1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name: Chlorotrimethylsilane

Product Number: 386529
Brand: Aldrich
REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No.: 75-77-4

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

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company: Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO  63103
USA

Telephone: +1 800-325-5832
Fax: +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone #: (314) 776-6555

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
Substances and mixtures, which in contact with water, emit flammable gases (Category 3), H261
Acute toxicity, Inhalation (Category 3), H331
Acute toxicity, Dermal (Category 4), H312
Skin corrosion (Category 1A), H314
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

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.
H261: In contact with water releases flammable gases.
H312: Harmful in contact with skin.
H314: Causes severe skin burns and eye damage.
H331: Toxic if inhaled.
H335: May cause respiratory irritation.
Precautionary statement(s)
P210  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P231 + P232  Handle under inert gas. Protect from moisture.
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.
P271  Use only outdoors or in a well-ventilated area.
P280  Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P330 + P331  IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353  IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340  IF INHALED: Remove victim to fresh air and keep at rest in a position 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 POISON CENTER or doctor/ physician.
P322  Specific measures (see supplemental first aid instructions on this label).
P337 + P313  If eye irritation persists: Get medical advice/ attention.
P363  Wash contaminated clothing before reuse.
P370 + P378  In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P402 + P404  Store in a dry place. Store in a closed container.
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., Contact with water liberates toxic gas.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1  Substances

Synonyms:
- Trimethylchlorosilane
- Trimethylsilyl chloride

Formula: \( \text{C}_3\text{H}_9\text{ClSi} \)
Molecular Weight: 108.64 g/mol
CAS-No.: 75-77-4
EC-No.: 200-900-5

Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorotrimethylsilane</td>
<td>Flam. Liq. 2; Water-react. 3; Acute Tox. 3; Acute Tox. 4; Skin Corr. 1A; Eye Irrit. 2A; STOT SE 3; H225, H261, H312, H314, H331, H335</td>
<td>90 - 100 %</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.
4. **FIRST AID MEASURES**

4.1 Description of first aid measures

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

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

**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

5. **FIREFIGHTING MEASURES**

5.1 Extinguishing media

**Suitable extinguishing media**
Dry powder

5.2 Special hazards arising from the substance or mixture
No data available

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting 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.

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 an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water.

6.4 Reference to other sections
For disposal see section 13.

7. **HANDLING AND STORAGE**

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Flash back possible over considerable distance. Container explosion may occur under fire conditions. 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
Store under inert gas. 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.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 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: 0.4 mm
Break through time: 480 min
Material tested: Camatril® (KCL 730 / Aldrich Z677442, 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Form: liquid, clear</td>
</tr>
<tr>
<td></td>
<td>Colour: colourless</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>pungent</td>
</tr>
<tr>
<td><strong>Odour Threshold</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>Melting point/range: -40 °C (-40 °F) - lit.</td>
</tr>
<tr>
<td><strong>Initial boiling point and boiling range</strong></td>
<td>57 °C (135 °F) - lit.</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>-28.0 °C (-18.4 °F) - closed cup</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Upper/lower flammability or explosive limits</strong></td>
<td>Upper explosion limit: 46 %(V)</td>
</tr>
<tr>
<td></td>
<td>Lower explosion limit: 1.5 %(V)</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>250 hPa (188 mmHg) at 20 °C (68 °F)</td>
</tr>
<tr>
<td></td>
<td>800 hPa (600 mmHg) at 50 °C (122 °F)</td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>0.856 g/cm3 at 25 °C (77 °F)</td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>immiscible</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>400.0 °C (752.0 °F)</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>0.4 mm2/s at 25 °C (77 °F)</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></td>
<td>no data available</td>
</tr>
</tbody>
</table>

9.2 Other safety information
no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
Contact with water liberates toxic gas.

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. Extremes of temperature and direct sunlight. Exposure to moisture.

10.5 **Incompatible materials**
Strong acids, Strong bases, Strong oxidizing agents, Ketones, Aldehydes, Water

10.6 **Hazardous decomposition products**
Other decomposition products - no data available
In the event of fire: see section 5

11. **TOXICOLOGICAL INFORMATION**

11.1 **Information on toxicological effects**

**Acute toxicity**
LD50 Oral - rat - 4,862 mg/kg
Gastrointestinal: Other changes.

LC50 Inhalation - rat - 1 h - 12,900 mg/m³

LD50 Dermal - rabbit - 1,529 mg/kg
Remarks: Behavioral: Altered sleep time (including change in righting reflex). Diarrhoea Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

no data available

**Skin corrosion/irritation**
Skin - rabbit
Result: Severe skin irritation

**Serious eye damage/eye irritation**
Eyes - rabbit
Result: Eye irritation

**Respiratory or skin sensitisation**
no data available

**Germ cell mutagenicity**
no data available

**Carcinogenicity**
This material has not been classified by IARC, OSHA, ACGIH, EPA, or NTP as to its carcinogenicity, however, some studies have shown that this material may induce certain types of cancers.

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.

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

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 identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**
no data available

no data available

**Specific target organ toxicity - single exposure**
May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**
no data available
Aspiration hazard
do data available

Additional Information
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

12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available

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

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

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

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

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

IMDG
UN number: 1298 Class: 3 (8) Packing group: II
Proper shipping name: TRIMETHYLCHLOROSILANE
Marine pollutant: No

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

15. REGULATORY INFORMATION
REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

SARA 302 Components
The following components are subject to reporting levels established by SARA Title III, Section 302:

<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>2007-03-01</td>
</tr>
</tbody>
</table>

SARA 313 Components
SARA 313: 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, Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts 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>2007-03-01</td>
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</tbody>
</table>

Pennsylvania Right To Know Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
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</thead>
<tbody>
<tr>
<td>Chlorotrimethylsilane</td>
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<td>2007-03-01</td>
</tr>
</tbody>
</table>

New Jersey 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>2007-03-01</td>
</tr>
</tbody>
</table>

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

| Acute Tox.          | Acute toxicity                  |
| Eye Irrit.          | Eye irritation                   |
| Flam. Liq.          | Flammable liquids               |
| H225                | Highly flammable liquid and vapour. |
| H261                | In contact with water releases flammable gases. |
| H312                | Harmful in contact with skin.    |
| H314                | Causes severe skin burns and eye damage. |
| H319                | Causes serious eye irritation.   |
| H331                | Toxic if inhaled.                |
| H335                | May cause respiratory irritation.|
| Skin Corr.          | Skin corrosion                   |

HMIS Rating

Health hazard: 3
Chronic Health Hazard: *
Flammability: 3
Physical Hazard: 3

NFPA Rating

Health hazard: 3
Fire Hazard: 3
Reactivity Hazard: 0

Further information
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or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Preparation Information
Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 4.7  Revision Date: 02/24/2014  Print Date: 02/27/2014