b>Auto-ignition temperature</b>	: 175 °C at 1,013.25 hPa
<b>Decomposition temperature</b>	: No data available.
<b>Viscosity</b>	: No data available
<b>Explosive properties</b>	: No data available
<b>Oxidizing properties</b>	: No data available

## 9.2 Other safety information

Relative vapour density : 2.56 - (Air = 1.0)

## 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

Contains the following stabiliser(s): 2,6-di-tert-Butyl-p-cresol (1 ppm)

### 10.3 Possibility of hazardous reactions

No data available.

### 10.4 Conditions to avoid

Heat, flames, and sparks.

### 10.5 Incompatible materials

Oxidizing agents, Strong acids.

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available. In the event of fire: see section 5.

## 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 1,211 mg/kg

Remarks: (RTECS)

LC50 Inhalation - Mouse - 4 h - 97.5 mg/l

Remarks: (RTECS)

LD50 Dermal - Rabbit - male - > 20,000 mg/kg

(OECD Test Guideline 402)

Remarks: (ECHA)

#### Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Dermatitis

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

### **Respiratory or skin sensitization**

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

### **Germ cell mutagenicity**

Micronucleus test

Human lymphocytes

Result: negative

In vitro mammalian cell gene mutation test

Mouse lymphoma test

Result: negative

OECD Test Guideline 474

Mouse - male and female

Result: negative

### **Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

### **Reproductive toxicity**

No data available.

### **Specific target organ toxicity - single exposure**

May cause drowsiness or dizziness. - Central nervous system

Acute oral toxicity - Risk of aspiration upon vomiting., Aspiration may cause pulmonary oedema and pneumonitis.

Acute inhalation toxicity - mucosal irritations

### **Specific target organ toxicity – repeated exposure**

No data available

### **Aspiration hazard**

No data available

### **Additional Information**

RTECS: KI5775000

Inhalation may provoke the following symptoms:

Cough, chest pain, Difficulty in breathing, Dizziness, Drowsiness, contact with eyes can cause: Redness, Provokes tears., Blurred vision, Prolonged or repeated exposure to skin causes defatting and dermatitis.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Ingestion may provoke the following symptoms: Irregularities - Based on Human Evidence

## **12: Ecological information**

### **12.1 Toxicity**

*Toxicity to fish*

LC50 - *Leuciscus idus* (Golden orfe) - 2,840 mg/l - 48 h

Remarks: (ECOTOX Database)

*Toxicity to daphnia and other aquatic invertebrates*

EC50 - *Daphnia magna* (Water flea) - 1,380 mg/l - 48 h Remarks: (IUCLID)

*Toxicity to bacteria*

static test EC50 - *Daphnia magna* (Water flea) - 13,100 mg/l - 48 h (OECD Test Guideline 202)

#### *Toxicity to algae*

static test ErC50 - *Desmodesmus subspicatus* (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)

#### *Toxicity to bacteria*

static test EC50 - activated sludge - 21,000 mg/l - 3 h (OECD Test Guideline 209)

static test NOEC - activated sludge - 42 mg/l - 3 h (OECD Test Guideline 209)

### **12.2 Persistence and degradability**

Not readily biodegradable.

### **12.3 Bioaccumulative potential**

No bioaccumulation is to be expected (log Pow <= 4).

### **12.4 Mobility in soil**

No data available

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects**

No data available

## **13: Disposal considerations**

### **13.1 Waste treatment methods**

#### **Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

#### **Contaminated packaging**

Dispose of as unused product.

## **14: Transport Information Table**

		<b>ADR/RID – European packaging certification</b>	<b>IMDG International Maritime Dangerous Goods Code</b>	<b>IATA – DGR International Air Travel Association – Dangerous Goods Regulations</b>
<b>14.1</b>	<b>UN Number</b>	1155	1155	1155
<b>14.2</b>	<b>UN Proper Shipping name</b>	DIETHYL ETHER	DIETHYL ETHER	Diethyl ether
<b>14.3</b>	<b>Transport Hazard Class</b>	3	3	3
<b>14.4</b>	<b>Packaging group</b>	I	I	I
<b>14.5</b>	<b>Environmental Hazards</b>	no	no	no
<b>14.6</b>	<b>Special precautions for user</b>	None		

<b>14.7</b>	<b>Incompatible materials</b>	Oxidizing agents, Strong acids
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## **15: Regulatory information**

### **15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture**

#### **National regulatory information**

HSNO Approval Code: HSR001124

H HSNO Group Standard Approval: Outside of Group Standard

Group Standard 2006

Tracking Required: 3.1A

Approved Handler Cert.: not required

## **16: Disclaimer**

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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