

Material Safety Data Sheet
Version No.: 0.0 (Rev. date: 2022-09-23)

β-Mercaptoethanol

1. Product and company identification

- A. Product Name: β-Mercaptoethanol
 - B. Recommended Use: Research Use Only
 - C. Supply Information
 - Company: Bioneer
 - Address: 8-11, Munpyeongseo-ro, Daedeok-gu, Daejeon 306-220, Republic of Korea
 - Emergency telephone number: +82-42-930-8777
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2. Hazards identification

- A. Classification of the substance or mixture
 - Flammable liquids, Category 4 H227
 - Acute toxicity (oral), Category 3 H301
 - Acute toxicity (dermal), Category 2 H310
 - Specific target organ toxicity – Repeated exposure, Category 2 H373
 - Hazardous to the aquatic environment – Acute Hazard, Category 1 H400

- B. Label elements

- Hazard pictograms



- Signal word

Danger

- Hazard statements

H227 Combustible liquid.

H301 Toxic if swallowed.

H310 Fatal in contact with skin.

H373 May cause damage to organs (Skin, respiratory system/digestive system) through prolonged or repeated exposure (Oral, Dermal, Inhalation).

H400 Very toxic to aquatic life.

○ Precautionary statements

Precaution:

P210 Keep away from heat/hot surfaces/sparks/open flames/other ignition sources. No smoking.

P260 Do not breathe gas, mist, dust, spray, vapors, fume.

P22 Do not get in eyes, on skin, or on clothing.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P280 Wear eye protection, protective clothing, protective gloves.

Treatment:

P301+P310 IF SWALLOWED: Immediately call medical institutions, a doctor, a POISON CENTER.

P302+P352 IF ON SKIN: Wash with plenty of water.

P310 Immediately call medical institutions, a doctor, a POISON CENTER.

P314 Get medical advice, medical attention if you feel unwell.

P321 Take dry extinguishing powder treatment.

P330 Rinse mouth.

P361+P364 Take off all contaminated clothing immediately and wash it before reuse.

P370+P378 In case of fire: Use dry extinguishing powder to extinguish.

P391 Collect spillage.

Storage:

P403 Store in a well-ventilated place.

P405 Store locked up.

Disposal:

P501 Dispose of contents and container according to waste related regulations.

C. Hazards – Other hazards which do not result in classification – Hazard Risk

Not applicable

3. Composition/information on ingredients

Chemical name	Synonyms	CAS No.	Weight (%)
2-Mercaptoethanol		60-24-2	> 95%

4. First aid measures

A. First-aid measures after eye contact

Rinse eyes with water as a precaution.

B. First-aid measures after skin contact

Wash skin with plenty of water.

Take off immediately all contaminated clothing.

Call a physician immediately.

C. First-aid measures after inhalation

Remove person to fresh air and keep comfortable for breathing.

D. First-aid measures after ingestion

Rinse mouth.

Call a physician immediately.

E. Other medical advice or treatment

Treat symptomatically.

5. Fire-fighting measures

A. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, dry powder, foam, carbon dioxide.

Unsuitable extinguishing media: No data available

B. Special hazards arising from the substance or mixture

Fire hazard: Combustible liquid.

C. Special protective equipment and precautions for fire-fighters

Protection during firefighting:

Do not attempt to take action without suitable protective equipment.

Self-contained breathing apparatus.

Complete protective clothing.

6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures

No open flames, no sparks, and no smoking.

Do not breathe gas, mist, dust, spray, vapors, fume.

Only qualified personnel equipped with suitable protective equipment may intervene.

Do not attempt to take action without suitable protective equipment.

Dispose of materials or solid residues at an authorized site.

B. Environmental precautions and protective procedures

Avoid release to the environment.

C. Methods and material for containment and cleaning up

Collect spillage.

Take up liquid spill into absorbent material.

Notify authorities if product enters sewers or public waters.

7. Handling and storage

A. Precautions for safe handling

○ Precautions for safe handling

Ensure good ventilation of the work station.

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

Wear personal protective equipment.

Do not breathe gas, mist, dust, spray, vapors, fume.

Do not get in eyes, on skin, or on clothing.

Hygiene measures

Wash contaminated clothing before reuse.

Do not eat, drink or smoke when using this product.

Always wash hands after handling the product.

B. Conditions for safe storage

Storage conditions

Store in a well-ventilated place.

Keep cool.

Store locked up.

8. Exposure controls / personal protection

A. Occupational Exposure Limits

No data available

B. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.

Environmental exposure controls: Avoid release to the environment.

C. Personal protection

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment

Eye protection: Safety glasses

Hand protection: Protective gloves

Skin and body protection: Wear suitable protective clothing

9. Physical and chemical properties

A. Appearance: Liquid

B. Odor: No data available

C. Odor threshold: No data available

D. pH: 4.5 – 6

E. Melting / freezing point: < -50°C

F. Initial boiling point and boiling range: 155.8°C Atm. press.: 1013,3hPa

G. Flash point: 74°C Atm. press.: 1013,25hPa

H. Evaporation rate: No data available

I. Flammability (solid, gas): Not applicable

J. Upper / lower flammability or explosive limits: No data available

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- K. Vapor pressure: 1.756 mm Hg at 25°C
 - L. Solubility: Log Pow: -0.056
 - M. Vapor density: 2.69
 - N. Relative density: 1.1143
 - O. Partition coefficient n-octanol/water: No data available
 - P. Auto-ignition temperature: 295°C
 - Q. Decomposition temperature: No data available
 - R. Viscosity: 3.43cP
 - S. Molecular mass: 78.13 g/mol
 - T. Upper explosion limit: 2.3 – 18%
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10. Stability and Reactivity

- A. Chemical stability and Possibility of hazardous reactions
The product is non-reactive under normal conditions of use, storage and transport.
Stable under normal conditions.
No dangerous reactions known under normal conditions of use.
 - B. Conditions to avoid
Avoid contact with hot surfaces.
Heat.
No flames, no sparks. Eliminate all sources of ignition.
 - C. Incompatible materials
No data available
 - D. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.
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11. Toxicological information

- A. Information on exposure routes
Oral: Toxic if swallowed.
Skin and eyes contact: Fatal in contact with skin.
Inhalation: Not classified
 - B. Health hazards
Acute toxicity (oral): Toxic if swallowed.
Acute toxicity (dermal): Fatal in contact with skin.
Acute toxicity (inhalation): Not classified
Skin corrosion/irritation: Not classified
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Serious eye damage/irritation: Not classified

Respiratory sensitization: Not classified

Skin sensitization: Not classified

Carcinogenicity: Not classified

Mutagenicity: Not classified

Reproductive toxicity: Not classified

STOT–single exposure: Not classified

STOT–repeated exposure: May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Not classified

12. Ecological information

A. Exotoxicity

Ecology – general: Very toxic to aquatic life.

Hazardous to the aquatic environment, short–term (acute): Very toxic to aquatic life.

Hazardous to the aquatic environment, long–term (chronic): Not classified

B. Persistence and degradability

No data available

C. Bioaccumulative potential

Partition coefficient n–octanol/water (Log Pow): –0.056

D. Mobility in soil

Partition coefficient n–octanol/water (Log Pow): –0.056

E. Other adverse effects

Ozone: Not classified

Other adverse effects: No additional information available

13. Disposal considerations

A. Disposal method

Dispose of contents/container in accordance with licensed collector's sorting instructions.

B. Disposal precaution

No data available

14. Transport information

A. UN number: 2966

B. UN proper shipping name: THIOGLYCOL

C. Transport hazard class(es): 6.1

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- D. Packaging group: II
 - E. Marine pollutant: Dangerous for the environment
 - F. Special precautions for user: No data available
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15. Regulatory information

- A. Occupational Safety and Health Act
 - Hazardous Substances Prohibited for Manufacturing: Not applicable
 - Hazardous Substances Requiring Permission: Not applicable
 - Threshold Limit Values Chemicals: Not applicable
 - Hazardous Substances Below Permissible Level: Not applicable
 - Hazardous Substances Subject to Working Environment Measurement: Not applicable
 - Hazardous Substances Subject to Workers Requiring Health Examination: Not applicable
 - Hazardous Substances Subject to Control: Not applicable
 - Substance Subject to PSM Submission: Not applicable
 - B. Chemicals Control Act
 - Toxic Chemicals: Not applicable
 - Prohibited Chemicals: Not applicable
 - Restricted Chemicals: Not applicable
 - Substance requiring preparation for accidents: Not applicable
 - C. ACT ON REGISTRATION, EVALUATION, ETC. OF CHEMICALS (K-REACH)
 - Korea Existing Chemicals Inventory (KECI): Applicable
 - Priority Existing Chemical ('PEC') – subject to registration: Not applicable
 - Priority Control Substances (Korea): Not applicable
 - CMR Substances (Korea): Not applicable
 - D. Safety Control of Dangerous Substances Act
 - Safety Control of Dangerous Substances Act: Applicable
 - E. Wastes Control Act
 - Hazardous Substances in Designated wastes: Not applicable
 - Types of wastes: No data available
 - F. Other Domestic and International Regulatory Information
 - Domestic
 - Persistent Organic Pollutants(POPs) Control Act: Not applicable
 - Ozone Depleting Substances(ODS): Not applicable
 - International (EU Regulatory Information)
 - EU Candidate list (SVHC): Contains no substance on the REACH candidate list
 - EU authorization list (REACH Annex XIV): Contains no REACH Annex XIV substances
 - EU restriction list (REACH Annex XVII): Not applicable
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- US Regulatory Information
 - CERCLA Section 103 (40CFR302.4): Not applicable
 - EPCRA Section 302 (40CFR355.30): Not applicable
 - EPCRA Section 304 (40CFR355.40): Not applicable
 - EPCRA Section 313 (40CFR372.65): Not applicable
 - International agreements
 - No data available
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16. Other information

Bioneer Corporation makes no warranty or representation to its completeness, accuracy or currency. This material is intended for use by persons with pertinent technical skills and at their discretion and risk. It is the responsibility of the user to determine the product's suitability for its intended use, the product's safe use, and the product's proper disposal. Disposal of hazardous material may be subject to federal, state or local laws or regulations.
