

**t-BUTYLDIMETHYLCHLOROGERMANE**

Safety Data Sheet GEB1933

Date of issue: 05/05/2016 Version: 1.0

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product form	: Substance
Physical state	: Solid
Substance name	: t-BUTYLDIMETHYLCHLOROGERMANE
Product code	: GEB1933
Formula	: C6H15ClGe
Synonyms	: CHLORODIMETHYL-t-BUTYLGERMANE
Chemical family	: ORGANOCHLOROGERMANE

**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](mailto:info@gelest.com) - [www.gelest.com](http://www.gelest.com)**GELEST INC.**Fritz-Klatte-Strasse 8  
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[info@gelestde.com](mailto:info@gelestde.com) - [www.gelestde.com](http://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]**

Flammable solids, Category 2 H228

Skin corrosion/irritation, Category 1B H314

Serious eye damage/eye irritation, Category 1 H318

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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

GHS05

Signal word (CLP) : Danger

Hazard statements (CLP) : H228 - Flammable solid.

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Precautionary statements (CLP)	: H314 - Causes severe skin burns and eye damage. : P280 - Wear protective gloves/protective clothing/eye protection/face protection. : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. : P240 - Ground/bond container and receiving equipment. : P260 - Do not breathe dust. : P264 - Wash hands thoroughly after handling. : P310 - Immediately call a POISON CENTER or doctor/physician
EUH-statements	: EUH014 - Reacts violently with water.

### 2.3. Other hazards

Other hazards not contributing to the classification	: Hydrogen chloride may be formed by reaction with water and moisture in air. The US OSHA PEL (TWA) for hydrogen chloride is 5 ppm.
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## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type	: Mono-constituent
Name	: t-BUTYLDIMETHYLCHLOROGERMANE
CAS-No.	: 41879-34-9

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
t-Butyldimethylchlorogermane	(CAS-No.) 41879-34-9	95 - 100	Flam. Sol. 2, H228 Skin Corr. 1B, H314 Eye Dam. 1, H318

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 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 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 if you feel unwell.

### 4.2. Most important symptoms and effects, both 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. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media	: Water.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Flammable solid. Irritating fumes of hydrogen chloride and organic acid vapors may develop when material is exposed to water or open flame.
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### 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 contact with skin and eyes. Do not breathe dust.

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### 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 product 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 : 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 contact with skin and eyes. Do not breathe dust. Ground/bond container and receiving equipment. Avoid dust formation. Provide local exhaust or general room ventilation to minimize exposure to dust. 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 : Use explosion-proof electrical equipment.

Storage conditions : Keep container tightly closed. Store locked up.

Incompatible materials : Alkalis. 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 or face shield. 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.

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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Solid.
Molecular mass	: 195.24 g/mol
Colour	: Translucent.
Odour	: Acrid odor of camphor. Similar to hydrogen chloride.
Odour threshold	: No data available
Refractive index	: No additional information available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: > 1
Melting point	: 93 - 94 °C
Freezing point	: No data available
Boiling point	: 147 - 154 °C
Flash point	: 34 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable solid.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: > 1
Relative density	: < 1
% 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
Oxidising 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 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

Carbon monoxide. Formaldehyde. Germanium dioxide. Hydrogen chloride. Organic acid vapors.

### 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 sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

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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	: 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

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

Other adverse effects : This substance may be hazardous to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Sewage disposal recommendations	: Do not dispose of waste into sewer.
Product/Packaging disposal recommendations	: 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)	: 2921
UN-No. (IMDG)	: 2921
UN-No. (IATA)	: 2921
UN-No. (ADN)	: 2921
UN-No. (RID)	: 2921

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: CORROSIVE SOLID, FLAMMABLE, N.O.S.
Proper Shipping Name (IMDG)	: CORROSIVE SOLID, FLAMMABLE, N.O.S.
Proper Shipping Name (IATA)	: Corrosive solid, flammable, n.o.s.
Proper Shipping Name (ADN)	: CORROSIVE SOLID, FLAMMABLE, N.O.S.
Proper Shipping Name (RID)	: CORROSIVE SOLID, FLAMMABLE, N.O.S.
Transport document description (ADR)	: UN 2921 CORROSIVE SOLID, FLAMMABLE, N.O.S. (t-BUTYLDIMETHYLCHLOROGERMANE), 8 (4.1), II, (E)
Transport document description (IMDG)	: UN 2921 CORROSIVE SOLID, FLAMMABLE, N.O.S. (t-BUTYLDIMETHYLCHLOROGERMANE), 8 (4.1), II
Transport document description (IATA)	: UN 2921 Corrosive solid, flammable, n.o.s. (t-BUTYLDIMETHYLCHLOROGERMANE), 8 (4.1), II
Transport document description (ADN)	: UN 2921 CORROSIVE SOLID, FLAMMABLE, N.O.S. (t-BUTYLDIMETHYLCHLOROGERMANE), 8 (4.1), II

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Transport document description (RID) : UN 2921 CORROSIVE SOLID, FLAMMABLE, N.O.S. (t-BUTYLDIMETHYLCHLOROGERMANE), 8 (4.1), II

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 8 (4.1)  
Danger labels (ADR) : 8, 4.1



#### IMDG

Transport hazard class(es) (IMDG) : 8 (4.1)  
Danger labels (IMDG) : 8, 4.1



#### IATA

Transport hazard class(es) (IATA) : 8 (4.1)  
Hazard labels (IATA) : 8, 4.1



#### ADN

Transport hazard class(es) (ADN) : 8 (4.1)  
Danger labels (ADN) : 8, 4.1



#### RID

Transport hazard class(es) (RID) : 8 (4.1)  
Danger labels (RID) : 8, 4.1



### 14.4. Packing group

Packing group (ADR) : II  
Packing group (IMDG) : II  
Packing group (IATA) : II  
Packing group (ADN) : II  
Packing group (RID) : II

### 14.5. Environmental hazards

Dangerous for the environment : No

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Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : CF2  
Special provisions (ADR) : 274  
Limited quantities (ADR) : 1kg  
Excepted quantities (ADR) : E2  
Packing instructions (ADR) : P002, IBC08  
Mixed packing provisions (ADR) : MP10  
Portable tank and bulk container instructions (ADR) : T3  
Portable tank and bulk container special provisions (ADR) : TP33  
Tank code (ADR) : SGAN, L4BN  
Vehicle for tank carriage : AT  
Transport category (ADR) : 2  
Special provisions for carriage - Packages (ADR) : V11  
Hazard identification number (Kemler No.) : 84  
Orange plates :



Tunnel restriction code (ADR) : E  
EAC code : 2X

#### - Transport by sea

Special provisions (IMDG) : 274  
Limited quantities (IMDG) : 1 kg  
Excepted quantities (IMDG) : E2  
Packing instructions (IMDG) : P002  
IBC packing instructions (IMDG) : IBC08  
IBC special provisions (IMDG) : B2, B4  
Tank instructions (IMDG) : T3  
Tank special provisions (IMDG) : TP33  
EmS-No. (Fire) : F-A  
EmS-No. (Spillage) : S-G  
Stowage category (IMDG) : B  
Stowage and handling (IMDG) : SW1, H2  
Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes.

#### - Air transport

PCA Excepted quantities (IATA) : E2  
PCA Limited quantities (IATA) : Y844  
PCA limited quantity max net quantity (IATA) : 5kg  
PCA packing instructions (IATA) : 859  
PCA max net quantity (IATA) : 15kg  
CAO packing instructions (IATA) : 863  
CAO max net quantity (IATA) : 50kg  
ERG code (IATA) : 8S

#### - Inland waterway transport

Classification code (ADN) : CF2  
Special provisions (ADN) : 274  
Limited quantities (ADN) : 1 kg  
Excepted quantities (ADN) : E2  
Equipment required (ADN) : PP, EP

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Number of blue cones/lights (ADN) : 1

### - Rail transport

Classification code (RID) : CF2  
Special provisions (RID) : 274  
Limited quantities (RID) : 1kg  
Excepted quantities (RID) : E2  
Packing instructions (RID) : P002, IBC08  
Special packing provisions (RID) : B4  
Mixed packing provisions (RID) : MP10  
Portable tank and bulk container instructions (RID) : T3  
Portable tank and bulk container special provisions (RID) : TP33  
Tank codes for RID tanks (RID) : SGAN, L4BN  
Transport category (RID) : 2  
Special provisions for carriage – Packages (RID) : W11  
Colis express (express parcels) (RID) : CE10  
Hazard identification number (RID) : 84

### 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  
t-BUTYLDIMETHYLCHLOROGERMANE is not on the REACH Candidate List  
t-BUTYLDIMETHYLCHLOROGERMANE is not on the REACH Annex XIV List

% Volatiles : > 95 %

#### 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-lijst van kankerverwekkende stoffen : The substance is not listed  
SZW-lijst 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

Class for fire hazard : Class II-1  
Store unit : 5 liter  
Classification remarks : R10 <H228;H314>; Emergency management guidelines for the storage of flammable liquids must be followed  
Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Abbreviations and acronyms:



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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:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Sol. 2	Flammable solids, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H228	Flammable solid.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
EUH014	Reacts violently with water.

SDS EU (REACH Annex II) - Custom

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