

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

Revision: 17.12.2012

Printing date 01.07.2013

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name **Dimethyl carbonate**  
 Stock number: A13104, L07822  
 CAS Number: 616-38-6  
 EC number: 210-478-4  
 Index number: 607-013-00-6

**1.2 Relevant identified uses of the substance**

or mixture and uses advised against. No further relevant information available.  
 Identified use: SU24 Scientific research and development

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

Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG  
 A Johnson Matthey Company  
 Zeppelinstr. 7b  
 76185 Karlsruhe / Germany  
 Tel: +49 (0) 721 84007 280  
 Fax: +49 (0) 721 84007 300  
 Email: tech@alfa.com  
 www.alfa.com  
 Product safety Tel + +049 (0) 7275 988687-0  
 Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)  
 Poison Information Center Mainz  
 www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

Informing department:

1.4 Emergency telephone number:

**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.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

F; Highly flammable

R11: Highly flammable.

**Information concerning particular hazards for human and environment:**

Not applicable

**Other hazards that do not result in classification**

No information known.

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008****Hazard pictograms****Signal word****Hazard statements****Precautionary statements**

The substance is classified and labelled according to the CLP regulation.

GHS02

Danger

H225 Highly flammable liquid and vapour.

P210

P241

P280

P303+P361+P353

P403+P235

P501

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN (or hair): Remove/TAKE off immediately all contaminated clothing. Rinse skin

with water/shower.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international

regulations.

**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# Designation: 616-38-6 Dimethyl carbonate

Identification number(s):

210-478-4

EC number:

607-013-00-6

Index number:

**SECTION 4: First aid measures****4.1 Description of first aid measures****After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

**After skin contact**

Seek immediate medical advice.

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

**After eye contact**

Rinse opened eye for several minutes under running water. Then consult doctor.

**After swallowing**

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**

CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

**5.2 Special hazards arising from the substance or mixture**If this product is involved in a fire, the following can be released:  
Carbon monoxide and carbon dioxide**5.3 Advice for firefighters****Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

**6.2 Environmental precautions:**

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach sewage system or water bodies.

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

Do not allow to enter the ground/soil.

**Prevention of secondary hazards:  
6.4 Reference to other sections**

Keep away from ignition sources.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.  
Keep away from ignition sources.  
See Section 7 for information on safe handling  
See section 8 for information on personal protection equipment.  
See Section 13 for information on disposal.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Handle under dry protective gas.  
Keep containers tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation/exhaustion at the workplace.

**Information about protection against explosions and fires:**

Protect against electrostatic charges.  
Fumes can combine with air to form an explosive mixture.

**7.2 Conditions for safe storage, including any incompatibilities****Storage Requirements to be met by storerooms and containers:**

Store in cool location.

**Information about storage in one common storage facility:**

Store away from water.  
Store away from oxidizing agents.

**Further information about storage conditions:**

Store under dry inert gas.  
This product is moisture sensitive.  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
Protect from humidity and keep away from water.

**7.3 Specific end use(s)**

No further relevant information available.

**SECTION 8: Exposure controls/personal protection****Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**8.1 Control parameters****Components with critical values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**Additional information:**

No data

**8.2 Exposure controls****Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.  
Keep away from foodstuffs, beverages and food.  
Instantly remove any soiled and impregnated garments.  
Wash hands during breaks and at the end of the work.  
Maintain an ergonomically appropriate working environment.

**Breathing equipment:**

Use breathing protection with high concentrations.

**Protection of hands:**

Check protective gloves prior to each use for their proper condition.

**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**

Impervious gloves

**Eye protection:**

Not determined

**Body protection:**Safety glasses  
Face protection  
Protective work clothing.**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

**Form:** Liquid  
**Colour:** Colourless  
**Smell:** Pleasant  
**Odour threshold:** Not determined.

**pH-value:** Not determined.**Change in condition**

**Melting point/Melting range:** ca 4 °C  
**Boiling point/Boiling range:** 90 °C  
**Sublimation temperature / start:** Not determined

**Flash point:** 16 °C  
**Inflammability (solid, gaseous)** Not determined.  
**Ignition temperature:** 458 °C  
**Decomposition temperature:** Not determined  
**Self-inflammability:** Not determined.

**Critical values for explosion:**

**Lower:** 4,22 Vol %  
**Upper:** 12,87 Vol %

**Steam pressure at 20 °C:**

53 hPa

**Density at 20 °C**1,07 g/cm<sup>3</sup>**Relative density**

Not determined.

**Vapour density**

Not determined.

**Evaporation rate**

Not determined.

**Solubility in / Miscibility with****Water at 20 °C:**

139 g/l

**Partition coefficient (n-octanol/water):**

Not determined.

**Viscosity:****dynamic at 20 °C:**

0,625 mPas

**kinematic:**

Not determined.

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**9.2 Other information** No further relevant information available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity** No information known.  
**10.2 Chemical stability** Stable under recommended storage conditions.  
**Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.  
**10.3 Possibility of hazardous reactions** Reacts with strong oxidizing agents  
**10.5 Incompatible materials:** Water/moisture  
 Oxidizing agents  
**10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**  
**Acute toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.  
**LD/LC50 values that are relevant for classification:** No data  
**Skin irritation or corrosion:** May cause irritation  
**Eye irritation or corrosion:** May cause irritation  
**Sensitization:** No sensitizing effect known.  
**Germ cell mutagenicity:** No effects known.  
**Carcinogenicity:** No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.  
**Reproductive toxicity:** No effects known.  
**Specific target organ system toxicity - repeated exposure:** No effects known.  
**Specific target organ system toxicity - single exposure:** No effects known.  
**Aspiration hazard:** No effects known.  
**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

**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.  
**Additional ecological information:**  
**General notes:** Do not allow material to be released to the environment without proper governmental permits.  
 Water hazard class 1 (Self-assessment): slightly hazardous for water.  
 Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.  
 Avoid transfer into the environment.  
**12.5 Results of PBT and vPvB assessment**  
**PBT:** Not applicable.  
**vPvB:** Not applicable.  
**12.6 Other adverse effects** No further relevant information available.

**SECTION 13: Disposal considerations**


**13.1 Waste treatment methods**  
**Recommendation** Hand over to disposers of hazardous waste.  
 Must be specially treated under adherence to official regulations.  
 Consult state, local or national regulations for proper disposal.  
**Uncleaned packagings:**  
**Recommendation:** Disposal must be made according to official regulations.


**SECTION 14: Transport information**

**UN-Number**  
**ADR, IMDG, IATA** UN1161

**14.2 UN proper shipping name**  
**ADR** 1161 DIMETHYL CARBONATE  
**IMDG, IATA** DIMETHYL CARBONATE

**14.3 Transport hazard class(es)**  
**ADR**

  
**Class** 3 (F1) Flammable liquids.  
**Label** 3  
**IMDG, IATA**

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

**Packing group**  
**ADR, IMDG, IATA** II

**14.5 Environmental hazards:** Not applicable.

**14.6 Special precautions for user** Warning: Flammable liquids.  
**Kemler Number:** 33

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

**Transport/Additional information:**

**ADR**  
**Excepted quantities (EQ):** E2  
**Limited quantities (LQ)** 1L

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Transport category	2
Tunnel restriction code	D/E
UN "Model Regulation":	UN1161, DIMETHYL CARBONATE, 3, II

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Chemical****Substances**

Substance is listed.

**Standard for the Uniform Scheduling of****Drugs and Poisons**

Substance is not listed.

**National regulations****Information about limitation of use:**Employment restrictions concerning young persons must be observed.  
For use only by technically qualified individuals.**Water hazard class:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

**Other regulations, limitations and prohibitive****regulations****ELINCS (European List of Notified Chemical****Substances)**

Substance is not listed.

**Substances of very high concern (SVHC)****according to REACH, Article 57**

Substance is not listed.

**REACH - Pre-registered substances**

Substance is listed.

**15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing data specification sheet:** Health, Safety and Environmental Department.**Abbreviations and acronyms:**

ADR: Accord européen sur le transport 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 Harmonized 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

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