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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Substance name</td>
<td>BIS[m-(2-TRIETHOXYSILYLETHYL)TOLYL]POLYSULFIDE, tech-90</td>
</tr>
<tr>
<td>Product code</td>
<td>SIB1820.5</td>
</tr>
<tr>
<td>Formula</td>
<td>C30H50O6S(2-4)Si2</td>
</tr>
<tr>
<td>Chemical family</td>
<td>ORGANOETHOXYSILANE</td>
</tr>
</tbody>
</table>

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 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM
info@gelestd.de - www.gelestd.de

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]
- Flammable liquids, Category 3: H226
- 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): GHS02, GHS07

Signal word (CLP): Warning

Hazard statements (CLP): H226 - Flammable liquid and vapour.
H319 - Causes serious eye irritation.

Precautionary statements (CLP): P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash hands thoroughly after handling.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No
2.3. Other hazards

Other hazards not contributing to the classification:

Additional ethanol may be formed by reaction with moisture and water. The hydrolysis product of this compound is ethanol. Overexposure to ethanol by skin absorption, inhalation or ingestion may have a narcotic effect (headache, nausea, drowsiness). Ethanol is metabolized to acetaldehyde and acetic acid which in large quantities result in metabolic acidosis, CNS depression and death due to respiratory arrest. The US OSHA PEL (TWA) for ethanol is 1000 ppm. This product contains ethanol which is classified as a carcinogen by IARC in alcoholic beverages.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type: Mono-constituent
Name: BIS[m-(2-TRIETHOXYSILYLETHYL)TOLYL]POLYSULFIDE, tech-90
CAS-No.: 198087-81-9/85912-75-0/67873-85-2

<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>BIS[m-(2-triethoxysilyl)ethyl]polysulfide</td>
<td>(CAS-No.) 198087-81-9/85912-75-0/67873-85-2</td>
<td>90 - 100</td>
<td>Flam. Liq. 3, H226 Eye Irrit. 2, H319</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:
Remove contact lenses, if present and easy to do. Continue rinsing. Immediately flush eyes thoroughly with water for at least 15 minutes. 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: May cause irritation to the respiratory tract.
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: Do not use straight streams.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Flammable liquid and vapour. 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

General measures
Eliminate 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. Sweep or shovel spills into appropriate container for disposal. 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautions for safe handling
Avoid all eye and skin contact and do not breathe vapour and mist. Ground/bond container and receiving equipment. Provide good ventilation in process area to prevent formation of vapour. Take precautionary measures against static discharge. 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

Technical measures
Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.

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.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

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>Liquid. Viscous.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>627 - 691 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>Dark.</td>
</tr>
<tr>
<td>Odour</td>
<td>Sulfurous.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.533</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; 20 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>250 °C (decomposes)</td>
</tr>
<tr>
<td>Flash point</td>
<td>55 °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>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 1 mm Hg @ 25 °C</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.1</td>
</tr>
<tr>
<td>% Volatiles</td>
<td>&lt; 5 %</td>
</tr>
<tr>
<td>Solubility</td>
<td>Reacts with 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>No data available</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 in sealed containers.

**10.3. Possibility of hazardous reactions**

Material decomposes slowly in contact with moist air or with water liberating ethanol. Hazardous polymerization will not occur.

**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**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified
Potential adverse human health effects and symptoms:
- This material slowly generates ethanol on contact with water and moisture in living tissues.
- Material generates ethanol on contact with water or moisture in skin, eyes and mucous membranes and has an irritating, dehydrating effect on overexposed tissue.
- 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: 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
No additional information available

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. 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
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
- UN-No. (ADR): 1993
- UN-No. (IMDG): 1993
- UN-No. (IATA): 1993
- UN-No. (ADN): 1993
- UN-No. (RID): 1993

14.2. UN proper shipping name
- Proper Shipping Name (ADR): FLAMMABLE LIQUID, N.O.S.
- Proper Shipping Name (IMDG): FLAMMABLE LIQUID, N.O.S.
- Proper Shipping Name (IATA): Flammable liquid, n.o.s.
- Proper Shipping Name (ADN): FLAMMABLE LIQUID, N.O.S.
- Proper Shipping Name (RID): FLAMMABLE LIQUID, N.O.S.
BIS[m-(2-TRIETHOXYSILYLETHYL)TOLYL]POLYSULFIDE, tech-90
Safety Data Sheet

14.3. Transport hazard class(es)

<table>
<thead>
<tr>
<th>Mode</th>
<th>Transport hazard class(es)</th>
<th>Danger labels</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>IMDG</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>IATA</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ADN</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>RID</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

14.4. Packing group

<table>
<thead>
<tr>
<th>Mode</th>
<th>Packing group</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
<td>III</td>
</tr>
<tr>
<td>IMDG</td>
<td>III</td>
</tr>
<tr>
<td>IATA</td>
<td>III</td>
</tr>
<tr>
<td>ADN</td>
<td>III</td>
</tr>
<tr>
<td>RID</td>
<td>III</td>
</tr>
</tbody>
</table>
### 14.5. Environmental hazards

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dangerous for the environment</td>
<td>No</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>No</td>
</tr>
<tr>
<td>Other information</td>
<td>No supplementary information available</td>
</tr>
</tbody>
</table>

### 14.6. Special precautions for user

#### - Overland transport

- **Classification code (ADR)**: F1
- **Special provisions (ADR)**: 274, 601, 640E
- **Limited quantities (ADR)**: 5L
- **Excepted quantities (ADR)**: E1
- **Packing instructions (ADR)**: P001, IBC03, LP01, R001
- **Mixed packing provisions (ADR)**: MP19
- **Portable tank and bulk container instructions (ADR)**: T4
- **Tank code (ADR)**: LGBF
- **Vehicle for tank carriage**: FL
- **Transport category (ADR)**: 3
- **Special provisions for carriage - Packages (ADR)**: V12
- **Special provisions for carriage - Operation (ADR)**: S2
- **Hazard identification number (Kemler No.)**: 30
- **Orange plates**: [30](1993)
- **Tunnel restriction code (ADR)**: D/E

#### - Transport by sea

- **Special provisions (IMDG)**: 223, 274, 955
- **Limited quantities (IMDG)**: 5 L
- **Excepted quantities (IMDG)**: E1
- **Packing instructions (IMDG)**: P001, LP01
- **IBC packing instructions (IMDG)**: IBC03
- **Tank instructions (IMDG)**: T4
- **Tank special provisions (IMDG)**: TP1, TP29
- **EmS-No. (Fire)**: F-E
- **EmS-No. (Spillage)**: S-E
- **Stowage category (IMDG)**: A

#### - Air transport

- **PCA Excepted quantities (IATA)**: E1
- **PCA Limited quantities (IATA)**: Y344
- **PCA limited quantity max net quantity (IATA)**: 10L
- **PCA packing instructions (IATA)**: 355
- **PCA max net quantity (IATA)**: 60L
- **CAO packing instructions (IATA)**: 366
- **CAO max net quantity (IATA)**: 220L
- **Special provisions (IATA)**: A3
- **ERG code (IATA)**: 3L

#### - Inland waterway transport

- **Classification code (ADN)**: F1
- **Special provisions (ADN)**: 274, 601, 640E
- **Limited quantities (ADN)**: 5 L
BIS[m-(2-TRIETHOXYSILYLETHYL)TOLYL]POLYSULFIDE, tech-90
Safety Data Sheet

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
BIS[m-(2-TRIETHOXYSILYLETHYL)TOLYL]POLYSULFIDE, tech-90 is not on the REACH Candidate List
BIS[m-(2-TRIETHOXYSILYLETHYL)TOLYL]POLYSULFIDE, tech-90 is not on the REACH Annex XIV List
BIS[m-(2-TRIETHOXYSILYLETHYL)TOLYL]POLYSULFIDE, tech-90 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 : < 5 %

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-list van kankerverwekkende stoffen : The substance is not listed
SZW-list 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

Denmark
Classification remarks : R10 <H226;H319>; Emergency management guidelines for the storage of flammable liquids must be followed
15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Abbreviations and acronyms:

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

Other information: Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>H-Statement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>Flam. Liq. 3</td>
<td>Flammable liquids, Category 3</td>
</tr>
<tr>
<td>H226</td>
<td>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II) - Custom

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.