

SAFETY DATA SHEET

Dimethyl Carbonate

Version 1.0

Issue date: 08/10/2018

Revision date: 08/10/2018

SDS Record Number: CSSS-TCO-010-129129

1. Identification

GHS product identifier: Dimethyl Carbonate

Other means of identification: See section 3

Recommended use of the chemical and restrictions on use:

Recommended use: paint, coating , PC

Recommended Restrictions: Not available

Supplier's details:

Supplier(Manufacturer): Dongying Hi-Tech Spring Chemical industry Co., Ltd.

Address: Shengli Industrial Park, Dongying, Shangdong,China

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2. Hazards identification

Classification of the substance or mixture:

Physical hazards: Flammable liquids Category 2

Health hazards: Not classified

Environmental hazards: Not classified

GHS label elements, including precautionary statements:

Hazard Pictograms: :



Signal word: Danger

Hazard statement: Highly flammable liquid and vapour

Precautionary statement:

Prevention:

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

Keep container tightly closed.

Ground/Bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wear protective gloves/eye protection/face protection.

Response:

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of fire: Use Foam. Fire-extinguishing powder. Carbon dioxide (CO₂) to extinguish.

Storage: Store in a well-ventilated place. Keep cool.

Disposal: Dispose of contents/container in accordance with local regulation.

Other hazards which do not result in classification: Not applicable

3. Composition/information on ingredients

Material name: Dimethyl Carbonate

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Substance/Mixture: Substance

Ingredient(s):

Chemical Name	CAS No.	EC No.	Concentration
Dimethyl Carbonate	616-38-6	210-478-4	99.92%
Moisture	N/A	N/A	0.02%
Methanol	67-56-1	200-659-6	0.02%
Others	N/A	N/A	0.02%

4. First aid measures

Description of necessary first-aid measures:

Inhalation: Remove victim to fresh air. Get medical attention if symptoms occur.

Skin: Immediately flush with copious amount of water for at least 15 minutes and get medical attention.

Eye: Immediately flush with copious amount of water for at least 15 minutes and get medical attention.

Ingestion: Never make an unconscious person vomit or drink fluids. Get medical attention immediately.

Most important symptoms/effects, acute and delayed: The product is not classified as harmful to human health effect.

Indication of immediate medical attention and special treatment needed, if necessary: Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media: Water spray, carbon dioxide, dry chemical powder.

Unsuitable extinguishing media: Not available

Specific hazards arising from the chemical: Mixture of vapor and air are explosive above flash point.

Special protective actions for fire-fighters: Protective equipment for fire-fighters, Self-contained breathing apparatus. Use air-supplied respirator, gloves and protective goggles.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Wear self-contained breathing apparatus, goggles, rubber boots and rubber gloves.

For emergency responders: Wear an appropriate NIOSH/MSHA approved respirator if vapor is generated.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

Methods and materials for containment and cleaning up: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container. In case of large spills, dike for later disposal.

7. Handling and storage

Precautions for safe handling: Avoid contact with eyes, skin and clothing.

Conditions for safe storage, including any incompatibilities: Store in a cool and dry place. Keep away from heat, spark and flame.

8. Exposure controls/personal protection

Control parameters:

				Occupational Exposure Limit Value (8-hour reference)	Occupational Exposure Limit Value (15-minute reference period)

				period)				
Country	Substance	EINECS No.	CAS No.	ppm	mg/ m3	ppm	mg/ m3	Note
Ireland	Methanol	200-659-6	67-56-1	200	260	250	310	Sk, IOELV

Appropriate engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Individual protection measures, such as personal protective equipment (PPE):

Eye/face protection: Wear safety goggles.

Skin protection: Wear chemical resistant gloves. Wear chemical resistant clothing.

Respiratory protection: Wear an approved air respirator.

Thermal hazards: Wear suitable protective clothing to prevent heat.

9. Physical and chemical properties and safety characteristics

Appearance:

Physical state: Liquid

Form: Liquid

Color: Colorless and transparent

Odor: A little

Melting point/ freezing point: 4.65 °C

Boiling point or initial boiling point and boiling range: 363.35 K

Flammability: Not available

Lower and upper explosion limit / flammability limit: Not available

Flash point: 16.7 °C

Auto-ignition temperature: 458 °C

Decomposition temperature: Not available

PH: Not available

Kinematic viscosity: 0.585mPa s(298.15K)

Solubility : 114.7 g/L(20 °C)

Partition coefficient n-octanol/water (log value): log Pow: 0.354(20 °C)

Vapor pressure: 7 570.4 Pa (298.3 K)

Density and/or relative density: 1.06 g/cm³(298.15 K)

Relative vapour density: Not available

Particle characteristics: Not available

Molecular weight: 90.08

Molecular formula: C₃H₆O₃

Surface tension: 31.93 mN/m(0 °C)

Dissociation constant in water(pKa): Not available

10. Stability and reactivity

Reactivity: The substance is stable under normal storage and handling conditions.

Chemical stability: Material is stable under normal conditions

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: Incompatible materials. Avoid heat, flames, sparks and other sources of ignition.

Incompatible materials: Acids, bases, oxidizing and reducing agents.

Hazardous decomposition products: oxides of carbon.

11. Toxicological information

Acute toxicity:

LD50(Oral, Rat):	> 5 000 mg/kg bw
LD50(Dermal, Rabbit):	> 2 000 mg/kg bw
LC50(Inhalation, Rat):	> 5.36 mg/L air (analytical) 4h

Skin corrosion/Irritation: Not classified

Serious eye damage/irritation: Not classified

Respiratory or skin sensitization: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive toxicity: Not classified

STOT- single exposure: Not classified

STOT-repeated exposure: Not classified

Aspiration hazard: Not classified

12. Ecological information

Toxicity:

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	> 100 mg/L	96h	Fish	OECD 203	N/A	N/A
EC50	> 100 mg/L	48h	Daphnia	OECD 202	N/A	N/A
EC50	> 100 mg/L	72h	Algae	OECD 201	N/A	N/A

Persistence and degradability: Readily biodegradable

Bioaccumulative potential: BCF: < 3.2 L/kg

Mobility in soil: Koc:2.9 - 6.65(25 °C)

Other adverse effects: No data available.

13. Disposal considerations

Disposal methods: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

	Land transport(ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN-Number	1161	1161	1161
UN Proper shipping name	Dimethyl carbonate	Dimethyl carbonate	Dimethyl carbonate
Transport hazard class(es)	3	3	3
Packing group, if applicable	II	II	II
Environmental hazards	No	No	No
Special precautions for user	See section 2	See section 2	See section 2
Transport in bulk according to Annex II of	IBC02	IBC02	IBC02

MARPOL 73/78 and the IBC Code			
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15. Regulatory information

Safety, health and environmental regulations specific for the product in question:

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

The date of preparation of the latest revision of the SDS:	Version 1.0 Amended by GHS rev 6 on Sept.28 th , 2018
Legend to abbreviations and acronyms used in the SDS:	<p>ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road</p> <p>RID: Regulations Concerning the International Transport of Dangerous Goods by Rail (European law)</p> <p>IMDG: International Maritime Dangerous Goods</p> <p>EINECS: European Inventory of Existing commercial Chemical Substances</p> <p>IATA: International Air Transport Association</p> <p>ICAO-TI: International Civil Aviation Organization 《The International Civil Aviation Covenant》(ICAO)</p> <p>CAS: Chemical Abstracts Service</p> <p>LC50: Lethal Concentration 50</p> <p>EC50: Concentration for 50% of maximal effect</p> <p>LD50: Lethal dose 50%</p>
References and sources for data used to compile the SDS:	ECHA Registered substances data