SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Substance
Physical state: Liquid
Substance name: MONOMETHACRYLOXYPROPYL TERMINATED POLYTRIFLUOROPROPYLTERMINATED METHYLSILOXANE, symmetric
Product code: MFS-M15
Synonyms: METHACRYLATE FUNCTIONAL SILICONE OIL; POLY(3,3,3-TRIFLUOROPROPYLTERMINATED METHYLSILOXANE), MONOMETHACRYLOXYPROPYL, BUTYL TERMINATED
Chemical family: METHACRYLATESILOXANE

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

1.2.1. Relevant identified uses

Use of the substance/mixture: Chemical intermediate

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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

GELEST INC.
Fritz-Klatte-Strasse 8
65933 Frankfurt
Germany
T +49 (0) 69 3535106 - F +49 (0) 69 3535106-500 - (M-F): 8:00 AM - 4:00 PM
info@gelestde.com - www.gelestde.com

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Serious eye damage/eye irritation, Category 2 H319
Full text of H statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):

<table>
<thead>
<tr>
<th>Signal word (CLP)</th>
<th>Warning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard statements (CLP)</td>
<td>H319 - Causes serious eye irritation.</td>
</tr>
<tr>
<td>Precautionary statements (CLP)</td>
<td>P280 - Wear protective gloves/protective clothing/eye protection/face protection. P264 - Wash hands thoroughly after handling. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove</td>
</tr>
</tbody>
</table>
MONOMETHACRYLOXYPROPYL TERMINATED POLYTRIFLUOROPROPYL METHYLSILOXANE, symmetric

Safety Data Sheet

2.3 Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Multi-constituent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>MONOMETHACRYLOXYPROPYL TERMINATED POLYTRIFLUOROPROPYL METHYLSILOXANE, symmetric</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>1072456-00-8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monomethacryloxypropyl terminated polytrifluoropropylmethylsiloxane</td>
<td>(CAS-No.) 1072456-00-8</td>
<td>95 - 100</td>
<td>Eye Irrit. 2, H319</td>
</tr>
<tr>
<td>2,6-Di-tert-butyl-p-cresol</td>
<td>(CAS-No.) 128-37-0 (EC-No.) 204-881-4</td>
<td>0 - 1</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
</tbody>
</table>

Full text of 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 person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact: Wash with plenty of 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, both acute and delayed

Symptoms/effects after inhalation: No information available.

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

Symptoms/effects after eye contact: Causes serious eye irritation.

Symptoms/effects after ingestion: May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Advice for firefighters

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 vapour 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. Sweep or shovel spills into appropriate container for disposal.

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
Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapour and mist. Use only in well ventilated areas.
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. Store < 5°C.
Incompatible materials: Oxidizing agent.
Storage area: Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)
No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Country</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,6-Di-tert-butyl-p-cresol (128-37-0)</td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td>MAK (mg/m³) 10 mg/m³</td>
</tr>
<tr>
<td>Belgium</td>
<td>Limit value (mg/m³) 2 mg/m³ (aerosol and vapor)</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>OEL TWA (mg/m³) 10 mg/m³</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>OEL STEL (mg/m³) 50 mg/m³</td>
</tr>
<tr>
<td>France</td>
<td>VME (mg/m³) 10 mg/m³</td>
</tr>
<tr>
<td>Germany</td>
<td>TRGS 900 Occupational exposure limit value (mg/m³) 10 mg/m³ (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed-inhalable fraction)</td>
</tr>
<tr>
<td>Greece</td>
<td>OEL TWA (mg/m³) 10 mg/m³</td>
</tr>
<tr>
<td>Italy - Portugal - USA ACGIH</td>
<td>ACGIH TWA (mg/m³) 2 mg/m³ (inhalable fraction and vapor)</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (TWA) (mg/m³) 10 mg/m³</td>
</tr>
<tr>
<td>Spain</td>
<td>VLA-ED (mg/m³) 10 mg/m³</td>
</tr>
<tr>
<td>Switzerland</td>
<td>KZGW (mg/m³) 40 mg/m³ (inhalable dust)</td>
</tr>
<tr>
<td>Switzerland</td>
<td>MAK (mg/m³) 10 mg/m³ (inhalable dust)</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>WEL TWA (mg/m³) 10 mg/m³</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>WEL STEL (mg/m³) 30 mg/m³ (calculated)</td>
</tr>
<tr>
<td>Denmark</td>
<td>Grænseværdie (langvarig) (mg/m³) 10 mg/m³</td>
</tr>
<tr>
<td>Finland</td>
<td>HTP-arvo (8h) (mg/m³) 10 mg/m³</td>
</tr>
<tr>
<td>Finland</td>
<td>HTP-arvo (15 min) 20 mg/m³</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (8 hours ref) (mg/m³) 10 mg/m³</td>
</tr>
<tr>
<td>Ireland</td>
<td>OEL (15 min ref) (mg/m3) 30 mg/m³ (calculated)</td>
</tr>
</tbody>
</table>
MONOMETHACRYLOXYPROPYL TERMINATED POLYTRIFLUOROPROPYL METHYLSILOXANE, symmetric
Safety Data Sheet

<table>
<thead>
<tr>
<th>2,6-Di-tert-butyl-p-cresol (128-37-0)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada (Quebec)</td>
<td>VECD (mg/m³)</td>
</tr>
<tr>
<td>Australia</td>
<td>TWA (mg/m³)</td>
</tr>
<tr>
<td>Portugal</td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>Portugal</td>
<td>OEL chemical category (PT)</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

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

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>800 - 1000 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>Deep. Straw.</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.398</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>&lt; -60 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>&gt; 205 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>205 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.09</td>
</tr>
<tr>
<td>% Volatiles</td>
<td>&lt; 2 %</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>40 - 60 cSt</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive 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
Non-hazardous polymerization may occur.

10.4. Conditions to avoid
Heat. Open flame. Sparks.

10.5. Incompatible materials
Oxidizing agent.

10.6. Hazardous decomposition products
Organic acid vapors. Silicon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

2,6-Di-tert-butyl-p-cresol (128-37-0)

LD50 oral rat 890 mg/kg
LD50 dermal rat > 2000 mg/kg
ATE CLP (oral) 890 mg/kg bodyweight

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

2,6-Di-tert-butyl-p-cresol (128-37-0)

IARC group 3 - Not classifiable

Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Symptoms/effects after inhalation : No information available.
Symptoms/effects after skin contact : May cause skin irritation.
Symptoms/effects after eye contact : Causes serious eye irritation.
Symptoms/effects after ingestion : May be harmful if swallowed.
Reason for classification : Expert judgment

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential

2,6-Di-tert-butyl-p-cresol (128-37-0)

BCF fish 1 230 - 2500
Log Pow 4.17

12.4. Mobility in soil
No additional information available
12.5. **Results of PBT and vPvB assessment**
No additional information available

12.6. **Other adverse effects**
No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment 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
In accordance with ADR / RID / IMDG / IATA / ADN

| UN-No. (ADR) | Not applicable |
| UN-No. (IMDG) | Not applicable |
| UN-No. (IATA) | Not applicable |
| UN-No. (ADN) | Not applicable |
| UN-No. (RID) | Not applicable |

#### 14.2. UN proper shipping name
- **Proper Shipping Name (ADR)**: Not applicable
- **Proper Shipping Name (IMDG)**: Not applicable
- **Proper Shipping Name (IATA)**: Not applicable
- **Proper Shipping Name (ADN)**: Not applicable
- **Proper Shipping Name (RID)**: Not applicable

#### 14.3. Transport hazard class(es)

- **ADR**
  - Transport hazard class(es) (ADR): Not applicable

- **IMDG**
  - Transport hazard class(es) (IMDG): Not applicable

- **IATA**
  - Transport hazard class(es) (IATA): Not applicable

- **ADN**
  - Transport hazard class(es) (ADN): Not applicable

- **RID**
  - Transport hazard class(es) (RID): Not applicable

#### 14.4. Packing group
- **Packing group (ADR)**: Not applicable
- **Packing group (IMDG)**: Not applicable
- **Packing group (IATA)**: Not applicable
- **Packing group (ADN)**: Not applicable
- **Packing group (RID)**: Not applicable

#### 14.5. Environmental hazards
- **Dangerous for the environment**: No
- **Marine pollutant**: No
- **Other information**: No supplementary information available
14.6. Special precautions for user

- Overland transport
  No data available

- Transport by sea
  No data available

- Air transport
  No data available

- Inland waterway transport
  No data available

- Rail transport
  No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
MONOMETHACRYLOXYPROPYL TERMINATED POLYTRIFLUOROPROPYLMETHYLSILOXANE, symmetric is not on the REACH Candidate List
MONOMETHACRYLOXYPROPYL TERMINATED POLYTRIFLUOROPROPYLMETHYLSILOXANE, symmetric is not on the REACH Annex XIV List
MONOMETHACRYLOXYPROPYL TERMINATED POLYTRIFLUOROPROPYLMETHYLSILOXANE, symmetric is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

% Volatiles : < 2 %

15.1.2. National regulations

Germany
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands
SZW-lijst van kankerverwekkende stoffen: The substance is not listed
SZW-lijst van mutagene stoffen: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid: The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling: The substance is not listed

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

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
MONOMETHACRYLOXYPROPYL TERMINATED POLYTRIFLUOROPROPYLMETHYLSILOXANE, symmetric
Safety Data Sheet

Other information: Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

- **Acute Tox. 4 (Oral)**: Acute toxicity (oral), Category 4
- **Eye Irrit. 2**: Serious eye damage/eye irritation, Category 2
- **H302**: Harmful if swallowed.
- **H319**: Causes serious eye irritation.

SDS EU (REACH Annex II) - Custom

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