

## SAFETY DATA SHEET

Version 8.4  
Revision Date 10/08/2021  
Print Date 05/28/2022

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Ethyl methyl carbonate

Product Number : 752002  
Brand : Aldrich  
CAS-No. : 623-53-0

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

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

**1.4 Emergency telephone**

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 2), H225

Short-term (acute) aquatic hazard (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapor.

H402

Harmful to aquatic life.

|                            |                                                                                                      |
|----------------------------|------------------------------------------------------------------------------------------------------|
| Precautionary statement(s) |                                                                                                      |
| P210                       | Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.                                  |
| P233                       | Keep container tightly closed.                                                                       |
| P240                       | Ground/bond container and receiving equipment.                                                       |
| P241                       | Use explosion-proof electrical/ ventilating/ lighting/ equipment.                                    |
| P242                       | Use only non-sparking tools.                                                                         |
| P243                       | Take precautionary measures against static discharge.                                                |
| P273                       | Avoid release to the environment.                                                                    |
| P280                       | Wear protective gloves/ eye protection/ face protection.                                             |
| P303 + P361 + P353         | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. |
| P370 + P378                | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.                 |
| P403 + P235                | Store in a well-ventilated place. Keep cool.                                                         |
| P501                       | Dispose of contents/ container to an approved waste disposal plant.                                  |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : Carbonic acid ethyl methyl ester

Formula :  $C_4H_8O_3$

Molecular weight : 104.10 g/mol

CAS-No. : 623-53-0

| Component        | Classification     | Concentration |
|------------------|--------------------|---------------|
| <b>433-480-9</b> |                    |               |
|                  | Flam. Liq. 2; H225 | <= 100 %      |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Consult a physician. Show this material 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

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

**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**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available

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**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Dry powder Dry sand

**Unsuitable extinguishing media**

Do NOT use water jet.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides

Combustible.

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

Use water spray to cool unopened containers.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

**6.4 Reference to other sections**

For disposal see section 13.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

#### **Advice on safe handling**

Avoid inhalation of vapor or mist.

#### **Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

#### **Advice on protection against fire and explosion**

Use explosion-proof equipment.

#### **Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

For precautions see section 2.2.

### **7.2 Conditions for safe storage, including any incompatibilities**

#### **Storage conditions**

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.

#### **Storage class**

Storage class (TRGS 510): 3: Flammable liquids

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### **Personal protective equipment**

##### **Eye/face protection**

Face shield and safety glasses 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.

##### **Body Protection**

Impervious clothing, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **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).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

|                                                 |                   |
|-------------------------------------------------|-------------------|
| a) Appearance                                   | Form: liquid      |
| b) Odor                                         | No data available |
| c) Odor Threshold                               | No data available |
| d) pH                                           | No data available |
| e) Melting point/freezing point                 | No data available |
| f) Initial boiling point and boiling range      | 102 °C 216 °F     |
| g) Flash point                                  | 23.9 °C (75.0 °F) |
| h) Evaporation rate                             | No data available |
| i) Flammability (solid, gas)                    | No data available |
| j) Upper/lower flammability or explosive limits | No data available |
| k) Vapor pressure                               | No data available |
| l) Vapor density                                | No data available |
| m) Density                                      | No data available |
| Relative density                                | No data available |
| n) Water solubility                             | No data available |
| o) Partition coefficient: n-octanol/water       | No data available |
| p) Autoignition temperature                     | No data available |
| q) Decomposition temperature                    | 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

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Vapors may form explosive mixture with air.

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female - > 5,000 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - > 17.6 mg/l

(OECD Test Guideline 403)

Dermal: No data available

#### Skin corrosion/irritation

Skin - Rabbit

Result: slight irritation - 4 h

(Draize Test)

Remarks: (ECHA)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: slight irritation

Remarks: (ECHA)

#### Respiratory or skin sensitization

Sensitisation test (Magnusson and Kligman): - Guinea pig

Result: Does not cause skin sensitization.

(OECD Test Guideline 406)

#### Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

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Remarks: (ECHA)

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

### **Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available

### **Specific target organ toxicity - single exposure**

No data available

### **Specific target organ toxicity - repeated exposure**

No data available

### **Aspiration hazard**

No data available

## **11.2 Additional Information**

Repeated dose toxicity - Rat - male - Oral - 28 d - NOAEL (No observed adverse effect level) - 1,000 mg/kg

Repeated dose toxicity - Rat - female - Oral - 28 d - NOAEL (No observed adverse effect level) - 150 mg/kg

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Propertys which must be anticipated by analogy:

Headache  
Drowsiness  
Nausea

Further data:

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12: Ecological information

### 12.1 Toxicity

|                                                     |                                                                                                                                      |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                    | semi-static test NOEC - <i>Oncorhynchus mykiss</i> (rainbow trout) - > 100 mg/l - 96 h<br>(Regulation (EC) No. 440/2008, Annex, C.1) |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 - <i>Daphnia magna</i> (Water flea) - > 100 mg/l - 48 h<br>(OECD Test Guideline 202)                                |
| Toxicity to algae                                   | static test ErC50 - <i>Desmodesmus subspicatus</i> (green algae) - > 62 mg/l - 72 h<br>(OECD Test Guideline 201)                     |
| Toxicity to bacteria                                | Cell multiplication inhibition test EC50 - <i>Pseudomonas putida</i> - 760 mg/l - 16 h<br>(ISO 10712)                                |

### 12.2 Persistence and degradability

|                  |                                                                                                                       |
|------------------|-----------------------------------------------------------------------------------------------------------------------|
| Biodegradability | Biochemical oxygen demand - Exposure time 28 d<br>Result: 98 % - Readily biodegradable.<br>(OECD Test Guideline 301C) |
|------------------|-----------------------------------------------------------------------------------------------------------------------|

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Endocrine disrupting properties

No data available

### 12.7 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

Discharge into the environment must be avoided.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information****DOT (US)**

UN number: 3272    Class: 3    Packing group: III  
Proper shipping name: Esters, n.o.s.  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

**IMDG**

UN number: 3272    Class: 3    Packing group: III    EMS-No: F-E, S-D  
Proper shipping name: ESTERS, N.O.S. (ethyl methyl carbonate)

**IATA**

UN number: 3272    Class: 3    Packing group: III  
Proper shipping name: Esters, n.o.s. (ethyl methyl carbonate)

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**SECTION 15: Regulatory information****SARA 302 Components**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

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**SECTION 16: Other information****Further information**

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Version: 8.4

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