SECTION 1: Identification

1.1. Identification
Product name : METHYL 10-UNDECENOATE, 96%
Product code : ENEM2450
Product form : Substance
Physical state : Liquid
Formula : C12H22O2
Synonyms : METHYL UNDECYLENATE
           10-UNDECENIOIC ACID, METHYL ESTER
Chemical family : ESTER

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
Acute toxicity (oral) Category 4 H302 - Harmful if swallowed
Hazardous to the aquatic environment - Acute Hazard Category 1 H400 - Very toxic to aquatic life
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements
GHS US labeling
Hazard pictograms (GHS US) :

Signal word (GHS US) : Warning
Hazard statements (GHS US) : H302 - Harmful if swallowed
                               H400 - Very toxic to aquatic life
Precautionary statements (GHS US) : P264 - Wash hands thoroughly after handling.
                                P270 - Do not eat, drink or smoke when using this product.
                                P273 - Avoid release to the environment.
                                P330 - Rinse mouth.
                                P301+P312 - If swallowed: Call a doctor if you feel unwell
                                P391 - Collect spillage.
                                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

SECTION 3: Composition/Information on ingredients

3.1. Substances
Substance type : Mono-constituent
Name : METHYL 10-UNDECENOATE, 96%
CAS-No. : 111-81-9
METHYL 10-UNDECENOATE, 96%
Safety Data Sheet

Name | Product identifier | % | GHS-US classification
--- | --- | --- | ---
Methyl 10-undecenoate | (CAS No.) 111-81-9 | 95 - 100 | Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400

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: No information available.

Symptoms/effects after skin contact: May cause mild skin irritation.

Symptoms/effects after eye contact: May cause eye irritation.

Symptoms/effects after ingestion: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

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: None known.

5.2. Specific hazards arising from the chemical
Fire hazard: Irritating fumes and organic acid vapors may develop when material is exposed to elevated 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 or fog for cooling exposed containers.

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
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. Collect spillage.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.
METHYL 10-UNDECENOATE, 96%
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SECTION 7: Handling and storage
7.1. Precautions for safe handling
Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapor and mist. Provide good ventilation in process area to prevent accumulation of vapors.

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.

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: Clear liquid
Molecular mass: 198.3 g/mol
Color: No data available
Odor: Mild.
Odor threshold: No data available
Refractive index: 1.437
pH: No data available
Relative evaporation rate (butyl acetate=1): < 1
Melting point: No data available
Freezing point: -24 °C
Boiling point: 124 °C @ 10 mm Hg
Flash point: 115 °C
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapor pressure: < 0.1 mm Hg @ 25°C
Relative vapor density at 20 °C: < 1
Relative density: 0.882
% Volatiles: < 3 %
Solubility: Water: 1.5 g/l

Print date: 04/10/2019     EN (English US)     SDS ID: ENEM2450
### METHYL 10-UNDECENOATE, 96%

**Safety Data Sheet**

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<thead>
<tr>
<th>Log Pow</th>
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<tbody>
<tr>
<td>Log Kow</td>
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<tr>
<td>Viscosity, kinematic</td>
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<tr>
<td>Viscosity, dynamic</td>
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<tr>
<td>Explosive properties</td>
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<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No additional information available

#### 10.2. Chemical stability

Stable.

#### 10.3. Possibility of hazardous reactions

No additional information available

#### 10.4. Conditions to avoid

Heat. Open flame. Sparks.

#### 10.5. Incompatible materials

Oxidizing agent.

#### 10.6. Hazardous decomposition products

Organic acid vapors.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

**Acute toxicity**: Not classified

**METHYL 10-UNDECENOATE, 96% (111-81-9)**

<table>
<thead>
<tr>
<th>ATEx US (oral)</th>
<th>1653 mg/kg body weight</th>
</tr>
</thead>
</table>

**Methyl 10-undecenoate (111-81-9)**

<table>
<thead>
<tr>
<th>LD50 oral rat</th>
<th>1653 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEx US (oral)</td>
<td>1653 mg/kg body weight</td>
</tr>
</tbody>
</table>

**Skin corrosion/iritation**: Not classified

**Serious eye damage/iritation**: Not classified

**Respiratory or skin sensitization**: Not classified

**Germ cell mutagenicity**: Not classified

**Bacterial screening (Ames Test)** show the substance not to be a mutagen.

**Carcinogenicity**: Not classified

**Reproductive toxicity**: Not classified

**Specific target organ toxicity – single exposure**: Not classified

**Specific target organ toxicity – repeated exposure**: Not classified

**Aspiration hazard**: Not classified

**Symptoms/effects after inhalation**: No information available.

**Symptoms/effects after skin contact**: May cause mild skin irritation.

**Symptoms/effects after eye contact**: May cause eye irritation.

**Symptoms/effects after ingestion**: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Ecology - general**: Very toxic to aquatic life.

**Methyl 10-undecenoate (111-81-9)**

<table>
<thead>
<tr>
<th>LC50 fish 1</th>
<th>0.756 mg/l Oncorhynchus mykiss (rainbow trout)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Daphnia 1</td>
<td>1.8 mg/l Daphnia magna (Water flea) OECD 202, Part 1</td>
</tr>
</tbody>
</table>
METHYL 10-UNDECENOATE, 96%
Safety Data Sheet

<table>
<thead>
<tr>
<th>Methyl 10-undecenoate (111-81-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ErC50 (algae)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
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.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number
UN-No.(DOT) : 3082
DOT NA no. : UN3082

14.2. UN proper shipping name
Transport document description : UN3082 Environmentally hazardous substances, liquid, n.o.s. (METHYL 10-UNDECENOATE), 9, III
Proper Shipping Name (DOT) : Environmentally hazardous substances, liquid, n.o.s. (METHYL 10-UNDECENOATE)
Class (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Packing group (DOT) : III - Minor Danger
Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)

Dangerous for the environment : Yes
Marine pollutant : Yes

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241
DOT Packaging Exceptions (49 CFR 173.xxx) : 155
DOT Symbols : G - Identifies PSN requiring a technical name

14.3. Additional information
Emergency Response Guide (ERG) Number : 171
Other information : No supplementary information available.

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) : No limit
METHYL 10-UNDECENOATE, 96%
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DOT Quantity Limitations Cargo aircraft only (49 : No limit
CFR 175.75)

SECTION 15: Regulatory information

15.1. US Federal regulations

Methyl 10-undecenoate (111-81-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Methyl 10-undecenoate (111-81-9)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Methyl 10-undecenoate (111-81-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Methyl 10-undecenoate (111-81-9)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

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>
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<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</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:
1 Slight Hazard - Irritation or minor reversible injury possible

Flammability:
1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIb)

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.

Date of issue: 08/29/2016
Version: 1.0

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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