SECTION 1: Identification

1.1. Identification

Product name: t-BUTYLDIMETHYLCHLOROSILANE
Product code: SIB1935.0
Product form: Substance
Physical state: Solid
Formula: C₆H₁₅ClSi
Synonyms: CHLORODIMETHYL-t-BUTYLSILANE; tert-BUTYLCHLORODIMETHYLSILANE; CHLORO(1,1-DIMETHYLETHYL)/DIMETHYLSILANE
Chemical family: ORGANOCHLOROSILANE

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
Flammable solids Category 2
Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1

Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling
Hazard pictograms (GHS US):

Signal word (GHS US): Danger
Hazard statements (GHS US):
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P260 - Do not breathe dust.
P264 - Wash hands thoroughly after handling.
P210 - Keep away from heat, open flames, sparks. - No smoking.
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical equipment
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
P310 - Immediately call a doctor
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use water spray or fog, foam, carbon dioxide, dry chemical to extinguish.
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

Substance type: Mono-constituent
Name: t-BUTYLDIMETHYLCHLOROSILANE
CAS-No.: 18162-48-6

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>t-Butyldimethylchlorosilane</td>
<td>(CAS-No.) 18162-48-6</td>
<td>&gt; 95</td>
<td>Flam. Sol. 2, H228 Skin Corr. 1B, H314 Eye Dam. 1, H318</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. Get medical advice/attention.

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 (acute and delayed)

Symptoms/effects: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact: Causes (severe) skin burns.
Symptoms/effects after eye contact: Causes serious eye damage.
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


5.2. Specific hazards arising from the chemical

Fire hazard: Flammable solid. Irritating fumes of hydrogen chloride 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: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

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. 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
Precautions for safe handling: Avoid contact with skin and eyes. Do not breathe dust. Provide local exhaust or general room ventilation to minimize exposure to dust. Take precautionary measures against static discharge. Use only non-sparking tools.

Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: 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.

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
No additional information available

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 or face shield. Contact lenses should not be worn

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
NIOSH-certified dust and mist (teal cartridge) respirator.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties
Physical state: Solid
Appearance: Solid
Molecular mass: 150.72 g/mol
Color: Translucent.
Odor threshold: No data available
Refractive index: No data available
pH: No data available
Relative evaporation rate (butyl acetate=1): > 1
Melting point: 87 - 90 °C
Freezing point: No data available
Boiling point: 124 - 126 °C
Flash point: 22 °C
Auto-ignition temperature: 405 °C
t-BUTYLDIMETHYLCHLOROSILANE
Safety Data Sheet

**Decomposition temperature**: No data available
**Flammability (solid, gas)**: Flammable solid
**Vapor pressure**: 476 mm Hg @ 100˚C
**Relative vapor density at 20 °C**: > 1
**Relative density**: 0.83
**% Volatiles**: > 95%
**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
**Oxidizing properties**: No data available
**Explosion 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 in sealed containers stored under a dry inert atmosphere.

10.3. **Possibility of hazardous reactions**
Reacts with water and moisture in air, liberating hydrogen chloride.

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

10.5. **Incompatible materials**
Alkalis. Oxidizing agent.

10.6. **Hazardous decomposition products**

**SECTION 11: Toxicological information**

11.1. **Information on toxicological effects**

- **Acute toxicity**: Not classified
- **Skin corrosion/irritation**: Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**: Causes serious eye damage.
- **Respiratory or skin sensitization**: Not classified
- **Germ cell mutagenicity**: Not classified
- **Carcinogenicity**: Not classified
- **Reproductive toxicity**: Not classified
- **Specific target organ toxicity – single exposure**: Not classified
- **Specific target organ toxicity – repeated exposure**: Not classified
- **Aspiration hazard**: Not classified
- **Symptoms/effects after inhalation**: May cause irritation to the respiratory tract.
- **Symptoms/effects after skin contact**: Causes (severe) skin burns.
- **Symptoms/effects after eye contact**: Causes serious eye damage.
- **Symptoms/effects after ingestion**: May be harmful if swallowed.
- **Reason for classification**: Expert judgment

**SECTION 12: Ecological information**

12.1. **Toxicity**
No additional information available

12.2. **Persistence and degradability**
No additional information available
### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

- **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

- **UN-No.(DOT)**: 2925
- **DOT NA no.**: UN2925

#### 14.2. UN proper shipping name

- **Transport document description**: UN2925 Flammable solids, corrosive, organic, n.o.s. (t-BUTYLDIMETHYLCHLOROSILANE), 4.1 (8), II
- **Proper Shipping Name (DOT)**: Flammable solids, corrosive, organic, n.o.s. (t-BUTYLDIMETHYLCHLOROSILANE)
- **Class (DOT)**: 4.1 - Class 4.1 - Flammable Solid 49 CFR 173.124
- **Packing group (DOT)**: II - Medium Danger
- **Hazard labels (DOT)**: 4.1 - Flammable solid 8 - Corrosive

- **DOT Packaging Non Bulk (49 CFR 173.xxx)**: 212
- **DOT Packaging Bulk (49 CFR 173.xxx)**: 242
- **DOT Packaging Exceptions (49 CFR 173.xxx)**: None
- **DOT Symbols**: G - Identifies PSN requiring a technical name

#### 14.3. Additional information

- **Emergency Response Guide (ERG) Number**: 134
- **Other information**: No supplementary information available.

#### Transport by sea

- **DOT Vessel Stowage Location**: D - The material must be stowed “on deck only” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.
- **DOT Vessel Stowage Other**: 40 - Stow “clear of living quarters”

#### Air transport

- **DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)**: 15 kg
- **DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)**: 50 kg

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

- **t-Butyldimethylchlorosilane (18162-48-6)**
  - Listed on the United States TSCA (Toxic Substances Control Act) inventory
15.2. International regulations

**CANADA**
- t-Butyldimethylchlorosilane (18162-48-6)
  - Listed on the Canadian NDSL (Non-Domestic Substances List)

**EU-Regulations**
- t-Butyldimethylchlorosilane (18162-48-6)
  - Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

**National regulations**
- t-Butyldimethylchlorosilane (18162-48-6)
  - Listed on the AICS (Australian Inventory of Chemical Substances)
  - 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 NZIoC (New Zealand Inventory of Chemicals)
  - Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

**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>H228</th>
<th>Flammable solid</th>
</tr>
</thead>
<tbody>
<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>

**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**: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
- **Flammability**: 4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)
- **Physical**: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Prepared by safety and environmental affairs.

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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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