

## SAFETY DATA SHEET

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

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**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

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**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	:	TMCS Trimethylchlorosilane Trimethylsilyl chloride
Formula	:	C <sub>3</sub> H <sub>9</sub> ClSi
Molecular Weight	:	108.64 g/mol
CAS-No.	:	75-77-4
EC-No.	:	200-900-5

### Hazardous components

Component	Classification	Concentration
<b>Chlorotrimethylsilane</b>		
	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	90 - 100 %

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

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## 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

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## 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.

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## 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.

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## 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

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# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## 8.1 Control parameters

### Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Chlorotrimethylsilane	75-77-4	CEIL	5 ppm	USA. Workplace Environmental Exposure Levels (WEEL)

## 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.

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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

- |   |   |
|---|---|
| a) Appearance                                   | Form: liquid, clear<br>Colour: colourless                                   |
| b) Odour  | pungent   |
| c) Odour Threshold                              | no data available   |
| d) pH   | no data available   |
| e) Melting point/freezing point                 | Melting point/range: -40 °C (-40 °F) - lit.                                 |
| f) Initial boiling point and boiling range      | 57 °C (135 °F) - lit.   |
| g) Flash point                                  | -28.0 °C (-18.4 °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)<br>Lower explosion limit: 1.5 %(V)           |
| k) Vapour pressure                              | 250 hPa (188 mmHg) at 20 °C (68 °F)<br>800 hPa (600 mmHg) at 50 °C (122 °F) |
| l) Vapour density                               | no data available   |
| m) Relative density                             | 0.856 g/cm <sup>3</sup> at 25 °C (77 °F)                                    |
| n) Water solubility                             | immiscible  |
| o) Partition coefficient: n-octanol/water       | no data available   |
| p) Auto-ignition temperature                    | 400.0 °C (752.0 °F)   |
| q) Decomposition temperature                    | no data available   |
| r) Viscosity                                    | 0.4 mm <sup>2</sup> /s at 25 °C (77 °F) -                                   |
| s) Explosive properties                         | no data available   |
| t) Oxidizing properties                         | no data available   |

### **9.2 Other safety information**

no data available

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## **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

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### 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

##### Acute toxicity

LD50 Oral - rat - 4,862 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity). Lungs, Thorax, or Respiration:Dyspnea.

Gastrointestinal:Other changes.

LC50 Inhalation - rat - 1 h - 12,900 mg/m<sup>3</sup>

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**

no 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

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**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

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**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.

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**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      EMS-No: F-E, S-C

Proper shipping name: TRIMETHYLCHLOROSILANE

Marine pollutant: No

**IATA**

UN number: 1298      Class: 3 (8)      Packing group: II

Proper shipping name: Trimethylchlorosilane

IATA Passenger: Not permitted for transport

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**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:

	CAS-No.	Revision Date
Chlorotrimethylsilane	75-77-4	2007-03-01

### 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

	CAS-No.	Revision Date
Chlorotrimethylsilane	75-77-4	2007-03-01

### Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Chlorotrimethylsilane	75-77-4	2007-03-01

### New Jersey Right To Know Components

	CAS-No.	Revision Date
Chlorotrimethylsilane	75-77-4	2007-03-01

### 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.

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## 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](http://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

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