

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 07.03.2023

Version number 1

Revision: 07.03.2023

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

- **1.1 Product identifier**
- **Trade name:** dimethyl carbonate
- **Article number:** 1324
- **CAS Number:**
616-38-6
- **EC number:**
210-478-4
- **Index number:**
607-013-00-6
- **Registration number** 01-2119980035-39
- **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. 2 H225 Highly flammable liquid and vapour.

- **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

- **Signal word** *Danger*
- **Hazard statements**
H225 Highly flammable liquid and vapour.
- **Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting] equipment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

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· 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**

616-38-6 dimethyl carbonate

· Identification number(s)

· EC number: 210-478-4

· Index number: 607-013-00-6

SECTION 4: First aid measures

· 4.1 Description of first aid measures**· General information:**

Take off dirty, soaked clothes immediately.

Personal protection for the First Aider.

Show this safety data sheet to the doctor in attendance.

· 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.

Remove any existing contact lenses if possible. Continue rinsing.

Seek immediate medical advice.

· After swallowing: Do not induce vomiting; call for medical help 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.

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

· 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide, carbon dioxide

· 5.3 Advice for firefighters Do not inhale explosion gases and fumes

· Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

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*Keep away from ignition sources.**Ensure adequate ventilation**Avoid contact with eyes and skin*· **6.2 Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.*· **6.3 Methods and material for containment and cleaning up:** *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***Ensure good ventilation/exhaustion at the workplace.**Prevent formation of aerosols.*· **Information about fire - and explosion protection:***Keep ignition sources away - Do not smoke.**Protect against electrostatic charges.**Keep away from heat and sources of ignition*· **7.2 Conditions for safe storage, including any incompatibilities**· **Storage:**· **Requirements to be met by storerooms and receptacles:***No special requirements.**Store in a cool location.*· **Information about storage in one common storage facility:** *Store away from oxidising agents.*· **Further information about storage conditions:***Store in a dry, cool and well-ventilated place.**Store only in the original container.**Keep container tightly closed, dry, at 15 - 20 ° C.**Store only outside or in explosion proof rooms.*· **Storage class:**

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flammable· **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:** *Not required.*· **Additional information:** *The lists valid during the making were used as basis.*· **8.2 Exposure controls**· **Appropriate engineering controls** *No further data; see item 7.*· **Individual protection measures, such as personal protective equipment**· **General protective and hygienic measures:** *Be sure to clean skin thoroughly after work and before breaks.*· **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.**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.*

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- **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

- **Body protection:** flame retardant antistatic protective clothing

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

- | | |
|---|------------------------|
| · Colour: | Colourless |
| · Odour: | Characteristic |
| · Odour threshold: | Not determined. |
| · Melting point/freezing point: | 4.6 °C |
| · Boiling point or initial boiling point and boiling range | 90.2 °C (1013 hPa) |
| · Lower and upper explosion limit | |
| · Lower: | 4.22 Vol % |
| · Upper: | 12.87 Vol % |
| · Flash point: | 14 °C (1013 hPa) |
| · Ignition temperature: | 458 °C |
| · Decomposition temperature: | Not determined. |
| · pH | Not determined. |
| · Viscosity: | |
| · Kinematic viscosity | Not determined. |
| · Dynamic at 20 °C: | 0.625 mPas (1000 hPa) |
| · Solubility | |
| · water at 20 °C: | 138 g/l |
| · Partition coefficient n-octanol/water (log value) at 20 °C | 0.354 log POW |
| · Vapour pressure at 20 °C: | 57.1 hPa |
| · Density and/or relative density | |
| · Density at 20 °C: | 1.07 g/cm ³ |
| · Relative density | Not determined. |
| · Vapour density | Not determined. |

· 9.2 Other information

- | | |
|--|---|
| · Appearance: | No further relevant information available. |
| · Form: | Fluid |
| · Important information on protection of health and environment, and on safety. | |
| · Auto-ignition temperature: | Not determined. |
| · Explosive properties: | Product is not explosive. However, formation of explosive air/vapour mixtures are possible. |
| · 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 |

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- **Flammable liquids**
Highly 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** warming
- **10.5 Incompatible materials:**
Strong oxidizing agents
Reducing agent
- **10.6 Hazardous decomposition products:**
Poisonous gases/vapours
Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**

Dermal	LD50	>5.000 mg/kg (rabbit)
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- **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** Based on available data, the classification criteria are not met.
- **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 > 100 mg/l (fish)
EC50/48 h > 100 mg/l (Daphnia magna)
- **12.2 Persistence and degradability** No further relevant information available.

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- **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** For information on endocrine disrupting properties see section 11.
- **12.7 Other adverse effects** No further relevant information available.
- **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

- | | |
|--|---|
| <ul style="list-style-type: none"> · 14.1 UN number or ID number · ADR, IMDG, IATA | UN1161 |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG, IATA | 1161 DIMETHYL CARBONATE
DIMETHYL CARBONATE |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR |  |
| <ul style="list-style-type: none"> · Class · Label | 3 (F1) Flammable liquids.
3 |
| <ul style="list-style-type: none"> · IMDG, IATA |  |
| <ul style="list-style-type: none"> · Class · Label | 3 Flammable liquids.
3 |
| <ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA | II |
| <ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: | No |
| <ul style="list-style-type: none"> · 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: | Warning: Flammable liquids.
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F-E,S-D |

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· Stowage Category	B
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1161 DIMETHYL CARBONATE, 3, II

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**
P5c
FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40
- **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:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
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. 2: Flammable liquids – Category 2