

**SIGMA-ALDRICH**

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**Material Safety Data Sheet**Version 4.6  
Revision Date 08/09/2013  
Print Date 11/04/2013**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Chlorotrimethylsilane

Product Number : 386529  
Brand : Aldrich

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

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

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

**2. HAZARDS IDENTIFICATION****Emergency Overview****OSHA Hazards**

Flammable liquid, Water Reactive, Target Organ Effect, Harmful by skin absorption., Irritant, Corrosive

**Target Organs**

Lungs, Nerves.Lungs, Nerves.

**GHS Classification**

Flammable liquids (Category 2)

Substances and mixtures, which in contact with water, emit flammable gases (Category 3)

Acute toxicity, Oral (Category 5)

Acute toxicity, Inhalation (Category 3)

Acute toxicity, Dermal (Category 4)

Skin corrosion (Category 1A)

Eye irritation (Category 2A)

Specific target organ toxicity - single exposure (Category 3), Respiratory system

**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.  
H303 May be harmful if swallowed.  
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.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
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.  
P422 Store contents under inert gas.

**Other hazards**

Reacts violently with water., Contact with water liberates toxic gas.

**HMIS Classification**

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

**NFPA Rating**

Health hazard: 3  
Fire: 3  
Reactivity Hazard: 0

**Potential Health Effects**

**Inhalation** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes respiratory tract irritation.

**Skin** Causes skin burns. Causes skin irritation.

**Eyes** Causes eye burns. Causes severe eye burns. Causes eye irritation.

**Ingestion** May be harmful if swallowed.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : TMCS  
Trimethylchlorosilane  
Trimethylsilyl chloride

Formula : C<sub>3</sub>H<sub>9</sub>ClSi  
Molecular Weight : 108.64 g/mol

Component	Concentration
<b>Chlorotrimethylsilane</b>	
CAS-No.	75-77-4
EC-No.	200-900-5
	90 - 100 %

**4. 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.

## 5. FIREFIGHTING MEASURES

### Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

### Suitable extinguishing media

Dry powder

### Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas, silicon oxides

### 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

### Personal precautions

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.

### Environmental precautions

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

### 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.

## 7. HANDLING AND STORAGE

### 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.

### Conditions for safe storage

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.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

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

### Personal protective equipment

#### 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).

### Hand 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: Camatri® (KCL 730 / Aldrich Z677442, Size M)

#### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 480 min

Material tested: Camatri® (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.

### Eye 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 and 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.

### Hygiene measures

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form liquid, clear

Colour colourless

### Safety data

pH no data available

Melting point/freezing point Melting point/range: -40 °C (-40 °F) - lit.

Boiling point 57 °C (135 °F) - lit.

Flash point -28.0 °C (-18.4 °F) - closed cup

Ignition temperature 400 °C (752 °F)

Auto-ignition temperature 400.0 °C (752.0 °F)

Lower explosion limit 1.5 %(V)

Upper explosion limit 46 %(V)

Vapour pressure 250 hPa (188 mmHg) at 20 °C (68 °F)  
800 hPa (600 mmHg) at 50 °C (122 °F)

Density 0.856 g/cm<sup>3</sup> at 25 °C (77 °F)

Water solubility immiscible

Partition coefficient: no data available

n-octanol/water  
Viscosity, kinematic 0.4 mm<sup>2</sup>/s at 25 °C (77 °F)  
Relative vapour density no data available  
Odour pungent  
Odour Threshold no data available  
Evaporation rate no data available

## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

Vapours may form explosive mixture with air.  
Reacts violently with water.

### Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight. Exposure to moisture.

### Materials to avoid

Strong acids, Strong bases, Strong oxidizing agents, Ketones, Aldehydes, Water

### Hazardous decomposition products

Other decomposition products - no data available

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas, silicon oxides

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - rat - 4,862 mg/kg

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

#### Inhalation LC50

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

#### Dermal LD50

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.

#### Other information on acute toxicity

no data available

#### Skin corrosion/irritation

Skin - rabbit - Severe skin irritation

#### Serious eye damage/eye irritation

Eyes - rabbit - 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

### Teratogenicity

no data available

### Specific target organ toxicity - single exposure (Globally Harmonized System)

May cause respiratory irritation.

### Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

### Aspiration hazard

no data available

### Potential health effects

#### Inhalation

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes respiratory tract irritation.

#### Ingestion

May be harmful if swallowed.

#### Skin

Causes skin burns. Causes skin irritation.

#### Eyes

Causes eye burns. Causes severe eye burns. Causes eye irritation.

### Signs and Symptoms of Exposure

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.

### Synergistic effects

no data available

### Additional Information

RTECS: VV2710090

## 12. ECOLOGICAL INFORMATION

### Toxicity

no data available

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

00000418

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

no data available

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**13. DISPOSAL CONSIDERATIONS**

**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**

**OSHA Hazards**

Flammable liquid, Water Reactive, Target Organ Effect, Harmful by skin absorption., Irritant, Corrosive

**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**

**Further information**

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