## 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>N,O-BIS(TRIMETHYLSILYL)TRIFLUOROACETAMIDE</td>
</tr>
<tr>
<td>Product code</td>
<td>SIB1876.0</td>
</tr>
<tr>
<td>Formula</td>
<td>C8H18F3NOSi2</td>
</tr>
<tr>
<td>Synonyms</td>
<td>BSTFA; TRIMETHYLSILYL 2,2,2-TRIFLUORO-N-(TRIMETHYLSILYL)ACETIMIDATE; TRIMETHYLSILYL 2,2,2-TRIFLUORO-N-TRIMETHYLSILYLETHANEIMINE</td>
</tr>
<tr>
<td>Chemical family</td>
<td>ORGANOAMINOSILANE</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Use of the substance/mixture</th>
<th>Chemical intermediate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>For research use only</td>
</tr>
</tbody>
</table>

### 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

### 1.4. Emergency telephone number

<table>
<thead>
<tr>
<th>Emergency number</th>
<th>CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)</th>
</tr>
</thead>
</table>

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification (GHS-US)**

- Flam. Liq. 3: H226  
- Skin Corr. 1C: H314  
- Eye Dam. 1: H318

Full text of H-phrases: see section 16

### 2.2. Label elements

**GHS-US labeling**

- Hazard pictograms (GHS-US):
  - GHS02
  - GHS05

- Signal word (GHS-US): Danger

- Hazard statements (GHS-US):
  - H226: Flammable liquid and vapor  
  - H314: Causes severe skin burns and eye damage  
  - H318: Causes serious eye damage

- Precautionary statements (GHS-US):
  - P280: Wear protective clothing, protective gloves, eye protection  
  - P260: Do not breathe vapors  
  - P264: Wash hands thoroughly after handling  
  - P310: Immediately call a doctor  
  - P210: Keep away from heat, open flames, sparks. - No smoking  
  - P240: Ground/bond container and receiving equipment  
  - P242: Use only non-sparking tools  
  - P243: Take precautionary measures against static discharge  
  - P241: Use explosion-proof electrical equipment  
  - P307+P378: In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish  
  - P301+P330+P331: If swallowed: rinse mouth. Do NOT induce vomiting  
  - P303+P361+P353: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
  - P304+P340: If inhaled: Remove person to fresh air and keep comfortable for breathing  
  - P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
  - P363: Wash contaminated clothing before reuse
N,O-BIS(TRIMETHYLSILYL)TRIFLUOROACETAMIDE
Safety Data Sheet

2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS-US)
No data available

SECTION 3: Composition/information on ingredients
3.1. Substance
Substance type : Mono-constituent
Name : N,O-BIS(TRIMETHYLSILYL)TRIFLUOROACETAMIDE
CAS No : 25561-30-2
EC no : 247-103-9

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trimethylsilyl 2,2,2-trifluoro-N-(trimethylsilyl)acetimidate (CAS No) 25561-30-2</td>
<td>&gt; 95</td>
<td>Flam. Liq. 3, H226 Skin Corr. 1C, H314 Eye Dam. 1, H318</td>
<td></td>
</tr>
</tbody>
</table>

3.2. Mixture
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 immediate 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 immediate 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/injuries : Causes severe skin burns and eye damage.


Symptoms/injuries after skin contact : Causes (severe) skin burns.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : No information available.

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

SECTION 5: Firefighting measures
5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture
Fire hazard : Flammable liquid and vapor. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

Explosion hazard : May form flammable/explosive vapor-air mixture.

5.3. Advice for firefighters
Firefighting instructions : Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.

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
General measures : Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel
Emergency procedures : Evacuate unnecessary personnel.
6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper 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

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

Additional hazards when processed: Handle empty containers with care because residual vapors are flammable.
Precautions for safe handling: Containers must be properly grounded before beginning transfer. Provide good ventilation in process area to prevent accumulation of vapors. Take precautionary measures against static discharge. Use only non-sparking tools. Do not breathe vapors.
Hygiene measures: Wash contaminated clothing before reuse. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment.
Storage conditions: Keep container tightly closed.
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 or face shield. Contact lenses should not be worn.
Skin and body protection: Wear suitable protective clothing.
Respiratory protection: NIOSH-certified combination organic vapor - amine gas (brown 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: 257.4 g/mol
Color: Straw.
Odor: Mild.
Odor threshold: No data available
Refractive index: 1.384
pH: No data available
Relative evaporation rate (butyl acetate=1): No data available
Melting point: -10 °C
Freezing point: No data available
Boiling point: 45 - 50 °C @ 15 mm Hg
Flash point: 24 °C
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): Flammable liquid and vapor
Vapor pressure: 15 mm Hg @ 45°C

12/31/2014 EN (English US) SDS ID: SIB1876.0
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**Relative vapor density at 20 °C**: > 1
**Relative density**: 0.969
**VOC content**: < 3%
**Solubility**: Insoluble in water. Reacts with 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
**Oxidizing properties**: No data available
**Explosive limits**: No data available

### 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 when stored in sealed containers.

#### 10.3. Possibility of hazardous reactions
Reacts with water and moisture in air liberating, hexamethyldisiloxane (flammable) and trifluoracetamide.

#### 10.4. Conditions to avoid
Heat. Open flame. Sparks. Degrades at temperatures above 80°C.

#### 10.5. Incompatible materials

#### 10.6. Hazardous decomposition products

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye damage.</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>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Symptoms/injuries after skin contact</td>
<td>Causes (severe) skin burns.</td>
</tr>
<tr>
<td>Symptoms/injuries after eye contact</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>Symptoms/injuries after ingestion</td>
<td>No information available</td>
</tr>
</tbody>
</table>

**A related hydrolysis product, acetamide, is an experimental carcinogen, neoplastigen and teratogen.**

### SECTION 12: Ecological information

#### 12.1. Toxicity
No additional information available

#### 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**

<table>
<thead>
<tr>
<th>Other adverse effects</th>
<th>Effect on ozone layer</th>
<th>Effect on the global warming</th>
</tr>
</thead>
<tbody>
<tr>
<td>This substance may be hazardous to the environment.</td>
<td>:</td>
<td>No known ecological damage caused by this product.</td>
</tr>
</tbody>
</table>

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

<table>
<thead>
<tr>
<th>Waste disposal recommendations</th>
<th>Additional information</th>
<th>Ecology - waste materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>May be incinerated. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.</td>
<td>Handle empty containers with care because residual vapors are flammable.</td>
<td>Avoid release to the environment.</td>
</tr>
</tbody>
</table>

**SECTION 14: Transport information**

**14.1. UN number**

<table>
<thead>
<tr>
<th>UN-No.(DOT)</th>
<th>DOT NA no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2924</td>
<td>UN2924</td>
</tr>
</tbody>
</table>

**14.2. UN proper shipping name**

<table>
<thead>
<tr>
<th>Proper Shipping Name (DOT)</th>
<th>Department of Transportation (DOT) Hazard Classes</th>
<th>Hazard labels (DOT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLAMMABLE LIQUIDS, CORROSIVE, N.O.S. (N,O-BIS(TRIMETHYLSILYL)TRIFLUOROACETAMIDE)</td>
<td>3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120</td>
<td>3 - Flammable liquid 8 - Corrosive</td>
</tr>
</tbody>
</table>

**DOT Symbols**

- G - Identifies PSN requiring a technical name
- III - Minor Danger

**14.3. Additional information**

<table>
<thead>
<tr>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>No supplementary information available.</td>
</tr>
</tbody>
</table>

**Transport by sea**

<table>
<thead>
<tr>
<th>DOT Vessel Stowage Location</th>
<th>DOT Vessel Stowage Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.</td>
<td>40 - Stow “clear of living quarters”</td>
</tr>
</tbody>
</table>

**Air transport**

<table>
<thead>
<tr>
<th>DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)</th>
<th>DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 L</td>
<td>60 L</td>
</tr>
</tbody>
</table>

**SECTION 15: Regulatory information**

**15.1. US Federal regulations**

**N,O-BIS(TRIMETHYLSILYL)TRIFLUOROACETAMIDE (25561-30-2)**

<table>
<thead>
<tr>
<th>TSCA Exemption/Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAUTION: This material is supplied for research and development purposes subject to the R&amp;D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a &quot;technically qualified individual&quot; as defined by 40 CFR 720.3(ee). The use of this material for &quot;commercial purposes&quot; as defined by 40 CFR 720.3(r) is not permitted in the United States.</td>
</tr>
</tbody>
</table>

**Trimethylsilyl 2,2,2-trifluoro-N-(trimethylsilyl)acetimidate (25561-30-2)**

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

**15.2. International regulations**
N,O-BIS(TRIMETHYLSILYL)TRIFLUOROACETAMIDE
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15.3. US State regulations

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N,O-BIS(TRIMETHYLSILYL)TRIFLUOROACETAMIDE (25561-30-2)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

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.

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H-Phrase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation Category 1</td>
</tr>
<tr>
<td>Flam. Liq. 3</td>
<td>Flammable liquids Category 3</td>
</tr>
<tr>
<td>Skin Corr. 1C</td>
<td>Skin corrosion/irritation Category 1C</td>
</tr>
<tr>
<td>H226</td>
<td>Flammable liquid and vapor</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
</tbody>
</table>

HMIS III Rating:
- Health: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
- Flammability: 3 Serious Hazard
- Physical: 1 Slight Hazard

Prepared by safety and environmental affairs.

Date of issue: 12/31/2014
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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