

Safety Data Sheet

1. Chemical product and company identification

Product name : Diethyl carbonate

Company information

Name of manufacturer : KANTO CHEMICAL CO., INC.
 Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
 Name of section : Business Administration Department, Reagent Division
 Telephone number : +81-3-6214-1090
 Facsimile number : +81-3-3241-1047
 Mail address : BC32@kanto.co.jp
 Reference No : 14075
 Recommended use : For research use only
 Restrictions on use : Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Physical hazards	Flammable liquids	Category 3
Health hazards	Specific target organ toxicity (single exposure)	Category 3 (respiratory tract irritation.)

Hazard
pictograms



Signal word : Warning

Hazard statements : Flammable liquid and vapor
May cause respiratory irritation

Precautionary statements

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Keep container tightly closed.
 Ground and bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting equipment.
 Use only non-sparking tools.
 Take action to prevent static discharges.
 Avoid breathing mist/vapors.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.

Response : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 Call a POISON CENTER or doctor if you feel unwell.



- Storage : Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.
- Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Diethyl carbonate	≥ 96	C5H10O3	Listed	203-311-1	105-58-8

4. First aid measures

First aid measures

- First-aid measures after inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.
- First-aid measures after skin contact : Wash the affected areas under running water.
- First-aid measures after eye contact : Wash the affected areas under running water for at least 15 minutes. If necessary, get medical treatment.
- First-aid measures after ingestion : The chemical is volatile. Do not induce vomiting because it increases the risk of aspiration into the lungs. Get medical attention immediately. If necessary, rinse mouth with water.
- Personal Protection in First Aid and Measures : Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

- Suitable extinguishing media : Dry chemical powder, carbon dioxide, dry sand, foam
- Unsuitable extinguishing media : Water spray
- Firefighting instructions : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.
Fight fire from windward.
Dry chemical powder, carbon dioxide or dry sand should be used for small fires. Foam extinguisher is effective for a large scale fire.
- Personal protection (Emergency response) : Firefighters should wear protective equipment.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

- General measures : Wear proper protective equipment and avoid contact with skin and inhalation of vapor. Conduct operations from upwind and evacuate people downwind. Remove all sources of ignition. Keep away personnel except for authorized ones from spillage area by stretching ropes.



Environmental precautions

Environmental precautions : Attention should be given to avoid damage to the environment by flowing of spillage to rivers.

Methods and Equipment for Containment and Cleaning up

For containment : Absorb spill with inert material (e.g, diatomaceous earth, sand) and flush spillage area with copious amounts of water.

Prevention Measures for Secondary Accidents : Remove nearby sources of ignition and prepare extinguishing media.

7. Handling and storage**Handling**

Technical measures : Wear proper protective equipment to avoid contact with skin or inhalation of vapor. Fire is strictly prohibited.
Ventilate well at working places.

Precautions for safe handling : Avoid formation of vapor and aerosols.
Do not allow contact with oxidizing substances.

Storage

Storage conditions : Store in a dark, cool place and tightly closed.

Material used in packaging/containers : Glass, fluorine resin, stainless steel.
Do not use vinyl chloride resin, acrylic resin, polyethylene etc.

8. Exposure controls / Personal protection equipment

ACGIH TWA	Not established
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Appropriate engineering controls : Use with an enclosed system or a local exhaust ventilation.

Protective equipment

Respiratory protection : Chemical cartridge respirator with an organic vapor cartage or airline respirator

Hand protection : Impervious protective gloves

Eye protection : Safety goggles

Skin and body protection : Protective clothing, protective boots

9. Physical and chemical properties

Physical state : Liquid

Color : Colorless.

Odor : Mild ether odour

pH : No data available

Melting point : -43 ° C

Freezing point : No data available

Boiling point : 126 ° C

Flash point : 25 ° C (C.C.)

Auto-ignition temperature : 445 ° C

Decomposition temperature : No data available

Flammability : Flammable

Vapor pressure : 1.1 kPa (20°C)



Relative density	: No data available
Density	: 0.972 - 0.978 g/cm ³ (20°C)
Relative gas density	: 4.07
Solubility	: Water: Practically insoluble. Organic solvent: Soluble in diethyl ether, ethanol, and chloroform.
Partition coefficient n-octanol/water (log Pow)	: 1.21
Explosive limits (vol %)	: 1.4 - 11.0 vol %
Viscosity, kinematic	: 0.858 mm ² /s (20°C)
Particle characteristics	: No data available

10. Stability and reactivity

Reactivity	: May react with oxidizing substances.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Stable under normal conditions of use.
Conditions to avoid	: Light, heat.
Incompatible materials	: Oxidizing substances.
Hazardous decomposition products	: Carbon monoxide.

11. Toxicological information

Acute toxicity (oral)	: No classification rat LDLo=15 g/kg
Acute toxicity (dermal)	: Classification not possible
Acute toxicity (inhalation)	: No classification (gas) Classification not possible (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	: Classification not possible Although there are reports of "strong irritant" as human health effects and "contact causes skin irritating", the details are not clear, classification is not possible due to lack of data.
Serious eye damage/irritation	: Classification not possible Classification not possible due to lack of data. Although there are reports of "strong irritant" as human health effects (HSDB (2003)) and "contact causes eye irritating" (HSFS (2006)), the details are not clear.
Respiratory sensitization	: Classification not possible
Skin sensitization	: Classification not possible
Germ cell mutagenicity	: No classification It was reported that in an in vivo mammalian erythrocyte micronucleus test (OECD TG474, GLP, intravenous administration) in mouse bone marrow cells were reported negative results, therefore it was classified as "No classification". As relevant information, in vitro mutagenicity tests, there is a report of a negative Ames test.
Carcinogenicity	: Classification not possible Although there is a report that no carcinogenicity was observed in a mouse oral (in drinking water) test, the test condition and detailed results were unclear, therefore, classification was not possible due to lack of data.



Reproductive toxicity	: Classification not possible Although there is a report that teratogenicity was observed following intraperitoneal injection to hamsters on day 8 of gestation, classification was not possible due to intraperitoneal injection and lack of detailed data.
STOT-single exposure	: May cause respiratory irritation In a 2-hour inhalation test in rats, exposure resulted in gasping, loss of coordination, foaming at the mouth and nose, pneumonia and finally death. The exposure dose of 8000 ppm (38 mg/L) exceeded the guidance value range of category 2. Additionally, there is a report of strong irritant for human. The substance was classified into category 3 (respiratory tract irritation).
STOT-repeated exposure	: Classification not possible Since it is reported that there was no effect on mortality, body weight gain or histopathological findings and a no effect level of 1000 ppm (approximately 140 mg/kg/day) in a mouse 38-week oral (in drinking water) test, the substance corresponds to "No classification" in respect to oral exposure. However, classification was not possible due to information in List 2 and lack of data with other exposure routes.
Aspiration hazard	: Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	: Classification not possible
Aquatic chronic	: Classification not possible

Persistence and degradability

No additional information available

Bioaccumulative potential

Low bioconcentration

log Pow : 1.21

Mobility in soil

No additional information available

Hazardous to the ozone layer

Ozone	: Classification not possible
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13. Disposal considerations

Ecological waste information	: Burn in a chemical incinerator equipped with an afterburner and a scrubber. Or entrust approved waste disposal companies with the disposal.
Contaminated container and packaging	: In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea (IMDG)

UN-No. (IMDG)	: 2366
Proper Shipping Name (IMDG)	: DIETHYL CARBONATE



Packing group (IMDG) : III
Transport hazard class(es) : 3
(IMDG)

Air transport(IATA)

UN-No. (IATA) : 2366
Proper Shipping Name (IATA) : Diethyl carbonate
Packing group (IATA) : III
Transport hazard class(es) : 3
(IATA)

Marine pollutant : Not applicable
MFAG-No : 128

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Data sources : NITE Chemical Risk Information Platform (NITE-CHRIP), National
Institute of Technology and Evaluation.
ICSC Card (2009) .
ECHA (European Chemicals Agency).

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The Safety Data Sheet(SDS) is prepared based on JIS Z7253.

