

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

Printing date 26.12.2023

Version number 4 (replaces version 3)

Revision: 12.07.2023

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

· **1.1 Product identifier**

· **Trade name:** Diethyl ether

· **Article number:** 0528

· **CAS Number:**

60-29-7

· **EC number:**

200-467-2

· **Index number:**

603-022-00-4

· **Registration number** 01-2119535785-29-XXXX

· **UFI:** MFA0-20VX-700F-SEDU

· **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**

Chemical for research, development, manufacturing, laboratory chemical for analysis.

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Biosolve Chimie

20 Rue Roger Husson, 57260 Dieuze, France

Tel: +33 3 878 675 80/81/82/83/84/85

Email: info@biosolvechimie.com

Biosolve B.V.

Leenderweg 78, 5555 CE Valkenswaard, the Netherlands.

Tel: +31-(0)40-2071300

Fax: +31-(0)40-2048537

Email: info@biosolve-chemicals.com

· **Further information obtainable from:** Product safety department.

· **1.4 Emergency telephone number:**

Contact list of appointed bodies for information relating to emergency health response, according to Art. 45(1) Reg. (EC) No 1272/2008.

See below section 16 or at <https://poisoncentres.echa.europa.eu/home>.

Help desk: <http://echa.europa.eu/web/guest/support/helpdesks/national-helpdesks/list-of-national-helpdesks>.

Data from: ECHA - EUROPEAN CHEMICALS AGENCY

For more information see section 16.

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.

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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.

· **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**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.1 Substances**

· **CAS No. Description**

CAS: 60-29-7 diethyl ether

· **Identification number(s)**

· **EC number:** 200-467-2

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SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:** *Supply fresh air; consult doctor in case of complaints.*

· **After skin contact:** *Immediately rinse with water.*

· **After eye contact:** *Rinse opened eye for several minutes under running water.*

· **After swallowing:** *Call for a doctor immediately.*

· **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:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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

· **5.2 Special hazards arising from the substance or mixture** *No further relevant information available.*

· **5.3 Advice for firefighters**

· **Protective equipment:** *No special measures required.*

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 to enter sewers/ surface or ground water.*

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, 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.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.

· **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 required.

· **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:**

CAS: 60-29-7 diethyl ether

IOELV	Short-term value: 616 mg/m ³ , 200 ppm
	Long-term value: 308 mg/m ³ , 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.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.

· **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**

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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Protective gloves

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**

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**

· **Physical state**

Fluid

· **Colour:**

Colourless

· **Odour:**

Sweetish

· **Odour threshold:**

No data available.

· **Melting point/freezing point:**

-116.3 °C

· **Boiling point or initial boiling point and boiling range**

35 °C

· **Flammability**

Not applicable.

· **Lower and upper explosion limit**

· **Lower:**

1.7 Vol %

· **Upper:**

36 Vol %

· **Flash point:**

-40 °C

· **Auto-ignition temperature:**

170 °C

· **Decomposition temperature:**

No data available

· **pH**

No data available

· **Viscosity:**

· **Dynamic at 20 °C:**

0.233 mPas

· **Solubility**

· **water at 20 °C:**

12 g/l

· **Partition coefficient n-octanol/water (log value)**

No data available

· **Vapour pressure at 20 °C:**

587 hPa

· **Vapour pressure at 50 °C:**

1.7 hPa

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· Density and/or relative density	
· Density at 20 °C:	0.71 g/cm ³
· Relative density	No data available
· Vapour density	No data available

· 9.2 Other information	
· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	No data available
· Explosive properties:	May form explosive peroxides.
· Organic solvents:	100.0 %
· Solids content:	0.0 %
· Molecular weight	74.12 g/mol
· Change in condition	
· Evaporation rate	No data available

· 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:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.

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· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

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:**

CAS: 60-29-7 diethyl ether

Oral	LD50	1,215 mg/kg (rat)
Inhalative	LC50/4 h	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.
- **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:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **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:** Not applicable.
- **vPvB:** Not applicable.
- **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.

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SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue**

HP3	Flammable
HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP6	Acute Toxicity
HP15	Waste capable of exhibiting a hazardous property listed above not directly displayed by the original waste.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN number or ID number**

· **ADR, IMDG, IATA** UN1155

· **14.2 UN proper shipping name**

· **ADR** UN1155 DIETHYL ETHER (ETHYL ETHER)
· **IMDG, IATA** DIETHYL ETHER (ETHYL ETHER)

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class** 3 (F1) Flammable liquids.
· **Label** 3

· **IMDG, IATA**



· **Class** 3 Flammable liquids.
· **Label** 3

· **14.4 Packing group**

· **ADR, IMDG, IATA** I

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· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

Substance is not listed.

· Regulation (EC) No 273/2004 on drug precursors

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· Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

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· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not 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.

· Contact:Austria German Vergiftungsinformationszentrale 01 406 43 43 <http://www.goeg.at/de/VIZ>Belgium French Centre antipoison 070 245 245 <http://www.centreatipoisons.be>Dutch Antigif centrum 070 245 245 <http://www.antigifcentrum.be>German Giftinformationszentrum 070 245 245 <http://www.poisoncentre.be>Bulgaria* Bulgarian Токсикологични центрове 02 9154 411 <https://pirogov.eu/bg>Croatia* Croatian Centar za kontrolu otrovanja +385 1 2348 342 <https://www.imi.hr/en/jedinica/poison-control-centre>Czech Rep Czech Toxikologické informační středisko +420 224 91 92 93; +420 224 91 54 02 <http://www.tis-cz.cz>Denmark Danish Giftlinien +45 8212 1212 <https://www.bispebjerghospital.dk/giftlinien>Estonia Estonian Mürgistusteabekeskus 16662; +372 7943 794 <https://www.16662.ee>Finland Finnish Myrkytystietokeskus 0800 147 111; +358 9 471 977 <http://www.hus.fi/sairaanhoito/sairaanhoitopalvelut/myrkytystietokeskus/Sivut/default.aspx>France French Angers +33 2 41 48 21 21 <http://www.centres-antipoison.net/angers/index.html>Bordeaux +33 5 56 96 40 80 <http://www.centres-antipoison.net/bordeaux/index.html>Lille +33 0800 59 59 59 <http://www.centres-antipoison.net/lille/index.html>Lyon +33 4 72 11 69 11 <http://www.centres-antipoison.net/lyon/index.html>Marseille +33 4 91 75 25 25 <http://www.centres-antipoison.net/marseille/index.html>Nancy +33 3 83 22 50 50 <http://www.centres-antipoison.net/nancy/index.html>Paris +33 1 40 05 48 48 <http://www.centres-antipoison.net/paris/index.html>Strasbourg +33 3 88 37 37 37 <http://www.centres-antipoison.net/strasbourg/index.html>Toulouse +33 5 61 77 74 47 <http://www.centres-antipoison.net/toulouse/index.html>Germany German Berlin +49 30 19240 <https://giftnotruf.charite.de>Bonn +49 228 19240 <http://www.gizbonn.de/index.php?id=272>Erfurt +49 361 730730 <https://www.ggiz-erfurt.de/home.html>Freiburg +49 761 19240 <https://www.uniklinik-freiburg.de/giftberatung.html>Göttingen +49 551 19240 <https://www.giz-nord.de/cms/index.php>

Homburg/Saar +49 6841 19240 http://www.uniklinikumsaarland.de/de/einrichtungen/kliniken_institute/kinder_und_jugendmedizin/informations_und_behandlungszentrum_fuer_vergiftungen_des_saarlandes

Mainz +49 6131 19240 <http://www.giftinfo.uni-mainz.de/index.php?id=24807>München +49 89 19240 <http://www.toxinfo.med.tum.de>

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Greece Greek κέντρο δηλητηριάσεων +30 213 200 9000 <http://www.aglaiakyriakou.gr/>; <http://0317.syzefxis.gov.gr>

Hungary Hungarian Egészségügyi Toxikológiai Tájékoztató Szolgálat +36 6 80 20 11 99; +36 06 1 476 6464 <http://www.okbi.hu/page.php?trid=1&dz=103>

Italy Italian Bergamo +39 800 88 33 00 http://www.asst-pg23.it/section/259/Tossicologia_-_Centro_antiveleni

Firenze +39 55 794 78 19 <http://www.antiveleni.altervista.org>

Milano +39 2 661 01 029 <http://www.centroantiveleni.org>

Pavia +39 382 244 44 <http://www-3.unipv.it/reumatologia-tossicologia/cav>

Napoli +39 81 747 28 70

Foggia +39 881 732 326

Roma +39 6 685 93 726 / +39 6 499 78 000 / +39 6 305 43 43 <http://www.corso-primo-soccorso-roma.it/centri/antiveleno-lazio.html>

Ireland English Poisons information Centre of Ireland +353 1 809 21 66 <http://www.poisons.ie/Public>

Latvia* Latvian Saindēšanās informācijas centri +371 670 00 610 <https://www.aslimnica.lv/lv>

Russian Латвия +371 67000610 <https://www.aslimnica.lv/lv>

Lithuania Lithuanian Apsinuodijimų informacijos biuras + 370 5 236 20 52 <http://www.apsinuodijau.lt>

Luxembourg German Giftinformationszentrum +49 800 255 00 <http://www.poisoncentre.be>

French Centre antipoison +352 800 255 00 <http://www.centreantipoisons.be>

Netherlands Dutch 31 (0)88 755 8 <https://www.productnotificatie.nl>

Norway Norwegian Giftinformasjonen +47 22 59 13 00 <https://helsenorge.no/Giftinformasjon>

Poland Polish Kraków +48 12 411 99 99 <http://www.oit.cm.uj.edu.pl>

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Poznań +48 61 847 69 46 http://www.raszeja.poznan.pl/oddzialy/oddzial_toksikologiczny

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Spitalul Clinic Judetean de Urgenta Targu Mures +40 265.212.111

secretariat@spitjudms.ro

Russia Russian Горячая линия Министерства здравоохранения +7 495 628 4453; +7 495 627 2944
<http://rospotrebnadzor.ru>

Serbia Serbian Nacionalni centar za kontrolu trovanja +381 11 3608 440 <http://www.vma.mod.gov.rs/sr-lat/specijalnosti/centri/nacionalni-centar-za-kontrolu-trovanja>

Slovak Rep Slovak Národné toxikologické informačné centrum +421 2 5477 4166 <http://www.ntic.sk>

Spain Spanish Servicio de Información Toxicológica +34 91 562 04 20 https://www.administraciondejusticia.gob.es/paj/pub/lico/ciudadano/informacion_institucional/organismos/instituto_nacional_de_toxicologia_y_ciencias_fo/renses/servicios/info_toxicologica/que_es_sit/ut/p/c5/04_SB8K8xLLM9MSSzPy8xBz9CP0os3g_A1cjCydDRwMDUwNLA08nwzAvM0cZA_8gM6B8pFm8mae_rqWdQsImJcaiLiYGncViYa4CHR4GBiQExug1wAEdCusNBrS WpwsLUACKPy3WuRvjlg83wy5sQ0G8CtR-P_w_8_8_n_N_T_9_Q_t_y_Q_y_M_M_M_j_0_z_A_9_I_V_F_Q_H_Y_1_8_l_4/_d_l_3/_d_3/_L2dJQSEvUUt3QS9ZQnZ3LzZfTjBFMjhCMUEwMDUwOTBJQjFWSjZBNjBPTjA!/?itemId=45381

Sweden Swedish Giftinformationscentralen +46 10 456 6700 <https://giftinformation.se>

Switzerland German Giftinformationszentrum 145 <http://toxinfo.ch>

French Centre antipoison 145 <http://toxinfo.ch>

Italian Centro Antiveleni 145 <http://toxinfo.ch>

United Kingdom English NHS Helpline 111 NHS Helpline - England and Wales: <http://www.nhs.uk/>

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· **Date of previous version:** 19.10.2022

· **Version number of previous version:** 3

· **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

LATA: 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

· *** Data compared to the previous version altered.**