DIMETHYL CARBONATE  
CAS No 616-38-6

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

1.1 Product identifiers
Product name : Dimethyl Carbonate
CAS-No. : 616-38-6

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
Company : Central Drug House (P) Ltd
7/28 Vardaan House
New Delhi -110002
INDIA

Telephone : +91 11 49404040
Email : care@cdhfinechemical.com

1.4 Emergency telephone number
Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word : Danger

Hazard statement(s)
H225 : Highly flammable liquid and vapour.

Precautionary statement(s)
P210 : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P403 + P235 : Store in a well-ventilated place. Keep cool.
2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
Synonyms: DMC

Formula: C₃H₆O₃
Molecular weight: 90.08 g/mol
CAS-No.: 616-38-6
EC-No.: 210-478-4
Index-No.: 607-013-00-6

No components need to be disclosed according to the applicable regulations.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition.
Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations.
Vapours can accumulate in low areas.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and
place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic
charge.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are
opened must be carefully resealed and kept upright to prevent leakage.

Air sensitive.
Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and
at the end of workday.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under
appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique
(without touching glove's outer surface) to avoid skin contact with this product. Dispose of
contaminated gloves after use in accordance with applicable laws and good laboratory practices.
Wash and dry hands.

Body Protection
Impervious clothing. Flame retardant antistatic protective clothing. The type of protective
equipment must be selected according to the concentration and amount of the dangerous
substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN
14387) respirator cartridges as a backup to enginee protection, use a full-face supplied air
respirator. Use respirators and components tested and approved under appropriate government
standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- **a)** Appearance: Form: liquid
  Colour: colourless
- **b)** Odour: No data available
- **c)** Odour Threshold: No data available
- **d)** pH: No data available
- **e)** Melting point/freezing point: Melting point/range: 2 - 4 °C - lit.
- **f)** Initial boiling point and boiling range: 90 °C - lit.
- **g)** Flash point: 16 °C - closed cup
- **h)** Evaporation rate: No data available
- **i)** Flammability (solid, gas): No data available
- **j)** Upper/lower flammability or explosive limits: Upper explosion limit: 12.87 %(V)
  Lower explosion limit: 4.22 %(V)
- **k)** Vapour pressure: 18 mmHg at 21.1 °C
- **l)** Vapour density: 3.11 - (Air = 1.0)
- **m)** Relative density: 1.069 g/cm3 at 25 °C
- **n)** Water solubility: 114.7 g/l at 20 °C - OECD Test Guideline 105 - completely soluble
- **o)** Partition coefficient: n-octanol/water: log Pow: 0.354 at 20 °C
- **p)** Auto-ignition temperature: No data available
- **q)** Decomposition temperature: No data available
- **r)** Viscosity: No data available
- **s)** Explosive properties: No data available
- **t)** Oxidizing properties: No data available

9.2 Other safety information

- Surface tension: 31.92 mN/m
- Relative vapour density: 3.11 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available
10.4 Conditions to avoid
Heat, flames and sparks.

10.5 Incompatible materials
Oxidizing agents, Strong acids, Strong bases

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - male and female - > 5,000 mg/kg(Dimethyl carbonate)
(OECD Test Guideline 401)
LC50 Inhalation - Rat - male and female - 4 h - > 5.36 mg/l(Dimethyl carbonate)
(OECD Test Guideline 403)
LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg(Dimethyl carbonate)

Skin corrosion/irritation
Skin - Rabbit(Dimethyl carbonate)
Result: No skin irritation
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit(Dimethyl carbonate)
Result: No eye irritation

Respiratory or skin sensitisation
Freund's complete adjuvant test - Guinea pig(Dimethyl carbonate)
Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity
Chromosome aberration test in vitro(Dimethyl carbonate)
lymphocyte
Result: negative

Carcinogenicity
No data available(Dimethyl carbonate)

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No toxicity to reproduction(Dimethyl carbonate)

Specific target organ toxicity - single exposure
No data available(Dimethyl carbonate)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available(Dimethyl carbonate)

Additional Information
RTECS: FG0450000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.(Dimethyl carbonate)
SECTION 12: Ecological information

12.1 Toxicity
Toxicity to fish: flow-through test LC50 - Danio rerio (zebra fish) - > 100 mg/l - 96 h (Dimethyl carbonate) (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates: static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (Dimethyl carbonate) (OECD Test Guideline 202)
Toxicity to algae: static test EC50 - Pseudokirchneriella subcapitata (green algae) - > 100 mg/l - 72 h (Dimethyl carbonate) (OECD Test Guideline 201)

12.2 Persistence and degradability
Biodegradability: aerobic - Exposure time 28 d (Dimethyl carbonate)
Result: 86 % - Readily biodegradable (OECD Test Guideline 301C)

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available (Dimethyl carbonate)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable.
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 1161
IMDG: 1161
IATA: 1161

14.2 UN proper shipping name
ADR/RID: DIMETHYL CARBONATE
IMDG: DIMETHYL CARBONATE
IATA: Dimethyl carbonate

14.3 Transport hazard class(es)
ADR/RID: 3
IMDG: 3
IATA: 3

14.4 Packaging group
ADR/RID: II
IMDG: II
IATA: II

14.5 Environmental hazards
ADR/RID: no
IMDG Marine pollutant: no
IATA: no
14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H225 Highly flammable liquid and vapour.

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.