

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name: **DIETHYL ETHER**
Supplier: LABSCAN LIMITED,
T24-26 STILLORGAN INDUSTRIAL PARK, STILLORGAN,
CO. DUBLIN, IRELAND.
Emergency telephone number: +353 1 295 2684 Fax No: +353 1 295 2685

2. COMPOSITION/INFORMATION ON INGREDIENTS

Identification of the preparation

Chemical Name	CAS-No	EEC-No	Class	Weight %
DIETHYL ETHER	60-29-7	603-022-00-4	F+; R12 R19 Xn; R22 R66 R67	100

3. HAZARDS IDENTIFICATION

Most important hazards: May cause cancer by inhalation Risk of sterility (men/women) Extremely flammable.

Specific hazards Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product. Protect from light. May form explosive peroxides. The vapour has narcotic effect and in high concentrations induces unconsciousness which can be fatal.

4. FIRST AID MEASURES

General advice: Show this safety data sheet to the doctor in attendance.

Inhalation: Move to fresh air in case of accidental inhalation of vapours. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth-to-mouth or mouth to nose. Use suitable instruments/apparatus. Consult a physician after significant exposure.

Skin contact: Remove contaminated clothing and wash affected skin with soap and water. Wash contaminated clothing before re-use. If skin irritation persists, call a physician.

Eye contact: If the substance has got into the eyes, wash out with water or saline solution for at least 15 minutes. Consult a physician for severe cases.

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Ingestion: Rinse mouth. Do not induce vomiting without medical advice. Keep patient warm. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth-to-mouth or mouth to nose. Use suitable instruments/apparatus. Subsequently administer: activated charcoal (20-40g in 10% slurry). Consult a physician for severe cases.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Extinguish preferably with dry chemical / Carbon dioxide blanket / foam.

Extinguishing media which must not be used for safety reasons:

Do not use a solid water stream as it may scatter and spread fire.

Specific hazards:

Burning produces irritant fumes (carbon oxides).

Vapours are heavier than air and may spread along floors / Flash back possible over considerable distance.

Special protective equipment for firefighters:

Wear a positive-pressure supplied-air respirator / full protective flameproof clothing.

Specific methods:

Standard procedure for chemical fires. In the event of fire, cool tanks with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Evacuate personnel to safe areas. Remove all sources of ignition. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak. Take precautionary measures against static discharges.

Environmental precautions:

Do not flush into surface water or sanitary sewer system. Contain or absorb leaking liquid with sand or earth. Prevent liquid entering sewers, basements and workpits; vapour may create explosive atmosphere. If substance has entered a water course or sewer or contaminated soil or vegetation, advise police.

Methods for cleaning up:

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Transfer to covered steel drums. Contact waste disposal services. Dispose of as special waste in compliance with local and national regulations.

7. HANDLING AND STORAGE

Handling:

Use only in area provided with appropriate exhaust ventilation. Avoid contact with skin and eyes. Do not breathe vapours or spray mist. Take precautionary measures against static discharge. Keep away from open flames, hot surfaces and sources of ignition.

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Storage: Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat and sources of ignition. Electrical equipment should be protected to the appropriate standard. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Store in original container (+15-+25C).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name:

DIETHYL ETHER

National occupational exposure limits:IRL OEL: 400ppm (1,200mg/m³) 8h TLVIRL OEL: 500ppm (1,500mg/m³) 15min TLV

Engineering measures to reduce exposure

The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents or in hot melt applications.

Personal protection equipment:

- **Respiratory protection:** In case of insufficient ventilation, wear suitable respiratory equipment.
- **Hand protection:** Viton gloves. 89/686/EEC and EN374.
- **Eye protection:** Goggles giving complete protection to eyes.
- **Skin and body protection:** Chemical resistant apron / flame retardant antistatic protective clothing. heavy duty work shoes.

Hygiene measures:

Keep working clothes separately. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Formula:	(C₂H₅)₂O		
Form:	liquid,		
Colour:	colourless,		
Odour:	characteristic aromatic, sweet.		
pH:	(°C)	no data available	(g/l H ₂ O)
Boiling point/range:		34.6	°C
Melting point/range:		-116	°C
Decomposition temperature:		550	°C
Flash point:		-45 closed cup	°C
Autoignition temperature:		170	°C
Flammability (solid, gas):	extremely flammable		
Explosive properties:			
Explosion limits:	- lower	1.8	vol. %
	- upper	48	vol. %

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Oxidizing properties:

Vapour pressure:	(20 °C)	587	hPa
Relative density:	(20 °C) >=	0.714 g/ml	
		<= 0.710 g/ml	
Bulk density:		714	kg/m³
Solubility:			
Water solubility	(20 °C)	70	g/l)
Solubility in other solvents		miscible with most organic solvents	
Partition coefficient (n-octanol/water)		log P _{ow} = 0.88	
Viscosity:	(°C)	no data available	mPa.s

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions. Stabilizer: 2,6-di-tert.-butyl-4-methylphenol (BHT) Reacts violently with peroxides.
Conditions to avoid:	Protect from light. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Heating of containers may cause pressure rise, with risk of bursting.
Materials to avoid:	peroxides / liquid oxygen / nitric acid / halons / finely divided zirconium, azides, halogens, halogen-halogen compounds, nonmetals, nonmetallic oxyhalides, strong oxidizing agents, turpentine oils, turpentine substrates, nitrates. metallic chlorides.
Hazardous decomposition products:	carbon oxides.

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11. TOXICOLOGICAL INFORMATION

Acute toxicity:**Inhalation:**

LC50/inhalation/2h/rat = 73000 ppm
High concentration of vapours may induce unconsciousness, dizziness, vomiting, weakness, headache, cyanosis.
The vapour may have a narcotic effect..

Skin contact:

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye contact:

strongly irritating to eyes.

Ingestion:

LD50/oral/rat =: 1213mg/kg
LDLo (oral,human): 260mg/kg
Passage to the lung can result in chemical pneumonitis..
Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Sensitization:

Irritating to eyes, respiratory system and skin.

Long term toxicity:

Inhalation / Ingestion causes, dependant on amounts, emotional lability to narcotic toxic effects

Chronic toxicity:

Repeated and prolonged exposure to solvents may cause brain and nervous system damage.

12. ECOLOGICAL INFORMATION

Mobility:

Distribution preferentially in air. Immiscible or partly miscible with water.

Persistence / degradability:

According to the results of tests of biodegradability this product is not readily biodegradable.
TOD: 2.60g/g

Bioaccumulation:

Log p(o/w): 0.89.

Ecotoxicity:

Aquatic toxicity is unlikely due to low solubility.
Daphnia EC50: 165mg/l/24h

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:

If recycling is not practicable, dispose of in compliance with local regulations.
Can be incinerated, when in compliance with local regulations.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal.
Empty containers can be landfilled after cleaning, when in compliance with local regulations.

Product name: **DIETHYL ETHER****14. TRANSPORT INFORMATION****ADR/RID**

Proper shipping name: DIETHYL ETHER
 Class: 3 Item: 2a
 Packaging group: I HI/UN No: 33/1155

IMO

Proper shipping name: DIETHYL ETHER
 Class: 3.2 IMDG Page: 3029
 EmS: 3-07 MFAG: 330
 Packaging group: I UN-No: 1155
 Marine pollutant: not applicable

ICAO

Proper shipping name: DIETHYL ETHER
 Class: 3 UN/ID No: 1155
 Packaging group: I

15. REGULATORY INFORMATION

Classification according to European directive on classification of hazardous preparations
 2001/58/EC

- Contains: Diethylether
- Symbol(s):



F+ -
 Extremely
 flammable.

Xn -
 Harmful.

- R -phrase(s):** R12 - Extremely flammable.
 R19 - May form explosive peroxides.
 R22 - Harmful if swallowed.
 R66 - Repeated exposure may cause skin dryness or cracking.
 R67 - Vapours may cause drowsiness and dizziness.

- S -phrase(s):** S 9 - Keep container in a well-ventilated place.
 S16 - Keep away from sources of ignition - No smoking.
 S29 - Do not empty into drains.
 S33 - Take precautionary measures against static discharges.

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16. OTHER INFORMATION

Recommended restrictions: Take notice of labels and material safety data sheets for the working chemicals.
Refer to attached material safety data sheets for advices about the handling and storage of each preparation. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

Recommended use: General purpose solvent.

Further information: Contact Labscan Limited.

REVISION DATE: 20/08/2002

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.