

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 19.10.2023

Version number 1

Revision: 19.10.2023

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

- **1.1 Product identifier**
- **Trade name:** diethyl ether
- **Article number:** 1315
- **CAS Number:**  
60-29-7
- **EC number:**  
200-467-2
- **Index number:**  
603-022-00-4
- **Registration number** 01-2119535785-29
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Solvent for various applications
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Möller Chemie GmbH & Co. KG  
Bürgerkamp 1  
D-48565 Steinfurt  
Tel.: 02551/9340-0  
Fax: 02551/9340-60
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**  
Poison Control Center Mainz - 24 hour emergency service - Tel.: +49 (0) 6131/19240

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 1 H224 Extremely flammable liquid and vapour.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02



GHS07

- **Signal word** Danger
- **Hazard statements**  
H224 Extremely flammable liquid and vapour.  
H302 Harmful if swallowed.  
H336 May cause drowsiness or dizziness.

(Contd. on page 2)

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 19.10.2023

Version number 1

Revision: 19.10.2023

**Trade name: diethyl ether**

(Contd. of page 1)

**· Precautionary statements**

- P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P241** Use explosion-proof [electrical/ventilating/lighting] equipment.
- P261** Avoid breathing dust/fume/gas/mist/vapours/spray.
- P303+P361+P353** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P405** Store locked up.
- P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

**· Additional information:**

- EUH019** May form explosive peroxides.
- EUH066** Repeated exposure may cause skin dryness or cracking.

**· 2.3 Other hazards**

The product does not contain any substance above the legal limits included on the list for endocrine disrupting properties established under Article 59(1) of Regulation (EC) No 1907/2006 or under Commission Delegated Regulation (EU) 2017/2100 or of Commission Regulation (EU) 2018/605 has endocrine disrupting properties.

**· Results of PBT and vPvB assessment****· PBT:**

The product does not contain any substances above legal limits that meet the criteria for PBT (persistent, bioaccumulative and toxic).

**· vPvB:**

The product does not contain any substances above legal limits that meet the criteria for vPvB (very persistent and very bioaccumulative).

### SECTION 3: Composition/information on ingredients

**· 3.1 Substances****· CAS No. Description**

60-29-7 diethyl ether

**· Identification number(s)**

**· EC number:** 200-467-2

**· Index number:** 603-022-00-4

### SECTION 4: First aid measures

**· 4.1 Description of first aid measures**

- After inhalation:** Supply fresh air; consult doctor in case of complaints.
- After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- After eye contact:** Rinse opened eye for several minutes under running water.
- After swallowing:**

Rinse out mouth and then drink plenty of water.

Seek medical treatment.

**· 4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

**· 4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### SECTION 5: Firefighting measures

**· 5.1 Extinguishing media**

**· Suitable extinguishing agents:** CO<sub>2</sub>, powder or water spray. Fight larger fire with alcohol resistant foam.

**· For safety reasons unsuitable extinguishing agents:** Water with full jet

**· 5.2 Special hazards arising from the substance or mixture**

Contact with air and oxygen leads to the formation of peroxides.

(Contd. on page 3)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 19.10.2023

Version number 1

Revision: 19.10.2023

Trade name: diethyl ether

(Contd. of page 2)

- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information** Cool endangered receptacles with water spray.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomaceous earth, acid binder, universal binder, sawdust).  
Dispose contaminated material as waste according to section 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Open and handle receptacle with care.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not mandatory.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Do not seal receptacle gas tight.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

60-29-7 diethyl ether

IOELV	Short-term value: 616 mg/m <sup>3</sup> , 200 ppm
	Long-term value: 308 mg/m <sup>3</sup> , 100 ppm

- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Appropriate engineering controls** No further data; see section 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Keep away from food, drink and animal feed.  
Take off contaminated, soaked clothing immediately.  
Wash hands before breaks and at the end of work.  
Avoid contact with eyes.

(Contd. on page 4)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 19.10.2023

Version number 1

Revision: 19.10.2023

**Trade name: diethyl ether**

(Contd. of page 3)

*Avoid contact with eyes and skin.**Do not eat, drink, smoke or sniff while working.***· Respiratory protection:***In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.***· Hand protection***The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.**Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation***· Material of gloves***Butyl rubber, BR**Nitrile rubber, NBR**Natural rubber, NR**The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.***· Penetration time of glove material***The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.***· Eye/face protection***Tightly sealed goggles*

## SECTION 9: Physical and chemical properties

**· 9.1 Information on basic physical and chemical properties****· General Information**

<b>· Colour:</b>	<i>Colourless</i>
<b>· Odour:</b>	<i>Sweetish</i>
<b>· Odour threshold:</b>	<i>Not determined.</i>
<b>· Melting point/freezing point:</b>	<i>-116.3 °C</i>
<b>· Boiling point or initial boiling point and boiling range</b>	<i>35 °C</i>
<b>· Flammability</b>	<i>Not applicable.</i>
<b>· Lower and upper explosion limit</b>	
<b>· Lower:</b>	<i>1.7 Vol %</i>
<b>· Upper:</b>	<i>36 Vol %</i>
<b>· Flash point:</b>	<i>-40 °C</i>
<b>· Auto-ignition temperature:</b>	<i>170 °C</i>
<b>· Decomposition temperature:</b>	<i>Not determined.</i>
<b>· pH</b>	<i>Not determined.</i>
<b>· Viscosity:</b>	
<b>· Kinematic viscosity</b>	<i>Not determined.</i>
<b>· Dynamic at 20 °C:</b>	<i>0.233 mPas</i>
<b>· Solubility</b>	
<b>· water at 20 °C:</b>	<i>69 g/l</i>
<b>· Partition coefficient n-octanol/water (log value)</b>	<i>Not determined.</i>
<b>· Vapour pressure at 20 °C:</b>	<i>587 hPa</i>
<b>· Density and/or relative density</b>	
<b>· Density at 20 °C:</b>	<i>0.71 g/cm<sup>3</sup></i>
<b>· Relative density</b>	<i>Not determined.</i>
<b>· Vapour density</b>	<i>Not determined.</i>

(Contd. on page 5)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 19.10.2023

Version number 1

Revision: 19.10.2023

Trade name: diethyl ether

(Contd. of page 4)

- **9.2 Other information**
- **Appearance:**
- **Form:** Fluid
- **Important information on protection of health and environment, and on safety.**
- **Ignition temperature:** Not determined.
- **Explosive properties:** May form explosive peroxides.
- **Change in condition**
- **Evaporation rate** Not determined.

- **Information with regard to physical hazard classes**
- **Explosives** Void
- **Flammable gases** Void
- **Aerosols** Void
- **Oxidising gases** Void
- **Gases under pressure** Void
- **Flammable liquids** Extremely flammable liquid and vapour.
- **Flammable solids** Void
- **Self-reactive substances and mixtures** Void
- **Pyrophoric liquids** Void
- **Pyrophoric solids** Void
- **Self-heating substances and mixtures** Void
- **Substances and mixtures, which emit flammable gases in contact with water** Void
- **Oxidising liquids** Void
- **Oxidising solids** Void
- **Organic peroxides** Void
- **Corrosive to metals** Void
- **Desensitised explosives** Void

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
- **10.3 Possibility of hazardous reactions** Possible formation of peroxide.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**  
Oxidizing agents, acids.  
halogen compounds
- **10.6 Hazardous decomposition products:** Peroxide formation
- **Additional information:** Sensitive to light and air.

### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**  
Harmful if swallowed.

#### · **LD/LC50 values relevant for classification:**

Inhalative	LC50/ 4h	73,000 mg/l (rat)
------------	----------	-------------------

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.

(Contd. on page 6)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 19.10.2023

Version number 1

Revision: 19.10.2023

**Trade name: diethyl ether**

(Contd. of page 5)

- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**  
May cause drowsiness or dizziness.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.


### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** LC50/96 h: 2840 ppm (Gold Orfe)
- **12.2 Persistence and degradability** biodegradable
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** The product is not considered to be persistent, bioaccumulating nor toxic (PBT).
- **vPvB:** The product is not considered to be persistent or very bioaccumulative (vPvB).
- **12.6 Endocrine disrupting properties**  
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Disposal according to local regulations.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- |   |                                  |
|---|----------------------------------|
| · <b>14.1 UN number or ID number</b>  |                                  |
| · <b>ADR, IMDG, IATA</b>  | UN1155                           |
| · <b>14.2 UN proper shipping name</b>   |                                  |
| · <b>ADR</b>  | 1155 DIETHYL ETHER (ETHYL ETHER) |
| · <b>IMDG, IATA</b>   | DIETHYL ETHER (ETHYL ETHER)      |
| · <b>14.3 Transport hazard class(es)</b>  |                                  |
| · <b>ADR</b>  |                                  |
|  |                                  |
| · <b>Class</b>  | 3 (F1) Flammable liquids.        |

(Contd. on page 7)

**Safety data sheet**  
according to 1907/2006/EC, Article 31


Printing date 19.10.2023

Version number 1

Revision: 19.10.2023

Trade name: diethyl ether

(Contd. of page 6)

· <b>Label</b>	3
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	3 Flammable liquids.
· <b>Label</b>	3
· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	I
· <b>14.5 Environmental hazards:</b>	Not applicable.
· <b>14.6 Special precautions for user</b>	Warning: Flammable liquids.
· <b>Hazard identification number (Kemler code):</b>	33
· <b>EMS Number:</b>	F-E,S-D
· <b>Stowage Category</b>	E
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· <b>Transport category</b>	1
· <b>Tunnel restriction code</b>	D/E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	0
· <b>Excepted quantities (EQ)</b>	Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· <b>UN "Model Regulation":</b>	UN 1155 DIETHYL ETHER (ETHYL ETHER), 3, I

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category P5a FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 10 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**  
Substance is not listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**  
Substance is not listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.

(Contd. on page 8)

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 19.10.2023

Version number 1

Revision: 19.10.2023

**Trade name: diethyl ether**

(Contd. of page 7)

- **Regulation (EC) No 273/2004 on drug precursors 3**
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors 3**
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

**SECTION 16: Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Department issuing SDS:** Product safety department
- **Contact:** Mrs. Steyer
- **Abbreviations and acronyms:**
  - ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)*
  - IMDG: International Maritime Code for Dangerous Goods*
  - IATA: International Air Transport Association*
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals*
  - EINECS: European Inventory of Existing Commercial Chemical Substances*
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)*
  - LC50: Lethal concentration, 50 percent*
  - LD50: Lethal dose, 50 percent*
  - PBT: Persistent, Bioaccumulative and Toxic*
  - vPvB: very Persistent and very Bioaccumulative*
  - Flam. Liq. 1: Flammable liquids – Category 1*
  - Acute Tox. 4: Acute toxicity – Category 4*
  - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

EU