

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name : Dimethyl dicarbonate

CAS-No. : 4525-33-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Acute toxicity, Inhalation (Category 2)

Acute toxicity, Dermal (Category 4)

Acute toxicity, Oral (Category 4)

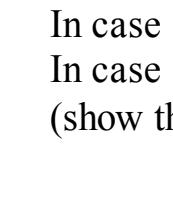
Skin corrosion (Category 1B)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Harmful in contact with skin and if swallowed. Toxic by inhalation. Causes burns.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]



Signal word : Danger

Hazard statement(s)

H302 Harmful if swallowed.

H312 Harmful 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 Wear respiratory protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

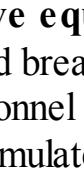
P310 Immediately call a POISON CENTER or doctor/ physician.

Supplemental Hazard Statements

none

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)



R-phrase(s)

R21/22 Harmful in contact with skin and if swallowed.

R23 Toxic by inhalation.

R34 Causes burns.

S-phrase(s)

S18 Handle and open container with care.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28 After contact with skin, wash immediately with plenty of soap and water.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S38 In case of insufficient ventilation, wear suitable respiratory equipment.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : C4H6O5

Molecular Weight : 134,09 g/mol

Component	Concentration
Dimethyl dicarbonate	-
CAS-No.	4525-33-1
EC-No.	224-859-8

CAS-No. 4525-33-1

EC-No. 224-859-8

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

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.

If swallowed

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

4.2 Most important symptoms and effects, both acute and delayed

4.3 Indication of immediate medical attention and special treatment needed

no data available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special hazards arising from the substance or mixture

Carbon oxides

Precautions for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapors, 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.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 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.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 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.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. 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.

Handle and store under inert gas. Handle and open container with care.

7.3 Specific end uses

no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face 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 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

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).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance Form: clear, liquid

Colour: colourless

b) Odour no data available

c) Odour Threshold no data available

d) pH no data available

e) Melting/freezing point no data available

f) Initial boiling point and boiling range 45 - 46 °C at 7 hPa

g) Flash point 80 °C - closed cup

h) Evaporation rate no data available

i) Flammability (solid, gas) no data available

j) Upper/lower or explosive limits no data available

k) Vapour pressure no data available

l) Vapour density no data available

m) Relative density 1.25 g/mL at 25 °C

n) Water solubility no data available

o) Partition coefficient: n-octanol/water no data available

p) Auto-ignition temperature no data available

q) Decomposition no data available

r) Viscosity no data available

s) Explosive properties no data available

t) Oxidizing properties no data available

9.2 Other safety information

10. STABILITY AND REACTIVITY

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatibility materials

no data available

10.6 Hazardous decomposition products

no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat : 335 mg/kg

LC50 Inhalation - rat : 4 - 71 mg/m³

LC50 Inhalation - horse : 40 mg/m³

LD50 Dermal - rat : 1,250 mg/kg

LD50 Dermal - horse : 1,250 mg/kg

LC50 Dermal - horse : 1,250 mg/kg

LC50 Inhalation - horse : 1,250 mg/m³

LC50 Inhalation - dog : 1,250 mg/m³

LC50 Inhalation - rabbit : 1,250 mg/m³

LC50 Inhalation - cat : 1,250 mg/m³

LC50 Inhalation - guinea pig : 1,250 mg/m³

LC50 Inhalation - mouse : 1,250 mg/m³

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