

Material Safety Data Sheet

Version 4.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Dimethyl carbonate

Product Number : D152927

Brand : Sigma-Aldrich

Company : Sigma-Aldrich Canada, Ltd
2149 Winston Park Drive
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CANADA

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2. HAZARDS IDENTIFICATION

Emergency Overview

WHMIS Classification

B2 Flammable liquid

Flammable liquid

GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

HMIS Classification

Health hazard: 0

Flammability: 3

Physical hazards: 0

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Ingestion May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C₃H₆O₃

Molecular Weight : 90.08 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Dimethyl carbonate			
616-38-6	210-478-4	607-013-00-6	-

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Avoid breathing vapors, 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.

Environmental precautions

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

Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE**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.

Conditions for safe storage

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. Store in cool place.

Air sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of 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).

Hand protection

For prolonged or repeated contact use protective gloves.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

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

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	liquid
Colour	colourless

Safety data

pH	no data available
Melting point	2 - 4 °C (36 - 39 °F) - lit.
Boiling point	90 °C (194 °F) - lit.
Flash point	16 °C (61 °F) - closed cup
Ignition temperature	no data available
Lower explosion limit	4.22 %(V)
Upper explosion limit	12.87 %(V)
Vapour pressure	96 hPa (72 mmHg) at 37.8 °C (100.0 °F) 24 hPa (18 mmHg) at 21.1 °C (70.0 °F)
Density	1.069 g/cm ³ at 25 °C (77 °F)
Water solubility	insoluble
Relative vapour density	3.11 - (Air = 1.0)

10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid

Air
Heat, flames and sparks.

Materials to avoid

Oxidizing agents, Strong acids, Strong bases

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

LD50 Oral - rat - 13,000 mg/kg

LD50 Dermal - rabbit - > 5,000 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

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 data available

Specific target organ toxicity - single exposure (GHS)

no data available

Specific target organ toxicity - repeated exposure (GHS)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.

Additional Information

RTECS: FG0450000

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 1161 Class: 3 Packing group: II
Proper shipping name: Dimethyl carbonate
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN-Number: 1161 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: DIMETHYL CARBONATE
Marine pollutant: No

IATA

UN-Number: 1161 Class: 3 Packing group: II
Proper shipping name: Dimethyl carbonate

15. REGULATORY INFORMATION**DSL Status**

All components of this product are on the Canadian DSL list.

WHMIS Classification

B2 Flammable liquid Flammable liquid

16. OTHER INFORMATION**Further information**

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