

SAFETY DATA SHEET

Version 3.14

Revision Date 10/13/2014

Print Date 05/17/2017

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Dimethyl dicarbonate

Product Number : D5520

Brand : N/A

Product Use : For laboratory research purposes.

Supplier : Daken Chemical Limited
Floor 14th ,No.9, Inner Ring Road
CBD,Zhengzhou ,450000
China

Telephone : 0086 371 55531817

Fax : 0086 371 55531818

Emergency Phone # (For both supplier and manufacturer) : 0086 371 5553 1817

2. HAZARDS IDENTIFICATION

Emergency Overview

WHMIS Classification

B3	Combustible Liquid	Combustible Liquid
D1B	Toxic Material Causing Immediate and Serious Toxic Effects	Toxic by ingestion
D2B	Toxic Material Causing Other Toxic Effects	Toxic by inhalation.
E	Corrosive Material	Severe eye irritant Corrosive to skin

GHS Classification

Flammable liquids (Category 4)

Acute toxicity, Oral (Category 4)

Acute toxicity, Inhalation (Category 2)

Acute toxicity, Dermal (Category 4)

Skin corrosion/irritation (Sub-category 1B)

Serious eye damage/eye irritation (Category 1)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H227	Combustible liquid.
H302 + H312	Harmful if swallowed or in contact with skin
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.

Precautionary statement(s)

P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

P284
P304 + P340 + P310
P305 + P351 + P338

Wear respiratory protection.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard: 3
Flammability: 2
Physical hazards: 0

Potential Health Effects

Inhalation Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes respiratory tract irritation.
Skin Causes skin burns. Causes skin irritation.
Eyes Causes eye burns. Causes eye irritation.
Ingestion Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : $C_4H_6O_5$
Molecular weight : 134.09 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Dimethyl dicarbonate			
4525-33-1	224-859-8	-	<=100%

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

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Explosion data - sensitivity to mechanical impact

No data available

Explosion data - sensitivity to static discharge

No data available

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear respiratory protection. Avoid breathing vapours, 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 an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. 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.

Recommended storage temperature 2 - 8 °C

Handle and store under inert gas. Over time, pressure may increase causing containers to burst Handle and open container with care.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 42 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form clear, liquid

Colour colourless

Safety data

pH No data available

Melting point/freezing point No data available

Boiling point 45 - 46 °C (113 - 115 °F) at 7 hPa (5 mmHg)

Flash point 80 °C (176 °F) - closed cup

Ignition temperature No data available

Auto-ignition temperature No data available

Lower explosion limit No data available

Upper explosion limit No data available

Vapour pressure No data available

Density 1.25 g/mL at 25 °C (77 °F)

Water solubility No data available

Partition coefficient: n-octanol/water No data available

Relative vapour density No data available

Odour No data available

Odour Threshold No data available

Evaporation rate No data available

10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Do not heat over: 30°C
Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents, Strong bases

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral - Rat - 335 mg/kg

Inhalation LC50

LC50 Inhalation - Rat - 4 h - 711 mg/m³

Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Tremor. Lungs, Thorax, or Respiration:Dyspnea.

Dermal LD50

LD50 Dermal - Rat - 1,250 mg/kg

Other information on acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation

Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes respiratory tract irritation.

Ingestion

Toxic if swallowed.

Skin

Causes skin burns. Causes skin irritation.

Eyes

Causes eye burns. Causes eye irritation.

Synergistic effects

No data available

Additional Information
RTECS: HT0362500

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

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. 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: 2927 Class: 6.1 (8) Packing group: II
Proper shipping name: Toxic liquids, corrosive, organic, n.o.s. (Dimethyl dicarbonate)
Reportable Quantity (RQ):
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 2927 Class: 6.1 (8) Packing group: II EMS-No: F-A, S-B
Proper shipping name: TOXIC LIQUID, CORROSIVE, ORGANIC, N.O.S. (Dimethyl dicarbonate)
Marine pollutant: No

IATA

UN number: 2927 Class: 6.1 (8) Packing group: II
Proper shipping name: Toxic liquid, corrosive, organic, n.o.s. (Dimethyl dicarbonate)

15. REGULATORY INFORMATION

WHMIS Classification

B3	Combustible Liquid	Combustible Liquid
D1B	Toxic Material Causing Immediate and Serious Toxic Effects	Toxic by ingestion
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.
