SECTION 1: Identification

1.1. Identification

Product name: DIMETHYLSILOXANE-(25-30% ETHYLENE OXIDE) BLOCK COPOLYMER
Product code: DBE-224
Product form: Substance
Physical state: Liquid
Synonyms: POLYALKYLENEOXIDE MODIFIED POLYDIMETHYLSILOXANE; POLYALKYLENE POLYDIMETHYLSILOXANE
Chemical family: ORGANOSILOXANE

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
Reproductive toxicity Category 2
H361 Suspected of damaging fertility or the unborn child
Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling
Hazard pictograms (GHS US): Warning
Hazard statements (GHS US): H361 - Suspected of damaging fertility or the unborn child
Precautionary statements (GHS US): P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P405 - Store locked up.
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

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Name</th>
<th>CAS-No.</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymer</td>
<td>Dimethylsiloxane-ethylene oxide block copolymer</td>
<td>68938-54-5</td>
<td>CAS-No.: 68938-54-5</td>
<td>&gt; 97</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>Octamethylcyclotetrasiloxane</td>
<td>556-67-2</td>
<td>CAS-No.: 556-67-2</td>
<td>1 – 3</td>
<td>Flam. Liq. 3, H226</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: Suspected of damaging fertility or the unborn child.
Symptoms/effects after inhalation: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact: May cause skin irritation.
Symptoms/effects after eye contact: May cause eye irritation.
Symptoms/effects after ingestion: May be harmful if swallowed.

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.

#### 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 vapor and mist. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. 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 locked up.
- **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
**Octamethylcyclotetrasiloxane (556-67-2)**

**USA - AIHA - Occupational Exposure Limits**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEEL TWA [ppm]</td>
<td>10 ppm</td>
</tr>
</tbody>
</table>

**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**

<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. Viscous.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>10000 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>Pale yellow.</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>&lt; -29 °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>&gt; 110 °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>Vapor pressure</td>
<td>&lt; 5 mm Hg</td>
</tr>
<tr>
<td>Relative vapor density at 20°C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.02</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water.</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Pow)</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Kow)</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>400 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>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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Octamethylcyclotetrasiloxane (556-67-2)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 4800 mg/kg (Male); Method: Similar to OECD 401</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>&gt; 2375 mg/kg (Female, Male): Method: Similar to OECD 402</td>
</tr>
<tr>
<td>LC50 Inhalation - Rat</td>
<td>36 g/m³ (Exposure time: 4 h)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Suspected of damaging fertility or the unborn child.</td>
</tr>
<tr>
<td></td>
<td>Contains octamethylcyclotetrasiloxane which may cause reproductive effects based on animal data.</td>
</tr>
</tbody>
</table>

STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Symptoms/effects after inhalation : May cause irritation to the respiratory tract.
Symptoms/effects after skin contact : May cause skin irritation.
Symptoms/effects after eye contact : May cause eye irritation.
DIMETHYLSILOXANE-(25-30% ETHYLENE OXIDE) BLOCK COPOLYMER
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Symptoms/effects after ingestion: May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Octamethylcyclotetrasiloxane (556-67-2)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt; 500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)</td>
<td>&gt; 15 μg/l Test organisms (species: Daphnia magna)</td>
<td>&gt; 1000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Octamethylcyclotetrasiloxane (556-67-2)

<table>
<thead>
<tr>
<th>Octamethylcyclotetrasiloxane (556-67-2)</th>
<th>BCF - Fish [1]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12400</td>
</tr>
</tbody>
</table>

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. Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

<table>
<thead>
<tr>
<th>DOT</th>
<th>TDG</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>3082</td>
</tr>
</tbody>
</table>

14.2. Proper Shipping Name

<table>
<thead>
<tr>
<th>DOT</th>
<th>TDG</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2. Proper Shipping Name</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIMETHYLSILOXANE-(25-30% ETHYLENE OXIDE) BLOCK COPOLYMER)</td>
</tr>
</tbody>
</table>
**DIMETHYLSILOXANE-(25-30% ETHYLENE OXIDE) BLOCK COPOLYMER**  
Safety Data Sheet

<table>
<thead>
<tr>
<th><strong>DOT</strong></th>
<th><strong>TDG</strong></th>
<th><strong>IMDG</strong></th>
<th><strong>IATA</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transport document description</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
<td>UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIMETHYLSILOXANE-(25-30% ETHYLENE OXIDE) BLOCK COPOLYMER), 9, III</td>
<td>UN 3082 Environmentally hazardous substance, liquid, n.o.s. (DIMETHYLSILOXANE-(25-30% ETHYLENE OXIDE) BLOCK COPOLYMER), 9, III</td>
<td></td>
</tr>
</tbody>
</table>

### 14.3. Transport hazard class(es)

<table>
<thead>
<tr>
<th>DOT</th>
<th>TDG</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

### 14.4. Packing group

<table>
<thead>
<tr>
<th>DOT</th>
<th>TDG</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
<td>III</td>
<td>III</td>
</tr>
</tbody>
</table>

### 14.5. Environmental hazards

<table>
<thead>
<tr>
<th>DOT</th>
<th>TDG</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No supplementary information available

### 14.6. Special precautions for user

<table>
<thead>
<tr>
<th>DOT</th>
<th>TDG</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>No data available</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**IMDG**
- Special provision (IMDG) : 274, 335, 969
- Limited quantities (IMDG) : 5 L
- Excepted quantities (IMDG) : E1
- Packing instructions (IMDG) : LP01, P001
- Packing provisions (IMDG) : PP1
- IBC packing instructions (IMDG) : IBC03
- Tank instructions (IMDG) : T4
- Tank special provisions (IMDG) : TP1, TP29
- EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
- EmS-No. (Spillage) : S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
- Stowage category (IMDG) : A

**IATA**
- PCA Excepted quantities (IATA) : E1
- PCA Limited quantities (IATA) : Y964
- PCA limited quantity max net quantity (IATA) : 30kgG
- PCA packing instructions (IATA) : 964
- PCA max net quantity (IATA) : 450L
- CAO packing instructions (IATA) : 964
- CAO max net quantity (IATA) : 450L
- Special provision (IATA) : A97, A158, A197, A215
**DIMETHYLSILOXANE-(25-30% ETHYLENE OXIDE) BLOCK COPOLYMER**
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**ERG code (IATA):** 9L

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency’s Toxic Substances Control Act (TSCA):

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS-No.</th>
<th>Listing</th>
<th>Commercial status</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethylsiloxane-ethylene oxide block copolymer</td>
<td>68938-54-5</td>
<td>Present</td>
<td>Active</td>
<td>XU</td>
</tr>
<tr>
<td>Octamethylcyclotetrasiloxane</td>
<td>556-67-2</td>
<td>Present</td>
<td>Active</td>
<td>T</td>
</tr>
</tbody>
</table>

### 15.2. International regulations

**CANADA**

**Dimethylsiloxane-ethylene oxide block copolymer (68938-54-5)**
Listed on the Canadian DSL (Domestic Substances List)

**Octamethylcyclotetrasiloxane (556-67-2)**
Listed on the Canadian DSL (Domestic Substances List)

**EU-Regulations**

**Octamethylcyclotetrasiloxane (556-67-2)**
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

**National regulations**

### Dimethylsiloxane-ethylene oxide block copolymer (68938-54-5)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
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 KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

### Octamethylcyclotetrasiloxane (556-67-2)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
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 KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)
DIMETHYLSILOXANE-(25-30% ETHYLENE OXIDE) BLOCK COPOLYMER
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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>H226</th>
<th>Flammable liquid and vapor</th>
</tr>
</thead>
<tbody>
<tr>
<td>H361</td>
<td>Suspected of damaging fertility or the unborn child</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects</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: 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 III B)
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.

Issue date: 12/08/2014 Revision date: 09/06/2023 Version: 4.0

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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