

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 Reference number: 00103 Issue date: 24-11-2022 Revision date: 24-11-2022 Supersedes version of: 18-07-2019 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form Trade name IUPAC name EC Index-No. EC-No. CAS-No. Product code Formula Chemical structure Substance
DIETHYL ETHER FOR SYNTHESIS
Ethoxyethane
603-022-00-4
200-467-2
60-29-7
00103
C4H10O

<u>_0</u>_ CH₃ H₃C

Synonyms

: Dether; Ethyl ether; Ethyl oxide; 3-Oxapentane; Ethoxyethane; Diethyl oxide; Solvent ether; Sulphuric ether; Vitriolic ether

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Industrial/Professional use spec

Use of the substance/mixture

 Industrial For professional use only
 Solvents Laboratory chemicals Manufacture of substances

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT.LTD. 107 Wode House Road, Jehangir Villa, Colaba 400005 Mumbai INDIA T +91 22 6663 6663 - F +91 22 6663 6699 info@lobachemie.com - www.lobachemie.com

1.4. Emergency telephone number

Emergency number

: + 91 22 6663 6663 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	
Flammable liquids, Category 1	H224
Acute toxicity (oral), Category 4	H302
Specific target organ toxicity – Single exposure, Category 3, Narcosis Full text of H- and EUH-statements: see section 16	H336

Adverse physicochemical, human health and environmental effects

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

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Labelling according to Regulation (EC)	No. 1272/2008 [CLP]
Hazard pictograms (CLP)	
	GHS02 GHS07
Signal word (CLP)	: Danger
Hazard statements (CLP)	 H224 - Extremely flammable liquid and vapour. H302 - Harmful if swallowed. H336 - May cause drowsiness or dizziness.
Precautionary statements (CLP)	 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources No smoking. P233 - Keep container tightly closed. P241 - Use explosion-proof electrical/ventilating/lighting equipment. P261 - Avoid breathing dust, fume, gas, mist, spray, vapours. P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
EUH-statements	: EUH019 - May form explosive peroxides. EUH066 - Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients		
3.1. Substances		
Substance type	: Mono-constituent	
Name	: DIETHYL ETHER	
CAS-No.	: 60-29-7	
EC-No.	: 200-467-2	
EC Index-No.	: 603-022-00-4	

3.2. Mixtures

Not applicable

SECTION 4: First aid measures		
4.1. Description of first aid measures		
First-aid measures general	: Call a poison center or a doctor if you feel unwell.	
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.	
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Repeated exposure may cause skin dryness or cracking.	
First-aid measures after eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.	
First-aid measures after ingestion	: Rinse mouth. Call a POISON CENTER/doctor if you feel unwell. Call a poison center or a doctor if you feel unwell.	
4.2. Most important symptoms and effects, both acute and delayed		
Symptoms/effects	: May cause drowsiness or dizziness.	
Symptoms/effects after inhalation	: May cause drowsiness or dizziness.	
Symptoms/effects after skin contact Symptoms/effects after ingestion	: Repeated exposure may cause skin dryness or cracking. : Harmful if swallowed.	
4.3. Indication of any immediate medica	Il attention and special treatment needed	
Treat symptomatically.		

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 5: Firefighting measures		
5.1. Extinguishing media		
Suitable extinguishing media Unsuitable extinguishing media	 dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2). Water spray. Dry powder. Foam. Carbon dioxide. Do not use a heavy water stream. 	
5.2. Special hazards arising from the substance or mixture		
Fire hazard Explosion hazard	 Extremely flammable liquid and vapour. May form flammable/explosive vapour-air mixture. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. May form explosive peroxides. 	
Hazardous decomposition products in case of fire	: Toxic fumes may be released.	
5.3. Advice for firefighters		
Firefighting instructions Protection during firefighting	 DO NOT fight fire when fire reaches explosives. Evacuate area. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. 	

SECTION 6: Accidental release measures	
6.1. Personal precautions, protective e	equipment and emergency procedures
General measures	: Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.
6.1.1. For non-emergency personnel	
Emergency procedures	: Ventilate spillage area. Avoid contact with skin and eyes. No open flames, no sparks, and no smoking. Avoid breathing dust, fume, gas, mist, spray, vapours.
6.1.2. For emergency responders	
Protective equipment	: Do not attempt to take action without suitable protective equipment. Avoid breathing dust/fume/gas/mist/vapours/spray. For further information refer to section 8: "Exposure controls/personal protection".
6.2. Environmental precautions	
Avoid release to the environment.	
6.3. Methods and material for containn	nent and cleaning up

Methods for cleaning up Other information	 Take up liquid spill into absorbent material. Collect spillage. Large spills: scoop solid spill into closing containers. Notify authorities if product enters sewers or public waters. Dispose of materials or solid residues at an authorized site.
6.4. Reference to other sections	

For further information refer to section 13.

SECTION 7: Handling and storage	
7.1. Precautions for safe handling	
Additional hazards when processed	: Handle empty containers with care because residual vapours are flammable. Hazardous waste due to potential risk of explosion.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Precautions for safe handling :	No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid breathing dust, fume, gas, mist, spray, vapours. Use only outdoors or in a well-ventilated area. Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling. Always wash hands after handling the product.
7.2. Conditions for onfo storage, including or	
7.2. Conditions for safe storage, including an	iy incompatibilities
Technical measures :	Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Proper grounding procedures to avoid static electricity should be followed.
Storage conditions :	Keep in fireproof place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Incompatible products :	Oxidizing agent.
Incompatible materials	Heat sources.
7.3. Specific end use(s)	

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection: Chemical goggles or safety glasses

8.2.2.2. Skin protection

Hand protection: Protective gloves

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

Physical state	: Liquid
Appearance	: Clear liquid.
Molecular mass	: 74.12 g/mol
Colour	: Colourless.
Odour	: sweetish odour.
Odour threshold	: 0.83 ppm
pH	: No data available
Relative evaporation rate (butylacetate=1)	: 37.5
Melting point	: Not applicable
Freezing point	: -116 °C
Boiling point	: 34.6 °C
Flash point	: -40 °C
Auto-ignition temperature	: 175 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable
	Extremely flammable liquid and vapour,Not applicable
Vapour pressure	: 563 hPa at 20 °C
Relative vapour density at 20 °C	: 2.6
Relative density	: No data available
Density	: 0.713 – 0.715 g/cm³ at 20°C
Solubility	: Water: 65 g/l at 20°C
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: May form explosive peroxides.
Oxidising properties	: No data available
Lower explosive limit (LEL)	: 1.7 vol %
Upper explosive limit (UEL)	: 36 vol %

9.2. Other information

Refractive index

: 1.351 – 1.353 (20°C, 589 nm)

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable liquid and vapour.

10.2. Chemical stability

Extremely flammable liquid and vapour. May form flammable/explosive vapour-air mixture. May form explosive peroxides.

10.3. Possibility of hazardous reactions

Reacts vigorously with strong oxidizers and acids.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

10.4. Conditions to avoid

Sparks. Heat. Direct sunlight. Overheating. Open flame. Avoid contact with hot surfaces. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

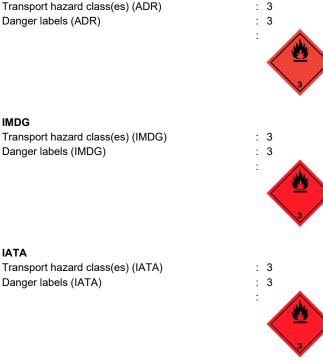
SECTION 11: Toxicological information

11.1 Information on toxicological effects

SECTION 12: Ecological information	
12.1. Toxicity	
Ecology - general Hazardous to the aquatic environment, short–term (acute) Hazardous to the aquatic environment, long–term (chronic)	 The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. Not classified Not classified
12.2. Persistence and degradability	
No additional information available	
12.3. Bioaccumulative potential	
No additional information available	
12.4. Mobility in soil	
No additional information available	
12.5. Results of PBT and vPvB assessment	t i i i i i i i i i i i i i i i i i i i
No additional information available	
12.6. Other adverse effects	
No additional information available	

Safety Data Sheet

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830			
SECTION 13: Disposal considerations			
13.1. Waste treatment methods			
Waste treatment methods Product/Packaging disposal recommendations Additional information	 Dispose of contents/container in accordance with licensed collector's sorting instructions. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Handle empty containers with care because residual vapours are flammable. Hazardous waste due to potential risk of explosion. Flammable vapours may accumulate in the container. 		
SECTION 14: Transport information			
In accordance with ADR / IMDG / IATA / ADN / RI	D		
14.1 UN number			
UN-No. (ADR) UN-No. (IMDG) UN-No. (IATA) UN-No. (ADN) UN-No. (RID)	 : UN 1155 		
14.2. UN proper shipping name			
Proper Shipping Name (ADR) Proper Shipping Name (IMDG) Proper Shipping Name (IATA) Proper Shipping Name (ADN) Proper Shipping Name (RID) Transport document description (ADR) Transport document description (IMDG) Transport document description (IATA) Transport document description (ADN) Transport document description (RID)	 DIETHYL ETHER (ETHYL ETHER) DIETHYL ETHER (ETHYL ETHER) Diethyl ether DIETHYL ETHER (ETHYL ETHER) DIETHYL ETHER (ETHYL ETHER) UN 1155 DIETHYL ETHER (ETHYL ETHER), 3, I, (D/E) UN 1155 DIETHYL ETHER (ETHYL ETHER), 3, I (-40°C c.c.) UN 1155 DIETHYL ETHER (ETHYL ETHER), 3, I UN 1155 DIETHYL ETHER (ETHYL ETHER), 3, I UN 1155 DIETHYL ETHER (ETHYL ETHER), 3, I 		
14.3. Transport hazard class(es)			
ADR Transport hazard class(es) (ADR)	: 3		



Danger labels (IATA)

Transport hazard class(es) (IATA)

Danger labels (ADR)

Danger labels (IMDG)

IMDG

ΙΑΤΑ

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

ADN Transport hazard class(es) (ADN) Danger labels (ADN)	
RID Transport hazard class(es) (RID) Danger labels (RID)	
14.4. Packing group	
Packing group (ADR) Packing group (IMDG) Packing group (IATA) Packing group (ADN) Packing group (RID)	: : : :
14.5. Environmental hazards	
Dangerous for the environment Marine pollutant Other information	 No No No supplementary information available
14.6. Special precautions for user	
Overland transport Classification code (ADR) Limited quantities (ADR) Excepted quantities (ADR) Packing instructions (ADR) Mixed packing provisions (ADR) Portable tank and bulk container instructions (ADR) Portable tank and bulk container special provisions (ADR) Tank code (ADR) Vehicle for tank carriage Transport category (ADR) Special provisions for carriage - Operation (ADR) Hazard identification number (Kemler No.) Orange plates	$ \begin{array}{c} F1 \\ 0 \\ E3 \\ P001 \\ MP7, MP17 \\ T11 \\ TP2 \\ \\ L4BN \\ FL \\ 1 \\ S2, S20 \\ 33 \\ \\ \hline 33 \\ 1155 \end{array} $
Tunnel restriction code (ADR) EAC code	: D/E : •3YE
Transport by sea Limited quantities (IMDG) Excepted quantities (IMDG) Packing instructions (IMDG) Tank instructions (IMDG) Tank special provisions (IMDG) EmS-No. (Fire) EmS-No. (Spillage)	: 0 : E3 : P001 : T11 : TP2 : F-E : S-D

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Stowage category (IMDG)	: E
Stowage and handling (IMDG)	: SW2
Flash point (IMDG)	: -40°C c.c.
Properties and observations (IMDG)	: Colourless, volatile and mobile liquid with a pleasant aromatic odour. Flashpoint: -40°C c.c. Explosive limits: 1.7% to 48%. Boiling point: 34°C. Immiscible with water. In the presence o oxygen or on long standing or exposure to sunlight, unstable peroxides sometimes form; these may explode spontaneously or when heated. Strongly narcotic. Readily ignited by static electricity.
MFAG-No	: 127
Air transport	
PCA Excepted quantities (IATA)	: E3
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: 351
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 361
CAO max net quantity (IATA)	: 30L
ERG code (IATA)	: 3AH
Inland waterway transport	
Classification code (ADN)	: F1
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E3
Carriage permitted (ADN)	: Т
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 1
Rail transport	
Classification code (RID)	: F1
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E3
Packing instructions (RID)	: P001
Mixed packing provisions (RID)	: MP7, MP17
Portable tank and bulk container instructions (RID)	: T11
Portable tank and bulk container special provisions	: TP2
(RID)	
Tank codes for RID tanks (RID)	: L4BN
Transport category (RID)	: 1
Hazard identification number (RID)	: 33

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REA	U restriction list (REACH Annex XVII)		
Reference code Applicable on			
3(a)	DIETHYL ETHER FOR SYNTHESIS		
3(b)	DIETHYL ETHER FOR SYNTHESIS		
40.	DIETHYL ETHER FOR SYNTHESIS		

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

REACH Annex XIV (Authorisation List)

DIETHYL ETHER FOR SYNTHESIS is not on the REACH Annex XIV List

REACH Candidate List (SVHC)

DIETHYL ETHER FOR SYNTHESIS is not on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

DIETHYL ETHER FOR SYNTHESIS is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 july 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

DIETHYL ETHER FOR SYNTHESIS is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Ozone Regulation (1005/2009)

DIETHYL ETHER is not subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on drug precursors)

15.1.2. National regulations

France

Occupational diseases	upational diseases		
Code	Description		
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide		

Germany

Water hazard class (WGK) Chemicals Prohibition Ordinance (ChemVerbotsV)		WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 80). This product is subject to ChemVerbotsV Annex 2 Entry 2. The following requirement must be observed: Basic requirements for the implementation of the submission (according to § 8 paragraph 1, 3 and 4).
Hazardous Incident Ordinance (12. BImSchV)	:	Is not subject of the Hazardous Incident Ordinance (12. BImSchV)
Netherlands		
SZW-lijst van kankerverwekkende stoffen	:	The substance is not listed
SZW-lijst van mutagene stoffen	:	The substance is not listed
SZW-lijst van reprotoxische stoffen – Borstvoeding	:	The substance is not listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid	:	The substance is not listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling	:	The substance is not listed
Denmark		
Class for fire hazard	:	Class I-1
Store unit	:	1 liter
Classification remarks	:	F+ <flam. 1="" liq.="">; Emergency management guidelines for the storage of flammable liquids must be followed</flam.>
Danish National Regulations	:	Young people below the age of 18 years are not allowed to use the product
Switzerland		
Storage class (LK)	:	LK 3 - Flammable liquids

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16.	Other information			
	SECTION 16: Other information Abbreviations and acronyms:			
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways			
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road			
ATE	Acute Toxicity Estimate			
BCF	Bioconcentration factor			
BLV	Biological limit value			
BOD	Biochemical oxygen demand (BOD)			
COD	Chemical oxygen demand (COD)			
DMEL	Derived Minimal Effect level			
DNEL	Derived-No Effect Level			
EC-No.	European Community number			
EC50	Median effective concentration			
EN	European Standard			
IARC	International Agency for Research on Cancer			
ΙΑΤΑ	International Air Transport Association			
IMDG	International Maritime Dangerous Goods			
LC50	Median lethal concentration			
LD50	Median lethal dose			
LOAEL	Lowest Observed Adverse Effect Level			
NOAEC	No-Observed Adverse Effect Concentration			
NOAEL	No-Observed Adverse Effect Level			
NOEC	No-Observed Effect Concentration			
OECD	Organisation for Economic Co-operation and Development			
OEL	Occupational Exposure Limit			
PBT	Persistent Bioaccumulative Toxic			
PNEC	Predicted No-Effect Concentration			
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail			
SDS	Safety Data Sheet			
STP	Sewage treatment plant			
ThOD	Theoretical oxygen demand (ThOD)			
TLM	Median Tolerance Limit			
VOC	Volatile Organic Compounds			
CAS-No.	Chemical Abstract Service number			
N.O.S.	Not Otherwise Specified			
vPvB	Very Persistent and Very Bioaccumulative			

ED

Endocrine disrupting properties

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Full text of H- and EUH-statements:		
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4	
EUH019	May form explosive peroxides.	
EUH066	Repeated exposure may cause skin dryness or cracking.	
Flam. Liq. 1	Flammable liquids, Category 1	
H224	Extremely flammable liquid and vapour.	
H302	Harmful if swallowed.	
H336	May cause drowsiness or dizziness.	
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis	

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.