

## Chemical Safety Data Sheet MSDS / SDS

## Dimethyl 1,3-acetonedicarboxylate

Revision Date:2026-06-06 Revision Number:1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

Product name : Dimethyl 1,3-acetonedicarboxylate  
CBnumber : CB9220577  
CAS : 1830-54-2  
EINECS Number : 217-385-8  
Synonyms : dimethyl 3-oxopentanedioate,Dimethyl 1,3-acetonedicarboxylate

**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

## SECTION 2: Hazards identification

**GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Warning

**Precautionary statements**

P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.  
P302+P352 IF ON SKIN: wash with plenty of soap and water.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

**Hazard statements**

H317 May cause an allergic skin reaction

## SECTION 3: Composition/information on ingredients

## Substance

Product name	: Dimethyl 1,3-acetonedicarboxylate
Synonyms	: dimethyl 3-oxopentanedioate, Dimethyl 1,3-acetonedicarboxylate
CAS	: 1830-54-2
EC number	: 217-385-8
MF	: C7H10O5
MW	: 174.15

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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. Consult a physician.

### In case of eye contact

After eye contact: rinse out with plenty of water. 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

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Water Foam Carbon dioxide (CO2) Dry powder

### Unsuitable extinguishing media

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

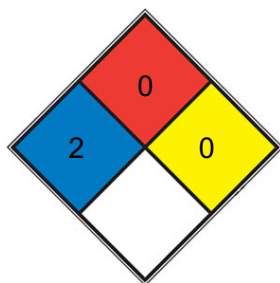
## Specific extinguishing methods

Prevent fire extinguishing water from contaminating surface water or the ground water system.

## Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

## NFPA 704



HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

FIRE 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes. (e.g. Carbon tetrachloride)

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N2](#))

SPEC.

HAZ.

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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. 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

#### Avoidance of contact

Strong oxidizing agents Strong bases

### Storage

#### Further information on storage conditions

Tightly closed.

#### Storage class

10, Combustible liquids

#### Recommended storage temperature

2 - 8 °C

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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

#### Remarks

required

#### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face 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**

light yellow

#### **Odor**

No data available

#### **Odor Threshold**

No data available

#### **pH**

No data available

#### **Melting point/ range**

No data available

#### **Boiling point/boiling range**

237 - 241 °C (1,013 hPa)

Method: lit.

#### **Flash point**

113 °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**

No data available

### **Relative vapor density**

No data available

### **Relative density**

1.206 g/mL at 20 °C (lit.)

### **Density**

1.206 g/mL (20 °C)

Method: lit.

### **Water solubility**

approx. 120 g/L (20 °C)

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

No data available

### **Autoignition temperature**

343 °C

### **Decomposition temperature**

No data available

### **Viscosity, dynamic**

No data available

### **Viscosity, kinematic**

No data available

### **Flow time**

No data available

### **Explosive properties**

No data available

### **Oxidizing properties**

none

### **Molecular weight**

174.15 g/mol

### **Particle characteristics Particle size**

No data available

## Solubility

Chloroform (Sparingly), Ethyl Acetate (Slightly), Methanol (Slightly)

## Physical state

Liquid

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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

No data available

### Conditions to avoid

Strong heating.

### Incompatible materials

Strong oxidizing agents Strong bases

### 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 - 4,770 mg/kg (OECD Test Guideline 401)

Inhalation: No data available

Dermal: No data available

#### Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation

#### Serious eye damage/eye irritation

Remarks: No data available

#### Respiratory or skin sensitization

Maximisation Test - Guinea pig

May cause allergic skin reaction.

(OECD Test Guideline 406)

**Germ cell mutagenicity**

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

**Carcinogenicity**

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

**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**

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

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**SECTION 12: Ecological information****Ecotoxicity****Components:****dimethyl 3-oxoglutarate:****Toxicity to fish**

Remarks: No data available

**Persistence and degradability****Components:****dimethyl 3-oxoglutarate:****Biodegradability**

Biodegradation: 69 %

**Bioaccumulative potential****Components:****dimethyl 3-oxoglutarate:****Bioaccumulation**

Remarks: No data available

**Mobility in soil****Components:**

**dimethyl 3-oxoglutarate:****Stability in soil**

Remarks: No data available

**Other adverse effects****Components:****dimethyl 3-oxoglutarate:****Additional ecological information**

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**

Not regulated as a dangerous good

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**

Not regulated as a dangerous good

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**

Remarks : Not classified as dangerous in the meaning of transport regulations.

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## SECTION 15: Regulatory information

### **National regulatory information**

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

#### **Catalogue of Hazardous Chemicals**

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

Not applicable under SAWS

#### **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 applicable

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## SECTION 16: Other information

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

AiIC - 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)  
 ECx - Concentration associated with x% response  
 ELx - Loading rate associated with x% response  
 EmS - Emergency Schedule  
 ENCS - Existing and New Chemical Substances (Japan)  
 ErCx - 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  
 IC50 - 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 (UnitedStates)

UN - United Nations

UNRTDG - United Nations Recommendations on theTransport 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.