

## Chemical Safety Data Sheet MSDS / SDS

**DIETHYL MALONATE-2-13C**Revision Date:2026-05-31 Revision Number:1

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

Product name : DIETHYL MALONATE-2-13C  
CBnumber : CB9678938  
CAS : 67035-94-3  
Synonyms : diethyl malonate-2-13C,DIETHYL MALONATE-2-13C, 99 ATOM % 13C

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

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**SECTION 2: Hazards identification****GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Warning

**Precautionary statements**

P337+P313 IF eye irritation persists: Get medical advice/attention.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continuerinsing.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P264 Wash skin thoroughly after handling.

**Hazard statements**H319 Causes serious eye irritation

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**SECTION 3: Composition/information on ingredients****Substance**

Product name	: DIETHYL MALONATE-2-13C
Synonyms	: diethyl malonate-2-13C,DIETHYL MALONATE-2-13C, 99 ATOM % 13C
CAS	: 67035-94-3
MF	: C7H12O4
MW	: 161.18

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## SECTION 4: First aid measures

### General advice

Show this safety data sheet to the doctor in attendance.

### If inhaled

After inhalation: fresh air.

### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

### In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

### Protection of first-aiders

For personal protection see section 8.

### Notes to physician

No data available

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## SECTION 5: Firefighting measures

### Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### Specific hazards during fire fighting

Combustible. Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire.

## **Hazardous combustion products**

Carbon oxides

## **Specific extinguishing methods**

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## **Special protective equipment for fire-fighters**

In the event of fire, wear self-contained apparatus.

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# SECTION 6: Accidental release measures

## **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

## **Environmental precautions**

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

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# SECTION 7: Handling and storage

## **Handling**

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

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

## **Storage**

### **Further information on storage conditions**

Tightly closed.

### **Storage class**

10, Combustible liquids

### **Recommended storage temperature**

Recommended storage temperature see product label.

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# SECTION 8: Exposure controls/personal protection

## **Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

## **Engineering measures**

No data available

## **Personal protective equipment**

### **Respiratory protection**

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

### **Recommended Filter type**

Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### **Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Safety glasses

### **Skin and body protection**

protective clothing

### **Hand protection**

#### **Material**

butyl-rubber

#### **Break through time**

480 min

#### **Glove thickness**

0.7 mm

#### **Protective index**

Full contact

#### **Manufacturer**

Butoject® (KCL 898)

#### **Material**

Viton®

#### **Break through time**

120 min

#### **Glove thickness**

0.7 mm

#### **Protective index**

Splash contact

#### **Manufacturer**

Vitoject® (KCL 890 / Aldrich Z677698, Size M)

### **Remarks**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D- 36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

## Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

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# SECTION 9: Physical and chemical properties

## Information on basic physicochemical properties

liquid

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### Color

Colourless

### Odor

No data available

### Odor Threshold

No data available

### pH

No data available

### Melting point/ range

-51 - -50 °C

Method: lit.

### Boiling point/boiling range

199 °C

Method: lit.

### Flash point

90.00 °C

Method: closed cup

### Evaporation rate

No data available

### Flammability (solid, gas)

No data available

### Flammability (liquids)

No data available

### Burning rate

No data available

### Upper explosion limit / Upper flammability limit

No data available

**Lower explosion limit / Lower flammability limit**

No data available

**Vapor pressure**

1 hPa (40.00 °C)

**Relative vapor density**

5.52

**Relative density**

1.054 g/mL at 25 °C

**Density**

1.054 g/cm<sup>3</sup> (25 °C)

**Water solubility**

No data available

**Partition coefficient: n-octanol/water**

No data available

**Autoignition temperature**

No data available

**Decomposition temperature**

No data available

**Viscosity, dynamic**

No data available

**Viscosity, kinematic**

No data available

**Flow time**

No data available

**Explosive properties**

Not classified as explosive.

**Oxidizing properties**

none

**Molecular weight**

161.15 g/mol

## Particle characteristics Particle size

No data available

## Solubility

Chloroform, Ethyl Acetate (Slightly)

## Physical state

Oil

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## SECTION 10: Stability and reactivity

### Reactivity

Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Stable Violent reactions possible with: Bases Reducing agents Strong oxidizing agents acids

### Conditions to avoid

Strong heating.

### Incompatible materials

No data available

### 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 - 15,794 mg/kg

Remarks: (ECHA)

The value is given in analogy to the following substances: diethyl malonate

Inhalation: No data available

LD50 Dermal - Rabbit - male - > 16,960 mg/kg

Remarks: (ECHA)

The value is given in analogy to the following substances: diethyl malonate

#### Skin corrosion/irritation

Skin - Rabbit

Result: slight irritation

Remarks: (ECHA)

The value is given in analogy to the following substances: diethyl malonate

#### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Causes serious eye irritation.

(US-EPA)

Remarks: (ECHA)

The value is given in analogy to the following substances: diethyl malonate

#### **Respiratory or skin sensitization**

Maximisation Test - Humans

Result: negative (OECD Test Guideline 406)

Remarks: The value is given in analogy to the following substances: diethyl malonate

#### **Germ cell mutagenicity**

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Remarks: The value is given in analogy to the following substances: diethyl malonate  
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

Remarks: The value is given in analogy to the following substances: diethyl malonate  
Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: Regulation (EC) No. 440/2008, Annex, B.13/14 (Ames test)

Result: negative

Remarks: The value is given in analogy to the following substances: diethyl malonate  
Carcinogenicity

No data available

#### **Reproductive toxicity**

Classified based on available data. For more details, see section 2

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

Classified based on available data. For more details, see section 2

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

Classified based on available data. For more details, see section 2

#### **Aspiration hazard**

Classified based on available data. For more details, see section 2

### **11.2 Additional Information**

Repeated dose toxicity - Rat - male and female - Oral - No observed adverse effect level - 300 mg/kg - Lowest observed adverse effect level - 1,000 mg/kg

Remarks: The value is given in analogy to the following substances: diethyl malonate

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

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Cannot be excluded:

Stomach/intestinal disorders

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12: Ecological information

### Ecotoxicity

#### Components:

##### Toxicity to fish

LC50 (Pimephales promelas (fathead minnow)): 15.4 mg/l End point: mortality Exposure time: 96 h Remarks: (IUCLID) The value is given in analogy to the following substances: The value is given in analogy to the following substances: diethyl malonate

##### Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 202.3 mg/l Exposure time: 48 h Test Type: static test Method: Regulation (EC) No. 440/2008, Annex, C.2  
GLP: yes Remarks: The value is given in analogy to the following substances: The value is given in analogy to the following substances: diethyl malonate

##### Toxicity to algae/aquatic plants

ErC50 (Desmodesmus subspicatus (green algae)): > 800 mg/l Exposure time: 72 h Test Type: static test GLP: yes Remarks: (ECHA) The value is given in analogy to the following substances: The value is given in analogy to the following substances: diethyl malonate

### Persistence and degradability

#### Components:

##### Biodegradability

aerobic Inoculum: activated sludge Concentration: 10.8 mg/l Result: Readily biodegradable. Biodegradation: 99 % Exposure time: 28 d  
Method: Directive 67/548/EEC Annex V, C.4.A. GLP: yes Remarks: The value is given in analogy to the following substances: The value is given in analogy to the following substances: diethyl malonate

##### Bioaccumulative potential

No data available

##### Mobility in soil

No data available

##### Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### Disposal methods

#### Waste from residues

Offer surplus and non-recyclable solutions to a licensed disposal company.

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## SECTION 14: Transport information

### International Regulations

#### IATA-DGR

UN/ID No. : Not applicable

Proper shipping name : Not applicable

Class : Not applicable

Subsidiary risk : Not applicable

Packing group : Not applicable

Labels : Not applicable

Packing instruction (cargo aircraft) : Not applicable

Packing instruction (passenger aircraft) : Not applicable

#### IMDG-Code

UN number : Not applicable

Proper shipping name : Not applicable

Class : Not applicable

Subsidiary risk : Not applicable

Packing group : Not applicable

Labels : Not applicable

EmS Code : Not applicable

Marine pollutant : no

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### National Regulations

#### JT/T 617

UN number : Not applicable

Proper shipping name : Not applicable

Class : Not applicable

Subsidiary risk : Not applicable

Packing group : Not applicable

Labels : Not applicable

Environmentally hazardous : no

### Special precautions for user

Not applicable

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## SECTION 15: Regulatory information

Catalogue of Hazardous Chemicals : This product is not listed in the catalogue of hazardous chemicals, but it meets the definition of hazardous chemicals and its principles of determination.

Downstream users need to comply with the conditions of safe use of the chemical, understand the environmental and health hazard and risk management measures identified on the SDS as well as the local/national regulations concerning the chemical.

### **National regulatory information**

#### **Regulations on Safety Management of Hazardous Chemicals**

#### **Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)**

Not listed

#### **Hazardous Chemicals for Priority Management**

Not listed under SAWS

#### **Catalogue of Specially Controlled Hazardous**

Not listed Chemicals

#### **List of Explosive Precursors**

Not listed

#### **Regulations on Labour Protection in Workplaces where Toxic Substances are Used**

#### **Catalogue of Highly Toxic Chemicals**

Not listed

#### **Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals**

#### **China Severely Restricted Toxic Chemicals for Import and Export**

Not listed

#### **Measures on the Environmental Administration of New Chemical Substances Registration**

#### **Registration/Notification number**

B1A222214570

#### **Regulation on the Administration of Precursor Chemicals**

#### **Catalogue and Classification of Precursor Chemicals**

Not listed

#### **Regulations on the Administration of Controlled Chemicals**

#### **List of Controlled Chemicals**

Not listed

## **Regulations of Ozone Depleting Substances Management**

### **List of Controlled Ozone Depleting Substances**

Not listed

### **List of Controlled Ozone Depleting Substances Import and Export**

Not listed

## **Environmental Protection Law**

### **List of Priority Controlled Chemicals**

Not listed

### **List of Key Controlled New Pollutants**

Not listed

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## **SECTION 16: Other information**

### **Full text of other abbreviations**

AllC - Australian Inventory of Industrial Chemicals

ANTT - National Agency for Transport by Land of Brazil

ASTM - American Society for the Testing of Materials

bw - Body weight

CMR - Carcinogen, Mutagen or Reproductive Toxicant

DIN - Standard of the German Institute for Standardisation

DSL - Domestic Substances List (Canada)

EC<sub>x</sub> - Concentration associated with x% response

EL<sub>x</sub> - Loading rate associated with x% response

EmS - Emergency Schedule

ENCS - Existing and New Chemical Substances (Japan)

ErC<sub>x</sub> - Concentration associated with x% growth rate response

ERG - Emergency Response Guide

GHS - Globally Harmonised System

GLP - Good Laboratory Practice

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

IC<sub>50</sub> - Half maximal inhibitory concentration

ICAO - International Civil Aviation Organization

IECSC - Inventory of Existing Chemical Substances in China

IMDG - International Maritime Dangerous Goods

IMO - International Maritime Organisation

ISHL - Industrial Safety and Health Law (Japan)  
ISO - International Organisation for Standardisation  
KECI - Korea Existing Chemicals Inventory  
LC50 - Lethal Concentration to 50 % of a test population  
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)  
MARPOL - International Convention for the Prevention of Pollution from Ships  
MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods  
n.o.s. - Not Otherwise Specified  
Nch - Chilean Norm  
NO(A)EC - No Observed (Adverse) Effect Concentration  
NO(A)EL - No Observed (Adverse) Effect Level  
NOELR - No Observable Effect Loading Rate  
NOM - Official Mexican Norm  
NTP - National Toxicology Program  
NZIoC - New Zealand Inventory of Chemicals  
OECD - Organisation for Economic Co-operation and Development  
OPPTS - Office of Chemical Safety and Pollution Prevention  
PBT - Persistent, Bioaccumulative and Toxic substance  
PICCS - Philippines Inventory of Chemicals and Chemical Substances  
(Q)SAR - (Quantitative) Structure Activity Relationship  
REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals  
SADT - Self-Accelerating Decomposition Temperature  
SDS - Safety Data Sheet  
TCSI - Taiwan Chemical Substance Inventory  
TDG - Transportation of Dangerous Goods  
TECI - Thailand Existing Chemicals Inventory  
TSCA - Toxic Substances Control Act (United States)  
UN - United Nations  
UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods  
vPvB - Very Persistent and Very Bioaccumulative  
WHMIS - Workplace Hazardous Materials Information System

**Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.