

Classified as hazardous according to criteria of EPA New Zealand

Section 1 - Identification

| | |
|--------------|--|
| Product Name | <u>Dimethyl 1,3-acetonedicarboxylate</u> |
| CAS-No | 1830-54-2 |
| Synonyms | Dimethyl 3-oxoglutarate |

| | |
|-------------------------|---|
| Product Code | SB00894DA; SB00894EA; SB00894EE; SB00894FL; SB00894ZZ |
| Address | Thermo Fisher Scientific New Zealand Ltd 244 Bush Road, Albany, Auckland, New Zealand |
| Emergency Tel. | CHEMTREC® 09 980 6780 or +64 9 980 6780 |
| Telephone / Fax Numbers | Tel: 09 980 6700 Fax: 09 980 6788 |
| E-mail address | NZinfo@thermofisher.com |

Recommended Use Laboratory chemicals.

Section 2 - Hazard(s) Identification

Classification under Work Safe New Zealand

6.5B - Substances that are contact sensitisers
 6.1E - Substances that are acutely toxic (Oral)

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| | |
|----------------------|-----------|
| HSNO Approval Number | HSR006227 |
|----------------------|-----------|

GHS Classification

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Acute Oral Toxicity
 Skin Sensitization

Category 5
 Category 1

Environmental hazards

Based on available data, the classification criteria are not met

Label Elements

**Signal Word****Warning****Hazard Statements**

H303 - May be harmful if swallowed

H317 - May cause an allergic skin reaction

Precautionary Statements

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P272 - Contaminated work clothing should not be allowed out of the workplace

P280 - Wear protective gloves

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P363 - Wash contaminated clothing before reuse

P403 - Store in a well-ventilated place

P501 - Dispose of contents/ container to an approved waste disposal plant

Other information

No information available

Section 3 - Composition and Information on Ingredients

| Component | CAS-No | Weight % |
|---|-----------|----------|
| Pentanedioic acid, 3-oxo-, dimethyl ester | 1830-54-2 | 97 |

Section 4 - First Aid Measures

| | |
|--|---|
| Inhalation | Remove from exposure, lie down. Remove to fresh air. Get medical attention. |
| Ingestion | Clean mouth with water. Get medical attention. |
| Skin Contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Self-Protection of the First Aider | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |
| First Aid Facilities | Eyewash, safety shower and washroom. |
| Most important symptoms and effects | May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing |
| Notes to Physician | Treat symptomatically. |

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO₂). Dry chemical. Chemical foam.

Extinguishing media which must not be used for safety reasons

No information available.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂).

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Emergency procedures

Ensure adequate ventilation.

Environmental Precautions

See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Do not let this chemical enter the environment.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling

Avoid contact with skin and eyes. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

Conditions for Safe Storage, Including any Incompatibilities

Keep in a dry place. Keep container tightly closed. Keep refrigerated.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Exposure limits

The product does not contain any hazardous materials with occupational exposure limits established.

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

| | |
|------------------------|--|
| Eye Protection | Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications) |
| Hand Protection | Protective gloves |

| Glove material | Breakthrough time | Glove thickness | AUS/NZ Standard | Glove comments |
|--|-----------------------------------|-----------------|-----------------|-----------------------|
| Natural rubber, Butyl rubber, Nitrile rubber, Neoprene, PVC. | See manufacturers recommendations | - | AS/NZS 2161 | (minimum requirement) |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

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| Skin and body protection | Wear appropriate protective gloves and clothing to prevent skin exposure |
| Respiratory Protection | Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices |
| Recommended Filter type: | Particulates filter conforming to EN 143 Acid gases filter Type E Yellow conforming to EN14387 (or AUS/NZ equivalent) |
| Recommended half mask:- | Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141 (or AUS/NZ equivalent) When RPE is used a face piece Fit Test should be conducted |

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

| | | |
|--|---------------------------------|--|
| Appearance | Light yellow | |
| Physical State | Liquid | |
| Odor | Odorless | |
| Odor Threshold | No data available | |
| pH | No information available | |
| Melting Point/Range | 16 - 17 °C / 60.8 - 62.6 °F | |
| Softening Point | No data available | |
| Boiling Point/Range | 237 - 241 °C / 458.6 - 465.8 °F | @ 760 mmHg |
| Flash Point | > 110 °C / > 230 °F | Method - No information available |
| Evaporation Rate | No data available | |
| Flammability (solid,gas) | Not applicable | Liquid |
| Explosion Limits | No data available | |
| Vapor Pressure | No information available | |
| Vapor Density | 6.00 | (Air = 1.0) |
| Specific Gravity / Density | 1.180 | |
| Bulk Density | Not applicable | Liquid |
| Water Solubility | 120 g/l (20°C) | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Autoignition Temperature | 343 °C / 649.4 °F | |
| Decomposition Temperature | No data available | |
| Viscosity | No data available | |
| Explosive Properties | No information available | |
| Oxidizing Properties | No information available | |

Other information**Molecular Formula**

C7 H10 O5

Molecular Weight

174.15

Section 10 - Stability and Reactivity

| | |
|---|--|
| Reactivity | None known, based on information available |
| Stability | Moisture sensitive. |
| Conditions to Avoid | Incompatible products, Exposure to moist air or water. |
| Incompatible Materials | Strong oxidizing agents, Strong bases. |
| Hazardous Decomposition Products | Carbon monoxide (CO). Carbon dioxide (CO ₂). |
| Hazardous Polymerization | Hazardous polymerization does not occur. |

Section 11 - Toxicological Information

Information on Toxicological Effects

| | |
|---|---|
| Product Information | No acute toxicity information is available for this product |
| (a) acute toxicity; | |
| Oral | No data available |
| Dermal | No data available |
| Inhalation | No data available |
| (b) skin corrosion/irritation; | No data available |
| (c) serious eye damage/irritation; | No data available |
| (d) respiratory or skin sensitization; | |
| Respiratory | No data available |
| Skin | Category 1 |
| Sensitization | May cause sensitization by skin contact |
| (e) germ cell mutagenicity; | No data available |
| Not mutagenic in AMES Test | |
| (f) carcinogenicity; | No data available |
| | There are no known carcinogenic chemicals in this product |
| (g) reproductive toxicity; | No data available |
| (h) STOT-single exposure; | No data available |
| (i) STOT-repeated exposure; | No data available |

| | |
|--|---|
| Target Organs | No information available. |
| (j) aspiration hazard; | No data available |
| Other Adverse Effects | The toxicological properties have not been fully investigated. |
| Symptoms / effects, both acute and delayed | Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing |

Section 12 - Ecological Information

| | |
|---------------------------------|---|
| Ecotoxicity effects | Do not empty into drains. . |
| Persistence and Degradability | Readily biodegradable |
| Persistence | Soluble in water, Persistence is unlikely, based on information available. |
| Bioaccumulative Potential | Bioaccumulation is unlikely |
| Mobility | The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils |
| Endocrine Disruptor Information | This product does not contain any known or suspected endocrine disruptors |
| Persistent Organic Pollutant | This product does not contain any known or suspected substance |
| Ozone Depletion Potential | This product does not contain any known or suspected substance |

Section 13 - Disposal Considerations

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|-------------------------------------|--|
| Waste from Residues/Unused Products | Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations. |
| Contaminated Packaging | Dispose of this container to hazardous or special waste collection point. |
| Other Information | Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations . Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. |

Section 14 - Transport Information

| | |
|------------------------|---------------------------------|
| IMDG/IMO | Not regulated |
| NZS 5433:2012 | Not regulated |
| IATA | Not regulated |
| Environmental hazards | No hazards identified |
| Special Precautions | No special precautions required |
| Additional information | None known |

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component | HSNO Approval Number |
|---|----------------------|
| Pentanedioic acid, 3-oxo-, dimethyl ester | HSR006227 |

International Inventories

X = listed

| Component | NZIoC | AICS | EINECS | ELINCS | TSCA | DSL | NDSL | PICCS | ENCS | IECSC | KECL |
|---|-------|------|-----------|--------|------|-----|------|-------|------|-------|----------|
| Pentanedioic acid, 3-oxo-, dimethyl ester | X | X | 217-385-8 | - | X | X | - | X | X | X | KE-27627 |

Prohibition or notification/licensing requirements Shown below are details of specific prohibition/notifications or licensing requirements when they apply.

Section 16 - Other Information

This safety data sheet complies with the requirements of WorkSafe New Zealand Regulations

Legend

AICS - Australian Inventory of Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

IECSC - Chinese Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

NZS 5433:2012 - Transport of Dangerous Goods on Land

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

WEL - Workplace Exposure Limit

DNEL - Derived No Effect Level

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

VOC (volatile organic compound)

NZIoC - New Zealand Inventory of Chemicals

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

CAS - Chemical Abstracts Service

ACGIH - American Conference of Governmental Industrial Hygienists
 Predicted No Effect Concentration (PNEC)

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

ADG Australian Code for the Transport of Dangerous Goods by Road and Rail

OECD - Organisation for Economic Co-operation and Development

LC50 - Lethal Concentration 50%

ATE - Acute Toxicity Estimate

RPE - Respiratory Protective Equipment

NOEC - No Observed Effect Concentration

BCF - Bioconcentration factor

PBT - Persistent, Bioaccumulative, Toxic

Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Revision Date

11-Aug-2020

Revision Summary

Initial Release

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information

relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet