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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product form</td>
<td>Substance</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Substance name</td>
<td>BIS(TRI-n-BUTYLSTANNYL)ACETYLENE</td>
</tr>
<tr>
<td>Product code</td>
<td>SNB1790</td>
</tr>
<tr>
<td>Formula</td>
<td>C₂₆H₅₄Sn₂</td>
</tr>
<tr>
<td>Synonyms</td>
<td>TRIBUTYLSTANNSYLETHYNE</td>
</tr>
<tr>
<td>Chemical family</td>
<td>ORGANOTIN</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@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]

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

EUH-statements

EUH210 - Safety data sheet available on request.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance type</td>
<td>Mono-constituent</td>
</tr>
<tr>
<td>Name</td>
<td>BIS(TRI-n-BUTYLSTANNYL)ACETYLENE</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>994-71-8</td>
</tr>
</tbody>
</table>
BIS(TRI-n-BUTYLSTANNYL)ACETYLENE
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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: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact: May cause skin irritation. Organotins may be absorbed through the skin.
Symptoms/effects after eye contact: May cause eye irritation.
Symptoms/effects after ingestion: May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed
Note to physician: Application of corticosteroid creams has been effective in treating severe skin irritation. If blisters develop, they may require abrasion to promote healing.

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 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 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. Provide good ventilation in process area to prevent formation of vapour.
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. Direct sunlight.
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
Bis(tri-n-buty1stannyl)acetylene (994-71-8)
<table>
<thead>
<tr>
<th>Country</th>
<th>ACGIH</th>
<th>ACGIH TWA (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy - Portugal - USA</td>
<td>ACGIH</td>
<td>0.1 mg/m³ as tin</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 combination organic vapor/acid gas (yellow 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>604.1 g/mol</td>
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<tr>
<td>Colour</td>
<td>Straw.</td>
</tr>
<tr>
<td>Odour</td>
<td>Mild.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.493</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>&lt; 0 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>140 - 145 °C @ 0.1 mm Hg</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>
</tbody>
</table>
BIS(TRI-n-BUTYLSTANNYL)ACETYLENE
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**SECTION 4: First aid measures**

4.1. First-aid measures

- Inhalation: Remove to fresh air. If breathing is difficult, give oxygen. If breathing stops, perform artificial respiration. Consult a physician.
- Skin contact: Wash the affected area with soap and water. If irritation persists, seek medical attention.
- Eye contact: Rinse eyes immediately with plenty of water. If irritation persists, seek medical attention.

4.2. Specific treatment of overexposure

- No specific treatments available.

**SECTION 5: Fire-fighting measures**

5.1. Extinguishing media

- Water: Use to cool the container as a last resort. It is not suitable for fire extinguishing.
- Dry chemical: Suitable for extinguishing fires.
- CO₂: Suitable for extinguishing fires.
- foam: Suitable for extinguishing fires.

5.2. Special hazards in fire-fighting

- Avoid the release of the substance into the environment as it is flammable.

**SECTION 6: Accidental release measures**

6.1. Personal protective equipment

- Wear appropriate personal protective equipment, such as self-contained breathing apparatus (SCBA), gloves, and protective clothing, when working with this substance.

6.2. Protective measures for emergency personnel

- Avoid breathing the vapors. Wear appropriate protective equipment.

6.3. Environmental precautions

- Prevent the release of the substance into the environment.

6.4. Methods and materials for cleaning up

- Use a suitable absorption material to clean up spills.

6.5. Disposal considerations

- Dispose of the spill material according to local regulations.

**SECTION 7: Handling and storage**

7.1. Precautions for safe handling

- Avoid breathing the vapors.
- Use appropriate personal protective equipment.
- Keep away from heat and sources of ignition.

7.2. Precautions for safe storage

- Store in a cool, dry place.
- Keep away from incompatible materials.

7.3. Incompatible materials

- Strong oxidizing agents.

7.4. Hazardous decomposition products

- May produce toxic fumes.

**SECTION 8: Exposition controls/ Personal protection**

8.1. Control parameters

- Limit values: Not available.

8.2. Protective equipment

- Respiratory protection: Use a suitable type of respirator.
- Protective clothing: Wear appropriate protective clothing.
- Gloves: Wear appropriate gloves.

**SECTION 9: Physical and chemical properties**

- Vapour pressure: < 0.1 mm Hg @ 20°C
- Relative vapour density at 20 °C: > 1
- Relative density: 1.17
- Solubility: Insoluble in water.
- Log Pow: No data available
- Log Kow: No data available
- Viscosity, kinematic: No data available
- Viscosity, dynamic: No data available
- Explosive properties: No data available
- Oxidising properties: No data available
- Explosive limits: No data available

**SECTION 10: Stability and reactivity**

10.1. Reactivity

- No additional information available.

10.2. Chemical stability

- Stable.

10.3. Possibility of hazardous reactions

- Direct sunlight causes slow degradation to an inorganic tin salt.

10.4. Conditions to avoid


10.5. Incompatible materials

- Direct sunlight. Oxidizing agent.

10.6. Hazardous decomposition products

- Organic acid vapors. Tin oxides.

**SECTION 11: Toxicological information**

11.1. Information on toxicological effects

- Acute toxicity: Not classified
- Skin corrosion/irritation: Not classified
- Serious eye damage/irritation: Not classified
- Respiratory or skin sensitisation: Not classified
- 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
- Symptoms/effects after inhalation: May cause irritation to the respiratory tract.
- Symptoms/effects after skin contact: May cause skin irritation. Organotins may be absorbed through the skin.
- Symptoms/effects after eye contact: May cause eye irritation.
- Symptoms/effects after ingestion: May be harmful if swallowed.

**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
**BIS(TRI-n-BUTYLSTANNYL)ACETYLENE**

**Safety Data Sheet**

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Details</th>
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</thead>
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<tr>
<td>12.4.</td>
<td>Mobility in soil</td>
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<td>12.5.</td>
<td>Results of PBT and vPvB assessment</td>
<td>No additional information available</td>
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<td>12.6.</td>
<td>Other adverse effects</td>
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**SECTION 13: Disposal considerations**

<table>
<thead>
<tr>
<th>13.1. Waste treatment methods</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewage disposal recommendations</td>
<td>Do not dispose of waste into sewer.</td>
</tr>
<tr>
<td>Product/Packaging disposal recommendations</td>
<td>Dispose in a safe manner in accordance with local/national regulations.</td>
</tr>
<tr>
<td>Ecology - waste materials</td>
<td>Avoid release to the environment.</td>
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**SECTION 14: Transport information**

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<th>14.1. UN number</th>
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<tr>
<td>UN-No. (ADR)</td>
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<tr>
<td>UN-No. (IMDG)</td>
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<td>UN-No. (IATA)</td>
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<tr>
<td>UN-No. (ADN)</td>
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</tr>
<tr>
<td>UN-No. (RID)</td>
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</table>

<table>
<thead>
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<th>14.2. UN proper shipping name</th>
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</thead>
<tbody>
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<td>Proper Shipping Name (ADR)</td>
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<td>Proper Shipping Name (IMDG)</td>
<td>Not applicable</td>
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<td>Proper Shipping Name (IATA)</td>
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<tr>
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<td>Not applicable</td>
</tr>
<tr>
<td>Proper Shipping Name (RID)</td>
<td>Not applicable</td>
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</table>

<table>
<thead>
<tr>
<th>14.3. Transport hazard class(es)</th>
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<td>ADR</td>
<td>Transport hazard class(es) (ADR)</td>
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<tr>
<td>IMDG</td>
<td>Transport hazard class(es) (IMDG)</td>
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<td>IATA</td>
<td>Transport hazard class(es) (IATA)</td>
</tr>
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<td>ADN</td>
<td>Transport hazard class(es) (ADN)</td>
</tr>
<tr>
<td>RID</td>
<td>Transport hazard class(es) (RID)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.4. Packing group</th>
<th></th>
</tr>
</thead>
<tbody>
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<td>Packing group (ADR)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group (IMDG)</td>
<td>Not applicable</td>
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<td>Packing group (IATA)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group (ADN)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group (RID)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.5. Environmental hazards</th>
<th></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
  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
BIS(TRI-n-BUTYLSTANNYL)ACETYLENE is not on the REACH Candidate List
BIS(TRI-n-BUTYLSTANNYL)ACETYLENE is not on the REACH Annex XIV List
BIS(TRI-n-BUTYLSTANNYL)ACETYLENE 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.

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

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

Other information: Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

EUH210 Safety data sheet available on request.
BIS(TRI-n-BUTYLSTANNYL)ACETYLENE
Safety Data Sheet

SDS EU (REACH Annex II) - Custom

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