## SECTION 1: Identification

1.1. Identification

<table>
<thead>
<tr>
<th>Product name</th>
<th>ALLYL 2-BROMO-2-METHYLPROPIONATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>ENEA0055</td>
</tr>
<tr>
<td>Product form</td>
<td>Substance</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Formula</td>
<td>C7H11BrO2</td>
</tr>
<tr>
<td>Synonyms</td>
<td>ALLYL 2-BROMOISOBUTYRATE PROPANOIC ACID, 2-BROMO-2-METHYL-, 2-PROPEN-1-YL ESTER</td>
</tr>
<tr>
<td>Chemical family</td>
<td>ORGANIC ESTER</td>
</tr>
</tbody>
</table>

1.2. Recommended use and restrictions on use

**Recommended use**

Chemical intermediate

**1.3. Supplier**

GELEST, INC.

11 East Steel Road

Morrisville, PA 19067

USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

info@gelest.com - www.gelest.com

1.4. Emergency telephone number

**Emergency number**

CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

## SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

**GHS-US classification**

- Flammable liquids Category 4
- Skin corrosion/irritation Category 2
- Serious eye damage/eye irritation Category 2A

Hazard statements (see section 16) :

H227 - Combustible liquid

H315 - Causes skin irritation

H319 - Causes serious eye irritation

2.2. GHS Label elements, including precautionary statements

**GHS US labeling**

- Hazard pictograms (GHS US):

- Signal word (GHS US): Warning

- Hazard statements (GHS US):

  - H227 - Combustible liquid
  - H315 - Causes skin irritation
  - H319 - Causes serious eye irritation

- Precautionary statements (GHS US):

  - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
  - P210 - Keep away from heat, open flames, sparks. - No smoking.
  - P264 - Wash hands thoroughly after handling.
  - P302+P352 - If on skin: Wash with plenty of soap and water
  - P332+P313 - If skin irritation occurs: Get medical advice/attention.
  - P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
  - P337+P313 - If eye irritation persists: Get medical advice/attention.
  - P321 - Specific treatment (see first aid instructions on this label)
  - P362+P364 - Take off contaminated clothing and wash it before reuse.
  - P370+P378 - In case of fire: Use water spray or fog, carbon dioxide, dry chemical to extinguish.
  - P403+P235 - Keep in a cool place
  - P501 - Dispose of contents/container to licensed waste disposal facility.

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable
ALLYL 2-BROMO-2-METHYLPROPIONATE
Safety Data Sheet

SECTION 3: Composition/Information on ingredients

3.1. Substances
Substance type: Mono-constituent
Name: ALLYL 2-BROMO-2-METHYLPROPIONATE
CAS-No.: 40630-82-8

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allyl-2-bromo-2-methylpropionate</td>
<td>(CAS-No.) 40630-82-8</td>
<td>97 - 100</td>
<td>Flam. Liq. 4, H227</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures
First-aid measures general: Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.
First-aid measures after inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact: Wash with plenty of soap and water. Get medical advice/attention.
First-aid measures after eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion: Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)
Symptoms/effects after inhalation: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact: Causes skin irritation.
Symptoms/effects after eye contact: mild lachrymator. Causes serious eye irritation.
Symptoms/effects after ingestion: No information available.

4.3. Immediate medical attention and special treatment, if necessary
No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media
Unsuitable extinguishing media: Do not use straight streams.

5.2. Specific hazards arising from the chemical
Fire hazard: Combustible liquid. Irritating fumes and organic acid vapors may develop when material is exposed to high temperatures or open flame.

5.3. Special protective equipment and precautions for fire-fighters
Firefighting instructions: Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
General measures: Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel
Protective equipment: Wear protective equipment as described in Section 8.
Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
For containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up: Clean up any spills as soon as possible, using an absorbent material to collect it. Use only non-sparking tools.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Additional hazards when processed: Keep away from heat, open flames, sparks. - No smoking.
Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapor and mist. Ground/bond container and receiving equipment. Provide good ventilation in process area to prevent accumulation of vapors. Use only non-sparking tools.
Hygiene measures: Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep container tightly closed. Keep in a cool place.
Incompatible materials: Oxidizing agent.
Storage area: Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Appropriate engineering controls
Appropriate engineering controls: Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:
Neoprene or nitrile rubber gloves

Eye protection:
Chemical goggles. Contact lenses should not be worn

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified organic vapor (black cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Appearance: Liquid.
Molecular mass: 207.07 g/mol
Color: Straw to amber.
Odor: Irritating.
Odor threshold: No data available
Refractive index: 1.462
pH: No data available
Relative evaporation rate (butyl acetate=1): < 1
Melting point: No data available
Freezing point: < 0 °C
Boiling point: 50 - 51 °C @ 12 mm Hg
Flash point: 64 °C
Auto-ignition temperature: No data available
Decomposition temperature: No data available
ALLYL 2-BROMO-2-METHYLPROPIONATE
Safety Data Sheet

### Section 1: Identification

- **Product name:** Allyl 2-bromo-2-methylpropionate
- **Chemical abstracts service registry number (CAS number):** 1993-43-5
- **Supplier:** [Supplier name]

### Section 2: Hazard Identification

- **Risk phrases:**
  - R22 - Harmful if swallowed.
  - R40 - Risk of Serious Damage to Health through Ingestion.
  - R43 - Risk of Serious Damage to Health through Ingestion.

- **Safety phrases:**
  - P210 - Keep out of reach of children.
  - P264 - Wear protective gloves/eye protection/face protection.

### Section 3: Composition Information

- **Main ingredients:** Allyl 2-bromo-2-methylpropionate (99%)
- **Impurities:**
  - Allyl bromide: 0.5%
  - Allyl chloride: 0.2%

### Section 4: First Aid Measures

- **First aid measures:**
  - In case of contact with eyes: Rinse immediately with plenty of water for at least 15 minutes. Seek medical advice.

### Section 5: Firefighting Measures

- **Extinguishing media:** Water.
- **Special hazard properties:** None.

### Section 6: Accidental release measures

- **Leakage procedures:** In case of leak, stop or restrict inflow of water.

### Section 7: Handling and storage

- **Handling:**
  - Avoid contact with skin and eyes.
  - Use in a well-ventilated area.

- **Storage:**
  - Keep container tightly closed.
  - Store in a cool, dry place.

### Section 8: Exposure controls and personal protection

- **Exposure limits:**
  - OSHA: 1 mg/m³.

### Section 9: Physical and chemical properties

- **Boiling point:** 172-174°C
- **Density:** 1.302 g/cm³
- **Flash point:** 30°C
- **Vapor pressure:** < 5 mm Hg @ 20°C

### Section 10: Stability and reactivity

- **Stability:** Stable.
- **Reactivity:**
  - Not reactive.

### Section 11: Toxicological information

- **Acute toxicity:** Not classified
- **Skin corrosion/irritation:** Causes skin irritation.
- **Serious eye damage/irritation:** Causes serious eye irritation.
- **Respiratory or skin sensitization:** Not classified
- **Germ cell mutagenicity:** Not classified
- **Carcinogenicity:** Not classified

### Section 12: Ecological information

- **Toxicity:**
  - Not classified

- **Persistence and degradability:** Not applicable.

### Section 13: Disposal considerations

- **Waste treatment:** Disposal must be in accordance with local regulations.

### Section 14: Transport information

- **Transport hazard class:** Not classified

### Section 15: Regulatory information

- **Regulatory status:** Not classified.

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12.3. Bioaccumulative potential  
No additional information available

12.4. Mobility in soil  
No additional information available

12.5. Other adverse effects  
Other adverse effects: This substance may be hazardous to the environment.  
Effect on the ozone layer: No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods  
Sewage disposal recommendations: Do not dispose of waste into sewer.  
Product/Packaging disposal recommendations: Incinerate. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.  
Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number  
DOT NA no. NA1993

14.2. UN proper shipping name  
Transport document description: NA1993 Combustible liquid, n.o.s. (ALLYL 2-BROMO-2-METHYLPROPIONATE), 3, III  
Proper Shipping Name (DOT): Combustible liquid, n.o.s. (ALLYL 2-BROMO-2-METHYLPROPIONATE)  
Class (DOT): 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Packing group (DOT): III - Minor Danger  
DOT Packaging Non Bulk (49 CFR 173.xxx): 203  
DOT Packaging Bulk (49 CFR 173.xxx): 241  
DOT Packaging Exceptions (49 CFR 173.xxx): 150  
DOT Symbols: D - Proper shipping name for domestic use only, or to and from Canada,G - Identifies PSN requiring a technical name

14.3. Additional information  
Other information: This product is Combustible as defined by the US Department of Transportation (DOT). It is regulated for transport in the US in container > 119 gallons (450 liters). The product is not regulated for transport by the IATA, ADR/RID, ADNR or the IMDG regulations.

Transport by sea  
DOT Vessel Stowage Location: A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.

Air transport  
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): 60 L  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 220 L

SECTION 15: Regulatory information

15.1. US Federal regulations  
ALLYL 2-BROMO-2-METHYLPROPIONATE (40630-82-8)  
CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA. 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a “technically qualified individual” as defined by 40 CFR 720.3(ee). The use of this material for “commercial purposes” as defined by 40 CFR 720.3(r) is not permitted in the United States.

Allyl-2-bromo-2-methylpropionate (40630-82-8)  
Not listed on the United States TSCA (Toxic Substances Control Act) inventory
15.2. International regulations

**CANADA**
No additional information available

**EU-Regulations**
No additional information available

**National regulations**
No additional information available

15.3. US State regulations
California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

**SECTION 16: Other information**

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H-Phrase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H227</td>
<td>Combustible liquid</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
</tbody>
</table>

Abbreviations and acronyms:

Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

**Hazard Rating**

**Health**
2 Moderate Hazard - Temporary or minor injury may occur

**Flammability**
2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 F but below 200 F. (Classes II & IIIA)

**Physical**
0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Prepared by safety and environmental affairs.

Date of issue: 03/15/2017  Revision date: 04/08/2019  Version: 1.1

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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