

DIMETHYL CARBONATE

9610-LIQUID

# Safety Data Sheet

## Section 1: Identification

### Product Identifier and Other Means of Identification

**Product Name:** Dimethyl Carbonate**SDS Code:** 9610-Liquid**Related Part #** 9610-945ML, 9610-3.78L

### Recommended Use and Restriction on Use

**Use:** Solvent**Uses Advised Against:** Not applicable

### Details of Manufacturer or Importer

**Manufacturer**

MG Chemicals  
1210 Corporate Drive  
Burlington, Ontario L7L 5R6  
CANADA

MG Chemicals (Head Office)  
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### Emergency Phone Number

**For hazardous material incidents ONLY** (leaks, spills, fires, exposures or accidents)USA or CANADA—Call Verisk 3E at **+1-866-519-4752** or **+1-760-476-3962**

(Service access code: 335388)


**For emergencies involving the transport of dangerous goods;** 24/7 serviceCANADA—Call CANUTEC collect at **+1-613-996-6666** or **\*666** on cellular phones

**DIMETHYL CARBONATE**
**9610-LIQUID**
**Section 2: Hazard(s) Identification**
**Classification of Hazardous Chemical**
**GHS Categories**

Criteria	Category	Signal Word	Pictograms
Flammable Liquid	2	Danger	Flame

*Note:* The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity). Severity categories rankings do not allow comparisons between classes.

**Label Elements**

<b>Signal Word</b>	<b>DANGER</b>
<b>Pictograms</b>	<b>Hazard Statements</b>
	H225: Highly flammable liquid and vapor
<b>Prevention</b>	<b>Precautionary Statements</b>
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof equipment.
P243	Take action to prevent static discharges.
P280	Wear protective gloves/protective clothing/eye protection.

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**DIMETHYL CARBONATE**
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*Continued ...*

<b>Response</b>	<b>Precautionary Statements</b>
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
<b>Storage</b>	<b>Precautionary Statements</b>
P403 + P235	Store in well-ventilated place. Keep cool.
<b>Disposal</b>	<b>Precautionary Statements</b>
P501	Dispose of contents/container in accordance to local/regional/international regulations.

**Hazards Not Otherwise Classified**

<b>Other Criteria</b>	<b>Hazard Statements/Precautionary Statement</b>	<b>Signal Word</b>	<b>Pictograms</b>
None	None	None	None

**Section 3: Composition/Information on Ingredients**

<b>CAS #</b>	<b>Chemical Name</b>	<b>%(weight)</b>
616-38-6	dimethyl carbonate	100%

**Section 4: First-Aid Measures**

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
<b>IF ON SKIN (or hair)</b>	P303 + P361 + P353, P332 + P313
<b>Immediate Symptoms</b>	<i>low toxicity: slightly irritating</i>
<b>Response</b>	Take off immediately all contaminated clothing. Rinse skin with water or shower.

*Section continued on the next page*

**DIMETHYL CARBONATE****9610-LIQUID**

<b>IF IN EYES</b>	P305 + P351 + P338, P337 + P313
<b>Immediate Symptoms</b>	<i>low toxicity: redness, mild irritation</i>
<b>Response</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  If eye irritation persists: Get medical advice/attention
<b>IF INHALED</b>	P304 + P340
<b>Immediate Symptoms</b>	<i>low toxicity: cough, mild irritation</i>
<b>Response</b>	Remove person to fresh air (out of the contaminated zone) and keep comfortable for breathing.
<b>IF SWALLOWED</b>	P301 + P330, P331
<b>Immediate Symptoms</b>	<i>low toxicity: gastrointestinal irritation, nausea, vomiting, diarrhea</i>
<b>Response</b>	Rinse mouth. Do NOT induce vomiting.

**Section 5: Fire-Fighting Measures**

<b>Extinguishing Media</b>	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.  Use water spray to cool containers.
<b>Specific Hazards</b>	The vapors are heavier than air and may accumulate in low-lying areas. Vapors may travel long distances and ignite at an ignition source, which can cause a flashback or an explosion.
<b>Combustion Products</b>	Produces carbon oxides (CO, CO <sub>2</sub> ).
<b>Fire-Fighter</b>	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

**DIMETHYL CARBONATE****9610-LIQUID****Section 6: Accidental Release Measures**

<b>Personal Protection</b>	See personal protection equipment in Section 8.
<b>Precautions for Response</b>	Avoid breathing the mist/spray/vapors. Remove or keep away all sources of ignition or extreme heat.
<b>Environmental Precautions</b>	Prevent spill from entering drains and waterways.
<b>Containment Methods</b>	Contain with inert absorbent (such as soil, sand, vermiculite).
<b>Cleaning Methods</b>	Collect the liquid in a sealable, chemical-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Use soap and water to remove the last traces of residue.  <b>RECOMMENDATION:</b> Use a grounded stainless steel or carbon steel container.
<b>Disposal Methods</b>	Dispose of spill waste according to Section 13.

**Section 7: Handling and Storage**

<b>Prevention</b>	Keep out of reach of children.  Keep away from heat/sparks/open flames/hot surfaces. No smoking.  Ground and bond container and receiving equipment. Take action to prevent static discharges. Use explosion-proof equipment.  Keep container tightly closed.
<b>Handling</b>	Wear protective gloves/protective clothing/eye protection.  Wash hands thoroughly after handling.
<b>Storage</b>	Store in a well-ventilated area. Keep cool.

**DIMETHYL CARBONATE****9610-LIQUID****Section 8: Exposure Controls/Personal Protection****Substances with Occupational Exposure Limit Values**

Contains no substances with occupational exposure limits.

**Engineering Controls**

**Ventilation** General ventilation is adequate for normal use; keep overall exposure as low as possible.

**Personal Protective Equipment**

**Eye protection** Wear appropriate protective eyeglasses or chemical safety goggles.

**RECOMMENDATION:** Use safety glasses with lateral protection (side shields).

**Skin Protection** For likely contacts, use of protective butyl rubber, fluorinated rubber, or other chemically resistant gloves.

For incidental contacts, use nitrile or other chemically resistant gloves.

**Respiratory Protection** Not normally required, but if exposed to high levels of mist/vapors/fumes, wear respirator such as a half-mask respirator.

If exposed to thermal degradation products from extreme heat or combustion conditions, wear a NIOSH approved self-contained breathing apparatus (SCBA) or supplied air respirator.

**RECOMMENDATION:** Consult your local safety supply store to ensure that your respirator has a NIOSH (U.S.) approved filter cartridges appropriate for the ingredients listed in Section 3. The respirator should be fitted to the employee by a professional. Ensure vapor cartridges are stored in sealed plastic bags when not being used.

**General Hygiene Considerations**

Wash hands thoroughly with water and soap after handling.

**DIMETHYL CARBONATE**
**9610-LIQUID**
**Section 9: Physical and Chemical Properties**

<b>Physical State</b>	Liquid	<b>Lower Flammability Limit</b>	4.2%
<b>Appearance</b>	Colorless	<b>Upper Flammability Limit</b>	12.9%
<b>Odor</b>	Characteristic	<b>Vapor Pressure @20 °C</b>	24 hPa [18 mmHg]
<b>Odor Threshold</b>	Not available	<b>Vapor Density</b>	3.1 (Air = 1)
<b>pH</b>	Not available	<b>Specific Gravity @25 °C</b>	1.06
<b>Freezing/Melting Point</b>	2 °C [36 °F]	<b>Solubility in Water @20 °C</b>	Partially soluble
<b>Boiling Point</b>	90 °C [194 °F]	<b>Partition Coefficient</b>	0.2
<b>Flash Point <sup>a)</sup></b>	14 °C [58 °F]	<b>Auto-ignition Temperature</b>	458 °C [856 °F]
<b>Evaporation Rate</b>	Not available	<b>Decomposition Temperature</b>	Not available
<b>Flammability (solid, gas)</b>	Not available	<b>Viscosity @40 °C</b>	<20.5 mm <sup>2</sup> /s

a) Closed cup value

**Section 10: Stability and Reactivity**

<b>Reactivity</b>	Dimethyl carbonate reacts violently with oxidants and potassium tert-butoxide causing a fire hazard.
<b>Chemical Stability</b>	Chemically stable at normal temperatures and pressures
<b>Conditions to Avoid</b>	Avoid flames, sparks, other ignition sources and incompatible substances.
<b>Incompatibilities</b>	Potassium tert-butoxide, strong oxidizing agents
<b>Polymerization</b>	Will not occur
<b>Decomposition</b>	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

**DIMETHYL CARBONATE**
**9610-LIQUID**
**Section 11: Toxicological Information**
**Summary of Effects and Symptoms by Routes of Exposure**

<b>Eyes</b>	Low toxicity: May cause redness and mild irritation.
<b>Skin</b>	Low toxicity: May cause slight irritation.
<b>Inhalation</b>	Low toxicity: May cause cough and slight irritation of the upper respiratory tract.
<b>Ingestion</b>	Low toxicity: May cause gastrointestinal irritation, nausea, vomiting, and diarrhea.
<b>Chronic</b>	Not available

**Acute Toxicity (Lethal Exposure Concentrations)**

<b>Chemical Name</b>	<b>LD50 oral</b>	<b>LD50 dermal</b>	<b>LC50 inhalation</b>
dimethyl carbonate	>5 000 mg/kg Rat	>5 000 mL/kg Rabbit	>5.36 mg/L 4 h Rat (vapors)

*Note:* Toxicity data from the RTECS<sup>2</sup> and ECHA were consulted. The data from supplier (M)SDS were also consulted.

**Other Toxicological Effects**

<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.
<b>Serious eye damage/irritation</b>	Based on available data, the classification criteria are not met.
<b>Sensitization</b> (allergic reactions)	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b> (risk of cancer)	Not classifiable due to lack of data
<b>Mutagenicity</b> (risk of heritable genetic effects)	Based on available data, the classification criteria are not met.

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**DIMETHYL CARBONATE****9610-LIQUID**

<b>Reproductive Toxicity</b> (risk to sex functions)	Based on available data, the classification criteria are not met.
<b>Teratogenicity</b> (risk of fetus malformation)	Based on available data, the classification criteria are not met.
<b>STOT-single exposure</b>	Based on available data, the classification criteria are not met.
<b>STOT-repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.

**Section 12: Ecological Information**

Ecological classifications are based on the IMDG/GHS criteria in conjunction with ecotoxicological data from our suppliers, the European Chemical Agency database (<http://echa.europa.eu>), and other reliable sources.

Dimethyl carbonate does not meet classification criteria for aquatic environmental toxicants with LC50 and EC50 of >100 mg/L.

**Acute Ecotoxicity**

Available toxicity data does not meet classification thresholds.

**Chronic Ecotoxicity**

Available toxicity data does not meet classification thresholds.

**Biodegradability**

Readily Biodegradable

**Other Effects**

Volatile Organic Compound (VOC) content = 0% [0 g/L] by VOC exemption

**Section 13: Disposal Information**

Dispose of contents in accordance with all local, regional, national, and international regulations.

**DIMETHYL CARBONATE**

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**Section 14: Transport Information**

**Ground**

**Refer to TDG regulations** (Canadian Transportation of Dangerous Goods regulations);  
**USA DOT 49 CFR** (Parts 100 to 185) **Regulations.**

Sizes 1 L and under

*Cat. No. 9610-945ML*

**Limited Quantity**



Sizes greater than 1 L

*Cat. No. 9610-3.78L*

**UN number:** UN1161

**Shipping Name:**

DIMETHYL CARBONATE

**Class:** 3

**Packing Group:** II

**Marine Pollutant:** No



**Air**

**Refer to ICAO-IATA Dangerous Goods Regulations.**

Sizes up to 5 L (passenger), 60 L (cargo)

*Cat. No. 9610-945ML, 9610-3.78L*

**UN number:** UN1161

**Shipping Name:**

DIMETHYL CARBONATE

**Class:** 3

**Packing Group:** II

Marine Pollutant: No



**Sea**

**Refer to IMDG regulations.**

Sizes 1 L and under

*Cat. No. 9610-945ML*

Limited Quantity



Sizes greater than 1 L

*Cat. No. 9610-3.78L*

**UN number:** UN1161

**Shipping Name:**

DIMETHYL CARBONATE

**Class:** 3

**Packing Group:** II

Marine Pollutant: No



**Note: Shipper must be appropriately trained and certified before involvement with the transport of dangerous goods.**

**DIMETHYL CARBONATE****9610-LIQUID****Section 15: Regulatory Information****Canada****Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)**

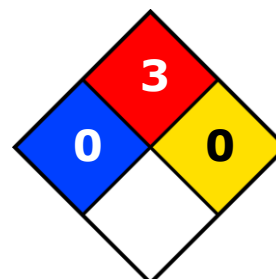
All hazardous ingredients are listed on the DSL.

**Hazardous Products Act (R.S.C., 1985, c. H-3)**

The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

**USA****Other Classifications****HMIS® RATING**

<b>HEALTH:</b>	<b>0</b>
<b>FLAMMABILITY:</b>	<b>3</b>
<b>PHYSICAL HAZARD:</b>	<b>0</b>
<b>PERSONAL PROTECTION:</b>	

**NFPA® 704 CODES**

*Approximate HMIS and NFPA Risk Ratings Legend:*

0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

**CAA** (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.

**EPCRA** (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product does not contain ingredients that subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

**TSCA** (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

**California Proposition 65** (Chemicals known to cause cancer or reproductive toxicity, USA).

This product does not contain any substances known to be listed in California.

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**DIMETHYL CARBONATE****9610-LIQUID****Europe****RoHS** (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, PBDE's, DEHP, BBP, DBP, or DIBP and complies with European RoHS regulations.

**WEEE** (Waste Electrical and Electronic Equipment Directive)

This product is not a piece of electrical or electronic equipment and is therefore not governed by this regulation.

**Section 16: Other Information**

<b>SDS Prepared by</b>	MG Chemical's Regulatory Department
<b>Date of Revision</b>	12 March 2020
<b>Supersedes</b>	11 September 2018
<b>Reason for Changes:</b>	Update to the emergency phone number information.

**Reference**

- 1) ACGIH 2017 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2017).
- 2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

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**DIMETHYL CARBONATE****9610-LIQUID****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists (USA)
ECHA	European Chemicals Agency
EU	European Union
EC50	Half maximal effective concentration
EL50	Half maximal effective loading
IARC	International Agency for Research on Cancer
NOELR	No observable effect loading ratio
NTP	National Toxicology Program
GHS	Globally Harmonized System of Classification of Labeling of Chemicals
LC50	Lethal Concentration 50%
LCLo	Lowest published lethal concentration
LD50	Lethal Dose 50%
OEL	Occupational Exposure Limit
PEL	Permissible Exposure Limit
SDS	Safety Data Sheet
STEL	Short-Term Exposure Limit
TCLo	Lowest published toxic concentration
TWA	Time Weighted Average
VOC	Volatile Organic Content

**Technical Queries** Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at [www.mgchemicals.com](http://www.mgchemicals.com).

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