

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification

Product Description: (Z)-2-Methylbut-2-enoic acid
 Cat No. : BD114339
 UFI: N/A
 CAS-No 565-63-9
 Molecular Formula C5H8O2

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

Identified uses For laboratory research purposes. Not for drug or household use.
 Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

company: BLD Pharmatech GmbH
 address: Senefelder-Ring 27, 21465 Reinbek, Germany.
 Telephone: +49 (0)4055 822 764 0

1.4. Emergency telephone

Emergency Phone: 1-352-323-3500
 0800 1812924

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Corrosive to metals	Category 1 (H290)
Skin corrosion/irritation	Category 1A, 1B, 1C (H314)
Serious eye damage/eye irritation	Category 1 (H318)

Environmental hazards

Based on available data, the classification criteria are not met

2.2. Label elements



Signal Word **Danger**

Hazard Statements

H290 - May be corrosive to metals
 H314 - Causes severe skin burns and eye damage

Precautionary Statements

P234 - Keep only in original container.
 P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
 P264 - Wash hands thoroughly after handling.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304+P340+P310 - If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor.
 P305+P351+P338+P310 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.
 P363 - Wash contaminated clothing before reuse.

- P390 - Absorb spillage to prevent material damage.
- P405 - Store locked up.
- P406 - Store in corrosive resistant/... container with a resistant inner liner.
- P501 - Dispose of contents/container to in accordance with local regulation

2.3. Results of PBT and vPvB assessment

PBT: Not applicable
vPvB: Not applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS-No	Molecular Weight	CLP Classification - Regulation (EC) No1272/2008	Concentration
(Z)-2-Methylbut-2-enoic acid	565-63-9	100.1158	Corrosive to metals 1 (H290) Skin corrosion/irritation 1A, 1B, 1C (H314) Serious eye damage/eye irritation 1 (H318)	<= 100%

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Inhalation Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

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.

4.2. Most important symptoms and effects, both acute and delayed

None reasonably foreseeable.

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

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

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

Hazardous Combustion Products

No data available

5.3. Advice for firefighters

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

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

6.2. Environmental precautions

Should not be released into the environment.

6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated area. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Sealed in dry, 2-8°C

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

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

Biological limit values

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

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Derived No Effect Level (DNEL) No information available.

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral				
Dermal				
Inhalation				

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

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 (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments (minimum requirement)
Nitrile rubber	See manufacturers recommendations	-	EN 374	
Neoprene				
Natural rubber				
PVC				

Skin and body protection Long sleeved clothing

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.

Respiratory Protection	No protective equipment is needed under normal use conditions.
Large scale/emergency use	Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
Small scale/Laboratory use	Maintain adequate ventilation
Environmental exposure controls	No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	Form: Crystal - Powder / Colour: White - Slightly pale yellow
Colour	
Odour	No information available
Odour Threshold	No data available
pH	No information available
Melting Point/Range	No data available
Softening Point	No data available
Boiling Point/Range	No data available
Flash Point	No data available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Explosion Limits	No data available
Vapor Pressure	No data available
Vapor Density	Not applicable
Oxidizing properties	No data available
Specific Gravity / Density	No data available
Bulk Density	No data available
Water Solubility	No information available
Solubility in other solvents	No information available
Partition Coefficient (n-octanol/water)	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	Not applicable
Explosive Properties	No information available
Particle characteristics	No data

9.2. Other information

Molecular Formula	C5H8O2
Molecular Weight	100.1158

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous Polymerization	No information available.
Hazardous Reactions	None under normal processing.

10.4. Conditions to avoid

Not data available

10.5. Incompatible materials

Oxidizing agents

10.6. Hazardous decomposition products

Carbon monoxide , carbon dioxide

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

(a) acute toxicity;	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	No data available
(e) germ cell mutagenicity;	No data available
(f) carcinogenicity;	No data available
(g) reproductive toxicity;	No data available
(h) STOT-single exposure;	No data available
Results / Target organs	No data available
(i) STOT-repeated exposure;	No data available
Target Organs	None known
(j) aspiration hazard;	No data available
Other Adverse Effects	No data available
Symptoms / effects, both acute and delayed	No data available

11.2. Additional Information

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

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects No information available

12.2. Persistence and degradability No information available

12.3. Bioaccumulative potential No information available

12.4. Mobility in soil No information available

12.5. Results of PBT and vPvB assessment No data available for assessment.

12.6. Endocrine disrupting properties No data available

12.7. Other adverse effects

Persistent Organic Pollutant No data available

Ozone Depletion Potential No data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

European Waste Catalogue (EWC) According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other Information 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

14.1. UN number

ADR/RID: 3261

IMDG: 3261

IATA: 3261

14.2. UN proper shipping name

ADR/RID: Corrosive solid, acidic, organic, n.o.s. IMDG: Corrosive solid, acidic, organic, n.o.s. IATA: Corrosive solid, acidic, organic, n.o.s.

14.3. Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

14.4. Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5. Environmental hazards

ADR/RID: -

IMDG: -

IATA: -

14.6. Special precautions for user

No special precautions required

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable, packaged goods

14.8. Further information

No data available

SECTION 15: REGULATORY INFORMATION

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

safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2. Safety Assessment

No Chemical Safety Assessment

SECTION 16: OTHER INFORMATION

16.1. The reference company name of written contents

Company:

BLD Pharmatech GmbH

Address:

Senefelder-Ring 27, 21465 Reinbek, Germany.

Telephone:

+49 (0)4055 822 764 0

This SDS was prepared sincerely on the basis of the information we could obtain, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. Products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.

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