

# SAFETY DATA SHEET

Revision Date 18-Dec-2025

Revision Number 6

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

**Product Name** Dimethyl acetylenedicarboxylate

**Cat No. :** AC115710000; AC115710050; AC115710250; AC115711000; AC115715000

**CAS No** 762-42-5  
**Synonyms** DMAD

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

### Details of the supplier of the safety data sheet

#### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

#### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11

Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99

**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

|                                    |              |
|------------------------------------|--------------|
| Flammable liquids                  | Category 4   |
| Acute oral toxicity                | Category 4   |
| Acute dermal toxicity              | Category 4   |
| Acute Inhalation Toxicity - Vapors | Category 4   |
| Skin Corrosion/Irritation          | Category 1 B |
| Serious Eye Damage/Eye Irritation  | Category 1   |

### Label Elements

#### **Signal Word**

Danger

**Hazard Statements**

Combustible liquid

Causes severe skin burns and eye damage

Harmful if swallowed, in contact with skin or if inhaled

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves/protective clothing/eye protection/face protection

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

**Response**

Immediately call a POISON CENTER or doctor

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing

**Skin**

Take off contaminated clothing and wash before reuse

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

**Eyes**

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

**Ingestion**

Rinse mouth

Do NOT induce vomiting

**Fire**In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish**Storage**

Store locked up

Store in a well-ventilated place. Keep cool

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

**Hazards classified under paragraph (d)(1)(ii) of 1910.1200**

No information available

### 3. Composition/information on Ingredients

| Component                          | CAS No   | Weight % |
|------------------------------------|----------|----------|
| 2-Butynedioic acid, dimethyl ester | 762-42-5 | >95      |

### 4. First-aid measures

**Eye Contact**

Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated

|  |   |
|--|---|
|  | clothes and shoes. Immediate medical attention is required.   |
| <b>Inhalation</b>                          | Remove from exposure, lie down. Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.  |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Call a physician immediately. Clean mouth with water.   |
| <b>Most important symptoms and effects</b> | Difficulty in breathing. Causes burns by all exposure routes. . Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting; Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation |
| <b>Notes to Physician</b>                  | Treat symptomatically   |

## 5. Fire-fighting measures

|   |  |
|---|--|
| <b>Suitable Extinguishing Media</b>     | Water spray. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Chemical foam. Water mist may be used to cool closed containers. |
| <b>Unsuitable Extinguishing Media</b>   | No information available   |
| <b>Flash Point</b>                      | 86 °C / 186.8 °F   |
| <b>Method -</b>                         | No information available   |
| <b>Autoignition Temperature</b>         | No information available   |
| <b>Explosion Limits</b>                 |  |
| <b>Upper</b>                            | No data available  |
| <b>Lower</b>                            | No data available  |
| <b>Sensitivity to Mechanical Impact</b> | No information available   |
| <b>Sensitivity to Static Discharge</b>  | No information available   |

### Specific Hazards Arising from the Chemical

Combustible material. Flammable. Containers may explode when heated.

### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

### Protective Equipment and Precautions for Firefighters

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

### NFPA

**Health**  
3

**Flammability**  
1

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

|   |  |
|---|--|
| <b>Personal Precautions</b>                 | Remove all sources of ignition. Take precautionary measures against static discharges.   |
| <b>Environmental Precautions</b>            | See Section 12 for additional Ecological Information.  |
| <b>Methods for Containment and Clean Up</b> | 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. Remove all sources of ignition. |

## 7. Handling and Storage

|                 |   |
|-----------------|---|
| <b>Handling</b> | Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Handle product only in closed system or provide appropriate exhaust ventilation. Keep away from open flames, hot surfaces and sources of ignition. |
|-----------------|---|

**Storage.** Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks and flame. Protect from direct sunlight. Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong oxidizing agents. Strong acids. Strong bases. Strong reducing agents. Metals.

## 8. Exposure controls / personal protection

### Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure 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.

### Personal Protective Equipment

#### **Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

#### **Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure.

#### **Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

#### **Recommended Filter type:**

Organic gases and vapours filter. Type A. Brown. conforming to EN14387.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Appearance

#### **Physical State**

Liquid

#### **Color**

Light yellow

#### **Odor**

No information available

#### **Odor Threshold**

No information available

### Property

#### Values

#### Remarks

#### • Method

#### **Melting Point/Range**

-18 °C / -0.4 °F

#### **Softening Point**

No data available

#### **Boiling Point/Range**

95 - 98 °C / 203 - 208.4 °F

#### **Flash Point**

86 °C / 186.8 °F

#### **Flammability (liquid)**

Combustible liquid

#### **Flammability (solid,gas)**

Not applicable

#### **Explosion Limits**

No data available

@ 19 mmHg

**Method** - No information available

On basis of test data

Liquid

#### **Autoignition Temperature**

No data available

#### **Decomposition Temperature**

No data available

#### **pH**

No data available

#### **Viscosity**

No data available

#### **Water Solubility**

Insoluble

#### **Solubility in other solvents**

No information available

#### **Partition Coefficient (n-octanol/water)**

No data available

#### **Vapor Pressure**

1.160

#### **Density / Specific Gravity**

Not applicable

#### **Bulk Density**

No data available

#### **Vapor Density**

No data available

Liquid

(Air = 1.0)

|                                 |  |
|---------------------------------|--|
| <b>Particle characteristics</b> | Not applicable (liquid)                      |
| <b>Other Information</b>        |  |
| <b>Molecular Formula</b>        | C <sub>6</sub> H <sub>6</sub> O <sub>4</sub> |
| <b>Molecular Weight</b>         | 142.11                                       |
| <b>Explosive Properties</b>     | explosive air/vapour mixtures possible       |

## 10. Stability and reactivity

|   |  |
|---|--|
| <b>Reactive Hazard</b>                  | None known, based on information available   |
| <b>Stability</b>                        | heat sensitive. Light sensitive.   |
| <b>Conditions to Avoid</b>              | Excess heat. Exposure to light. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition. |
| <b>Incompatible Materials</b>           | Strong oxidizing agents, Strong acids, Strong bases, Strong reducing agents, Metals                                      |
| <b>Hazardous Decomposition Products</b> | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )  |
| <b>Hazardous Polymerization</b>         | No information available.  |
| <b>Hazardous Reactions</b>              | None under normal processing.  |

## 11. Toxicological information

### Information on expected route of exposure

|                   |  |
|-------------------|--|
| <b>Inhalation</b> | Not an expected route of exposure.   |
| <b>Ingestion</b>  | May be harmful if swallowed.   |
| <b>Eyes</b>       | Corrosive to the eyes and may cause severe damage including blindness. Lachrymator (substance which increases the flow of tears). Avoid contact with eyes. |
| <b>Skin</b>       | Avoid contact with skin. Skin Corrosion/Irritation. Causes burns. Harmful in contact with skin.  |

### Toxicology data for the components

|   |                          |
|---|--------------------------|
| <b>Toxicologically Synergistic Products</b>   | No information available |
| <b>(b) skin corrosion/irritation;</b>         | Category 1 B             |
| <b>(c) serious eye damage/irritation;</b>     | Category 1               |
| <b>(d) respiratory or skin sensitization;</b> |                          |
| <b>Respiratory</b>                            | No data available        |
| <b>Skin</b>                                   | No data available        |
| <b>(e) germ cell mutagenicity;</b>            | No data available        |
| <b>(f) carcinogenicity;</b>                   |                          |

The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component           | CAS No   | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|---------------------|----------|------------|------------|------------|------------|------------|
| 2-Butynedioic acid, | 762-42-5 | Not listed | Not listed | Not listed | Not listed | Not listed |

|                |  |  |  |  |  |  |
|----------------|--|--|--|--|--|--|
| dimethyl ester |  |  |  |  |  |  |
|----------------|--|--|--|--|--|--|

(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. See actual entry in RTECS for complete information

**Symptoms / effects, both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

**Other Adverse Effects** The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

**Endocrine Disrupting Properties** This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

**Persistence and Degradability** Insoluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility.

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

|                         |   |
|-------------------------|---|
| UN-No                   | UN3265                                    |
| Proper Shipping Name    | Corrosive liquid, acidic, organic, n.o.s. |
| Technical Shipping Name | 2-Butynedioic acid, dimethyl ester        |
| Hazard Class            | 8   |
| Packing Group           | II  |

### TDG

|                         |   |
|-------------------------|---|
| UN-No                   | UN3265                                    |
| Proper Shipping Name    | Corrosive liquid, acidic, organic, n.o.s. |
| Technical Shipping Name | 2-Butynedioic acid, dimethyl ester        |
| Hazard Class            | 8   |

|                                |   |
|--------------------------------|---|
| <b>Packing Group</b>           | II  |
| <b>IATA</b>                    |   |
| <b>UN-No</b>                   | UN3265                                    |
| <b>Proper Shipping Name</b>    | Corrosive liquid, acidic, organic, n.o.s. |
| <b>Technical Shipping Name</b> | 2-Butynedioic acid, dimethyl ester        |
| <b>Hazard Class</b>            | 8   |
| <b>Packing Group</b>           | II  |
| <b>IMDG/IMO</b>                |   |
| <b>UN-No</b>                   | UN3265                                    |
| <b>Proper Shipping Name</b>    | Corrosive liquid, acidic, organic, n.o.s. |
| <b>Technical Shipping Name</b> | 2-Butynedioic acid, dimethyl ester        |
| <b>Hazard Class</b>            | 8   |
| <b>Packing Group</b>           | II  |

## 15. Regulatory Information

### United States of America Inventory

| Component                          | CAS No   | TSCA | TSCA Inventory notification -<br>Active-Inactive | TSCA - EPA Regulatory<br>Flags |
|------------------------------------|----------|------|--|--------------------------------|
| 2-Butynedioic acid, dimethyl ester | 762-42-5 | X    | ACTIVE   | -                              |

#### Legend:

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

#### TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)

Not applicable

#### TSCA 12(b) - Notices of Export

Not applicable

### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component                          | CAS No   | DSL | NDSL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL     |
|------------------------------------|----------|-----|------|-----------|-------|------|------|------|-------|----------|
| 2-Butynedioic acid, dimethyl ester | 762-42-5 | -   | X    | 212-098-4 | X     | -    | X    | X    | -     | KE-04383 |

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

#### SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA** - Occupational Safety and Health Administration Not applicable

#### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations** Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH** Not applicable

| Component                          | CAS No   | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|------------------------------------|----------|---|---|---|
| 2-Butynedioic acid, dimethyl ester | 762-42-5 | -   | -   | -   |

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

| Component                          | CAS No   | OECD HPV       | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|------------------------------------|----------|----------------|------------------------------|---------------------------|--|
| 2-Butynedioic acid, dimethyl ester | 762-42-5 | Not applicable | Not applicable               | Not applicable            | Not applicable                             |

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

**Other International Regulations**

| Component                          | CAS No   | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|------------------------------------|----------|---|--|----------------------------|------------------------------------|
| 2-Butynedioic acid, dimethyl ester | 762-42-5 | Not applicable  | Not applicable   | Not applicable             | Not applicable                     |

**16. Other Information**

**Prepared By** Product stewardship (Regulatory Affairs)

Thermo Fisher Scientific  
email - begel.sdsdesk@thermofisher.com

**Revision Date** 18-Dec-2025  
**Print Date** 18-Dec-2025  
**Revision Summary** Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

**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 SDS**