Chemical Safety Data Sheet

SECTION 1 IDENTIFICATION

GHS Product identifier: Dimethyl carbonate.
Other means of identification: /
Recommended use of the chemical and restrictions on use: /
Supplier's details: /
Emergency phone number:/

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture
Flammable Liquids Category 2.
GHS Label elements, including precautionary statements

Signal word: Danger.
Hazard statement(s): Highly flammable liquid and vapor.
Precautionary statement(s):
Prevention:
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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 action to prevent static discharges. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
Response:
In case of fire: Use spray, foam or dry powder to extinguish. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water[or shower].
Storage:
Store in a well-ventilated place. Keep cool.
Disposal:
Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards which do not result in classification: /

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration%
Dimethyl carbonate	616-38-6	99.9968%

SECTION 4 FIRST AID MEASURES

Description of necessary first aid measures
If inhaled: If breathed in, move person into fresh air. Other measures are usually unnecessary. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact: Immediately remove all contaminated clothing, including footwear. Wash off with soap and plenty of water, using safety shower if available. Seek medical attention in event of irritation.

In case of eye contact: Wash out immediately with water. If irritation continues, seek medical attention.
If swallowed: Rinse mouth with water. If in doubt, contact a Poisons Information Centre or a doctor.
Most important symptoms and effects, both acute and delayed: /
Indication of immediate medical attention and special treatment needed： /

SECTION 5 FIREFIGHTING MEASURES

Suitable extinguishing media: Foam. Dry chemical powder. Carbon dioxide. Water spray or fog - Large fires only.
Special hazards arising from the chemical: Liquid and vapour are highly flammable. Severe fire hazard when exposed to heat, flame and/or oxidisers. Vapour may travel a considerable distance to source of ignition. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO).
Special protective actions for fire-fighters: Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water course. Consider evacuation (or protect in place). Fight fire from a safe distance, with adequate cover. If safe, switch off electrical equipment until vapour fire hazard removed. Use water delivered as a fine spray to control the fire and cool adjacent area. Avoid spraying water onto liquid pools. Do not approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment.
Environmental precautions: Prevent, by any means available, spillage from entering drains or water courses.
Methods and materials for containment and cleaning up: Stop leak if safe to do so. Water spray or fog may be used to disperse /absorb vapour. Contain spill with sand, earth or vermiculite. Use only spark-free shovels and explosion proof equipment. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite. Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. If contamination of drains or waterways occurs, advise emergency services.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling: Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. Avoid smoking, naked lights, heat or ignition sources. When handling, DO NOT eat, drink or smoke. Vapour may ignite on pumping or pouring due to static electricity. DO NOT use plastic buckets. Earth and secure metal containers when dispensing or pouring product. Use spark-free tools when handling. Avoid contact with incompatible materials. Keep containers securely sealed. Avoid physical damage to containers.
Conditions for safe storage, including any incompatibilities: Store in original containers in approved flame-proof area. No smoking, naked lights, heat or ignition sources. DO NOT store in pits, depressions, basements or areas where vapours may be trapped.Keep containers securely sealed. Store away from incompatible materials in a cool, dry well ventilated area. Protect containers against physical damage and

check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
dimethyl carbonate	Dimethyl carbonate	11 ppm	120 ppm	700 ppm

Appropriate engineering controls: For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant.

Personal protective equipment

Eye/face protection: Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.

Skin protection: Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber. The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.

Respiratory protection: Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant.

Thermal hazards: /

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid.
Colour	colorless.
Odour	/
Melting point/freezing point	2-4℃.
Boiling point or initial boiling point and boiling range	90℃.
Flammability	Highly flammable.
Lower and upper explosion limit/flammability limit	4.22~12.87%.
Flash point	≤18.0℃。
Auto-ignition temperature	210.56°C.
Decomposition temperature	/
pH	/
Kinematic viscosity	/
Solubility	Insoluble in water.
Partition coefficient: n-octanol/water (log value)	/
Vapour pressure	2.39 @ 21.1℃.
Density and/or relative density	1.069.
Relative vapour density	3.1.
Particle characteristics	/

SECTION 10 STABILITY AND REACTIVITY

Reactivity: /

Chemical stability: Product is considered stable under normal handling conditions.

Possibility of hazardous reactions: Avoid strong acids, acid chlorides, acid anhydrides and chloroformates. Avoid reaction with oxidising agents, bases and strong reducing agents.

Conditions to avoid: Heat, flames and sparks.

Incompatible materials: Strong bases, oxidising agents.

Hazardous decomposition products: Carbon monoxide (CO), carbon dioxide (CO_2), other pyrolysis products typical of burning organic material.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure: Inhaled, Ingestion, skin, eyes.

Symptoms related to the physical, chemical and toxicological characteristics: /

Acute health effects

Inhalation: The material is not thought to produce adverse health effects or irritation of the respiratory tract.

Ingestion: Although ingestion is not thought to produce harmful effects, the material may still be damaging to the health of the individual.

Skin: The material is not thought to produce adverse health effects or skin irritation following contact.

Eyes: Although the liquid is not thought to be an irritant, direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn)..

Chronic health effects: /

Numerical measures of toxicity (such as acute toxicity estimates):

Dermal (rabbit) LD_{50}: >2000 mg/kg

Oral (rat) LD_{50}: >5000 mg/kg

Inhalation(Rat) LC50; >5.36 mg/l4h

SECTION 12 ECOLOGICAL INFORMATION

Toxicity:

Endpoint	Test Duration (hr)	Species	Value
NOEC(ECx)	504h	Crustacea	25mg/l
LC50	96h	Fish	>=100mg/l
EC50	72h	Algae or other aquatic plants	>57.29mg/l
EC50	48h	Crustacea	>74.16mg/l
EC50	96h	Algae or other aquatic plants	166.6-211mg/l

Persistence and degradability: Water/Soil: HIGH； Air: HIGH.

Bioaccumulative potential: LOW (LogKOW = 0.2336)

Mobility in soil: LOW (KOC = 8.254)

Other adverse effects: /

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal methods: Recycle wherever possible or consult manufacturer for recycling options. Consult Land Waste Authority for disposal. Bury or incinerate residue at an approved site. Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14　TRANSPORT INFORMATION

UN number: 1161.
UN proper shipping name: DIMETHYL CARBONATE.
Transport hazard class(es): 3.
Packaging group: II.
Environmental hazards: /
Special precautions for user: /

SECTION 15　REGULATORY INFORMATION

Regulations: This safety data sheet is in compliance with the following national standards: GB/T 16483-2008, GB13690-2009, GB18218-2018, GB15258-2009, GB6944-2012, GB190-2009, GB191-2009, GB12268-2008, GB/T 15098-2008, GBZ 2.1-2019, GBZ 2.2-2007 as well as the following national regulations: Dangerous Goods Transport Administrative Regulation, Dangerous Chemicals Safety Administrative Regulation.

SECTION 16　OTHER INFORMATION

References	"Model Regulations on the Transport of Dangerous Goods" "The Globally Harmonized System of Classification and Labelling of Chemicals"
Form Date	15-Febuary-2023

Note 1: When products contain two or more hazardous substances, Safety Data Sheets should be prepared based on the risk of the mixture.

Note 2: Manufacturer / supplier should ensure the correctness of the information contained in the safety data sheets, and updated in a timely manner.

Note 3: As a result of product features without the existence of certain information (such as boiling point does not exist for the solid) in the table with "/" logo.