SAFETY DATA SHEET

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

1.1 **Product identifiers**

<table>
<thead>
<tr>
<th>Product name</th>
<th>Chlorotrimethylsilane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Number</td>
<td>92361</td>
</tr>
<tr>
<td>Brand</td>
<td>Aldrich</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>75-77-4</td>
</tr>
</tbody>
</table>

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

Identified uses: Laboratory chemicals, Synthesis of substances

1.3 **Details of the supplier of the safety data sheet**

<table>
<thead>
<tr>
<th>Company</th>
<th>Sigma-Aldrich Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone</td>
<td>+1 314 771-5765</td>
</tr>
<tr>
<td>Fax</td>
<td>+1 800 325-5052</td>
</tr>
</tbody>
</table>

1.4 **Emergency telephone number**

| Emergency Phone #  | +1-703-527-3887       |

SECTION 2: Hazards identification

2.1 **Classification of the substance or mixture**

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

- Flammable liquids (Category 2), H225
- Acute toxicity, Oral (Category 3), H301
- Acute toxicity, Inhalation (Category 3), H331
- Acute toxicity, Dermal (Category 4), H312
- Skin corrosion (Category 1A), H314
- Serious eye damage (Category 1), H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 **GHS Label elements, including precautionary statements**

- **Pictogram**
- **Signal word** Danger
Hazard statement(s)
H225 Highly flammable liquid and vapour.
H301 + H331 Toxic if swallowed or if inhaled.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.

Precautionary statement(s)
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
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 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS
Reacts violently with water.

SECTION 3: Composition/information on ingredients

3.1 Substances
Synonyms : TMCS
            Trimethylchlorosilane
            Trimethylsilyl chloride

Formula : C₃H₉ClSi
Molecular weight : 108.64 g/mol
CAS-No. : 75-77-4
EC-No. : 200-900-5
The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorotrimethylsilane</td>
<td>Flam. Liq. 2; Acute Tox. 3; Acute Tox. 4; Skin Corr. 1A; Eye Dam. 1; H225, H301, H331, H312, H314, H318</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Dry powder, Dry sand

Unsuitable extinguishing media
Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture
Carbon oxides, Hydrogen chloride gas, silicon oxides
Flash back possible over considerable distance., Container explosion may occur under fire conditions.
5.3 **Advice for firefighters**
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 **Further information**
Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas.

**SECTION 6: Accidental release measures**

6.1 **Personal precautions, protective equipment and emergency procedures**
Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
For personal protection see section 8.

6.2 **Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 **Methods and materials for containment and cleaning up**
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Do not flush with water.

6.4 **Reference to other sections**
For disposal see section 13.

**SECTION 7: Handling and storage**

7.1 **Precautions for safe handling**
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
For precautions see section 2.2.

7.2 **Conditions for safe storage, including any incompatibilities**
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Never allow product to get in contact with water during storage.
Store under inert gas. Moisture sensitive.
Storage class (TRGS 510): 3: Flammable liquids

7.3 **Specific end use(s)**
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

**SECTION 8: Exposure controls/personal protection**

8.1 **Control parameters**
Components with workplace control parameters
<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorotrimethylsilane</td>
<td>75-77-4</td>
<td>CEIL</td>
<td>5 ppm</td>
<td>USA, Workplace Environmental Exposure Levels (WEEL)</td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

**Appropriate engineering controls**

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

**Personal protective equipment**

**Eye/face protection**

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Full contact**

Material: Nitrile rubber  
Minimum layer thickness: 0.4 mm  
Break through time: 480 min  
Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

**Splash contact**

Material: Nitrile rubber  
Minimum layer thickness: 0.2 mm  
Break through time: 30 min  
Material tested: Dermatril® P (KCL 743 / Aldrich Z677388, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
**Control of environmental exposure**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

- **a)** Appearance: Form: liquid
- **b)** Odour: No data available
- **c)** Odour Threshold: No data available
- **d)** pH: No data available
- **e)** Melting point/freezing point: Melting point/range: -40 °C (-40 °F)
- **f)** Initial boiling point and boiling range: 57 °C 135 °F
- **g)** Flash point: -28 °C (-18 °F) - closed cup
- **h)** Evaporation rate: No data available
- **i)** Flammability (solid, gas): No data available
- **j)** Upper/lower flammability or explosive limits: Upper explosion limit: 46 % (V) Lower explosion limit: 1.5 % (V)
- **k)** Vapour pressure: 278.6 hPa at 20 °C (68 °F)
- **l)** Vapour density: No data available
- **m)** Relative density: 0.856 g/mL at 25 °C (77 °F)
- **n)** Water solubility: 0.995 g/l at 24 °C (75 °F) - OECD Test Guideline 105
- **o)** Partition coefficient: n-octanol/water: log Pow: 1.19 at 25 °C (77 °F) - Bioaccumulation is not expected.
- **p)** Auto-ignition temperature: 407 °C (765 °F) at 1,013 hPa - ASTM E-659
- **q)** Decomposition temperature: No data available
- **r)** Viscosity: No data available
- **s)** Explosive properties: No data available
- **t)** Oxidizing properties: No data available

**9.2 Other safety information**
No data available

---

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**
Reacts violently with water.

**10.2 Chemical stability**
Stable under recommended storage conditions.
10.3 **Possibility of hazardous reactions**
Vapours may form explosive mixture with air. Reacts violently with water.

10.4 **Conditions to avoid**
Heat, flames and sparks. Exposure to moisture

10.5 **Incompatible materials**
Strong oxidizing agents

10.6 **Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas, silicon oxides
Other decomposition products - No data available
In the event of fire: see section 5

**SECTION 11: Toxicological information**

11.1 **Information on toxicological effects**

**Acute toxicity**
LD50 Oral - Rat - male - < 212 mg/kg (OECD Test Guideline 401)
LC50 Inhalation - Rat - male and female - 1 h - 4257 ppm (OECD Test Guideline 403)
Remarks: (calculated)
LD50 Dermal - Rabbit - male and female - 1,513 mg/kg (OECD Test Guideline 402)
No data available

**Skin corrosion/irritation**
Skin - Rabbit
Result: Causes burns. - 4 h (OECD Test Guideline 404)

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Causes burns. (Draize Test)
Causes serious eye damage.

**Respiratory or skin sensitisation**
No data available

**Germ cell mutagenicity**
Ames test
Escherichia coli/Salmonella typhimurium
Result: negative
Mutagenicity (mammal cell test): chromosome aberration.
Mouse lymphoma test
Result: negative
In vitro mammalian cell gene mutation test
Mouse lymphoma test
Result: negative
OECD Test Guideline 475
Rat - male - Bone marrow
Result: negative

**Carcinogenicity**
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

**Additional Information**
Repeated dose toxicity - Rat - male and female - Inhalation - 10 d
Subacute toxicity (ECHA)
RTECS: VV2710000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Nerves. - Irregularities - Based on Human Evidence
Nerves. - Irregularities - Based on Human Evidence

---

**SECTION 12: Ecological information**

**12.1 Toxicity**

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 271 mg/l - 96 h (OECD Test Guideline 203)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>semi-static test EC50 - Daphnia magna (Water flea) - 124 mg/l - 48 h (OECD Test Guideline 202)</td>
</tr>
<tr>
<td>Toxicity to algae</td>
<td>static test EC50 - Pseudokirchneriella subcapitata - 566 mg/l - 72 h (OECD Test Guideline 201)</td>
</tr>
<tr>
<td>Toxicity to bacteria</td>
<td>EC50 - activated sludge - 6,670 mg/l (OECD Test Guideline 209)</td>
</tr>
</tbody>
</table>

**12.2 Persistence and degradability**

Biodegradability: aerobic - Exposure time 28 d
Result: 0 % - Not readily biodegradable. (OECD Test Guideline 310)
12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

DOT (US)
UN number: 1298   Class: 3 (8)   Packing group: II
Proper shipping name: Trimethylchlorosilane
Reportable Quantity (RQ):
Poison Inhalation Hazard: No

IMDG
UN number: 1298   Class: 3 (8)   Packing group: II
Proper shipping name: TRIMETHYLCHLOROSILANE
EMS-No: F-E, S-C

IATA
UN number: 1298   Class: 3 (8)   Packing group: II
Proper shipping name: Trimethylchlorosilane
IATA Passenger: Not permitted for transport

SECTION 15: Regulatory information

SARA 302 Components
Chlorotrimethylsilane   CAS-No.   Revision Date
75-77-4               2007-07-01

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
Fire Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**
No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorotrimethylsilane</td>
<td>75-77-4</td>
<td>2007-07-01</td>
</tr>
</tbody>
</table>

**SECTION 16: Other information**

**Further information**

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