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

1.1. Product identifier

Product form : Substance
Physical state : Liquid
Substance name : 11-ACETOXYUNDECYLTRICHLOROSILANE
Product code : SIA0114.0
Formula : C13H25Cl3O2Si
Synonyms : 1-(TRICHLOROSILYLUNDECYL)ACETATE
Chemical family : ORGANOCHLOROSILANE

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]
Skin corrosion/irritation, Category 1B : H314
Serious eye damage/eye irritation, Category 1 : H318
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation : H335
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]

Signal word (CLP) : Danger
Hazard pictograms (CLP) :

H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.

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Precautionary statements (CLP) :
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P260 - Do not breathe vapours.
P264 - Wash hands thoroughly after handling.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 POISON CENTER or doctor/physician

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Substance type : Multi-constituent
Name : 11-ACETOXYUNDECYLTRICHLOROSILANE
CAS-No. : 53605-77-9

<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>11-Acetoxyundecyltrichlorosilane</td>
<td>(CAS-No.) 53605-77-9</td>
<td>&gt; 95</td>
<td>Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335</td>
</tr>
<tr>
<td>Other Organosilanes</td>
<td></td>
<td>&lt; 5</td>
<td>Not classified</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. Get medical advice/attention.
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.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/effects : Causes severe skin burns and eye damage.
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
Note to physician: Organochlorosilanes react with water to form hydrochloric acid, consequently treatment for acid burns may be considered.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Unsuitable extinguishing media : Water.

5.2. Special hazards arising from the substance or mixture
Fire hazard : Irritating fumes of hydrogen chloride and organic acid vapors may develop when material is exposed to water or open flame.

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 vapour and mist.
SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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
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 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
Storage conditions : Keep container tightly closed. Store in sealed containers in the dark at <5°C.
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/acid gas (yellow 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 : 347.78 g/mol
Colour : Straw.
Odour : Acrid. Similar to hydrogen chloride.
Odour threshold : No data available
### 11-ACETOXYUNDECYLTRICHLOROSILANE

#### Safety Data Sheet

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refractive index</td>
<td>1.4583</td>
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<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>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>&lt; 0 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>147 - 149 °C @ 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>
<tr>
<td>Vapour pressure</td>
<td>&lt; 0.01 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>1.084</td>
</tr>
<tr>
<td>Solubility</td>
<td>Reacts with water.</td>
</tr>
<tr>
<td>Log Pow</td>
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</tr>
<tr>
<td>Log Kow</td>
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</tr>
<tr>
<td>Viscosity, kinematic</td>
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</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
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<tr>
<td>Oxidising properties</td>
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</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
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</tbody>
</table>

#### 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

Reacts with water and moisture in air, liberating hydrogen chloride.

#### 10.4 Conditions to avoid

Heat. Open flame. Sparks.

#### 10.5 Incompatible materials


#### 10.6 Hazardous decomposition products


### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Toxicity</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 sensitisation</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>STOT-single exposure</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Potential adverse human health effects and symptoms</td>
<td>Inhalation of large amounts is expected to cause necrosis of tracheal epithelium, bronchitis and interstitial pneumonia by analogy to animal tests for tetrachlorosilane.</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>Causes (severe) skin burns.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>Causes serious eye damage.</td>
</tr>
</tbody>
</table>

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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
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) : 2987
UN-No. (IMDG) : 2987
UN-No. (IATA) : 2987
UN-No. (ADN) : 2987
UN-No. (RID) : 2987

14.2. UN proper shipping name
Proper Shipping Name (ADR) : CHLOROSILANES, CORROSIVE, N.O.S.
Proper Shipping Name (IMDG) : CHLOROSILANES, CORROSIVE, N.O.S.
Proper Shipping Name (IATA) : Chlorosilanes, corrosive, n.o.s.
Proper Shipping Name (ADN) : CHLOROSILANES, CORROSIVE, N.O.S.
Proper Shipping Name (RID) : CHLOROSILANES, CORROSIVE, N.O.S.
Transport document description (ADR) : UN 2987 CHLOROSILANES, CORROSIVE, N.O.S. (11-ACETOXYUNDECYLTRICHLOROSILANE), 8, II, (E)
Transport document description (IMDG) : UN 2987 CHLOROSILANES, CORROSIVE, N.O.S. (11-ACETOXYUNDECYLTRICHLOROSILANE), 8, II
Transport document description (IATA) : UN 2987 Chlorosilanes, corrosive, n.o.s. (11-ACETOXYUNDECYLTRICHLOROSILANE), 8, II
Transport document description (ADN) : UN 2987 CHLOROSILANES, CORROSIVE, N.O.S. (11-ACETOXYUNDECYLTRICHLOROSILANE), 8, II
Transport document description (RID) : UN 2987 CHLOROSILANES, CORROSIVE, N.O.S. (11-ACETOXYUNDECYLTRICHLOROSILANE), 8, II

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR) : 8
Danger labels (ADR) : 8
11-ACETOXYUNDECYLTRICHLOROSILANE
Safety Data Sheet

<table>
<thead>
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<th>IMDG</th>
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<td>Transport hazard class(es) (IMDG)</td>
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<td>Danger labels (IMDG)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>IATA</th>
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<tbody>
<tr>
<td>Transport hazard class(es) (IATA)</td>
<td>8</td>
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<tr>
<td>Hazard labels (IATA)</td>
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<table>
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<tbody>
<tr>
<td>Transport hazard class(es) (ADN)</td>
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<tr>
<td>Danger labels (ADN)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>RID</th>
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</thead>
<tbody>
<tr>
<td>Transport hazard class(es) (RID)</td>
<td>8</td>
</tr>
<tr>
<td>Danger labels (RID)</td>
<td>8</td>
</tr>
</tbody>
</table>

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 |
| Marine pollutant                          | No |
| Other information                         | No supplementary information available |

14.6. Special precautions for user

- Overland transport

| Classification code (ADR)                  | C3 |
| Special provisions (ADR)                   | 548 |
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Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P010
Special packing provisions (ADR) : RR7
Mixed packing provisions (ADR) : MP15
Portable tank and bulk container instructions (ADR) : T14
Portable tank and bulk container special provisions (ADR) : TP2, TP7, TP27
Tank code (ADR) : L4BN
Vehicle for tank carriage : AT
Transport category (ADR) : 2
Hazard identification number (Kemler No.) : X80
Orange plates :

Tunnel restriction code (ADR) : E
EAC code : 4W

- Transport by sea
Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P010
Tank instructions (IMDG) : T14
Tank special provisions (IMDG) : TP2, TP7, TP13, TP27
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Stowage category (IMDG) : C
Stowage and handling (IMDG) : SW2
Properties and observations (IMDG) : Colourless liquids with a pungent odour. Immiscible with water. React violently with water or steam, evolving hydrogen chloride, an irritating and corrosive gas apparent as white fumes. When involved in a fire, evolve toxic gases. In the presence of moisture, highly corrosive to most metals. Cause burns to skin, eyes and mucous membranes.

- Air transport
PCA Excepted quantities (IATA) : E0
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : Forbidden
PCA max net quantity (IATA) : Forbidden
CAO packing instructions (IATA) : 876
CAO max net quantity (IATA) : 30L
Special provisions (IATA) : A1
ERG code (IATA) : 8L

- Inland waterway transport
Classification code (ADN) : C3
Special provisions (ADN) : 548
Limited quantities (ADN) : 0
Excepted quantities (ADN) : E0
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

- Rail transport
Classification code (RID) : C3
Special provisions (RID) : 548
Limited quantities (RID) : 0
Excepted quantities (RID) : E0
Packing instructions (RID) : P010
Mixed packing provisions (RID) : MP15
PORTABLE TANK AND BULK CONTAINER INSTRUCTIONS (RID):
- T14

PORTABLE TANK AND BULK CONTAINER SPECIAL PROVISIONS (RID):
- TP2, TP7, TP27

TANK CODES FOR RID TANKS (RID):
- L4BN

TRANSPORT CATEGORY (RID):
- 2

COLIS EXPRESS (EXPRESS PARCELS) (RID):
- CE6

HAZARD IDENTIFICATION NUMBER (RID):
- X80

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
11-ACETOXYUNDECYLTRICHLOROSILANE is not on the REACH Candidate List
11-ACETOXYUNDECYLTRICHLOROSILANE is not on the REACH Annex XIV List
11-ACETOXYUNDECYLTRICHLOROSILANE 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

Netherlands
- SZW-lijst van kankerverwekkende stoffen: The substance is not listed
- SZW-lijst van mutagene stoffen: The substance is not listed
- NIET-limietvaste lijst van voor de voortplanting giftige stoffen – Borstvoeding: The substance is not listed
- NIET-limietvaste lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid: The substance is not listed
- NIET-limietvaste lijst van voor de voortplanting giftige stoffen – Ontwikkeling: The substance is not listed

Denmark
- 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:
- 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
- Skin Corr. 1B: Skin corrosion/irritation, Category 1B
- STOT SE 3: Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
- H314: Causes severe skin burns and eye damage.
- H318: Causes serious eye damage.
- H335: May cause respiratory irritation.
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SDS EU (REACH Annex II) - Custom

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