

## MATERIAL SAFETY DATA SHEET

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Section 1 - Product and Company Information

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Product Name CHLOROTRIMETHYLSILANE, REDISTILLED, 99+%

Product Number 386529

Brand SIAL

Company Sigma-Aldrich

Address 3050 Spruce Street  
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832

Fax: 800-325-5052

Emergency Phone: 314-776-6555

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Section 2 - Composition/Information on Ingredient

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Substance Name	CAS #	SARA 313
CHLOROTRIMETHYLSILANE	75-77-4	No

Formula C3H9ClSi

Synonyms Chlorotrimethylsilane \* Silane, trimethylchloro-  
\* Silicane, chlorotrimethyl- \* TL 1163 \*  
Trimethyl chlorosilane \* Trimethylsilyl chloride

RTECS Number: VV2710000

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Section 3 - Hazards Identification

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## EMERGENCY OVERVIEW

Flammable (USA) Highly Flammable (EU). Corrosive.  
Reacts violently with water. Causes severe burns. Irritating to  
respiratory system. Harmful by inhalation and in contact with skin.  
Target organ(s): Lungs. Nerves.

## HMIS RATING

HEALTH: 3\*  
FLAMMABILITY: 3  
REACTIVITY: 2  
SPECIAL HAZARD(S): Water reactive

## NFPA RATING

HEALTH: 3  
FLAMMABILITY: 3  
REACTIVITY: 2  
SPECIAL HAZARD(S): Water reactive

\*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

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Section 4 - First Aid Measures

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## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is  
conscious. Call a physician immediately. Do not induce vomiting.

#### INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

#### DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

#### EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

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### Section 5 - Fire Fighting Measures

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#### FLAMMABLE HAZARDS

Flammable Hazards: Yes

#### EXPLOSION HAZARDS

Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

#### CONDITIONS OF FLAMMABILITY

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

#### FLASH POINT

- 0.4 °F - 18.0 °C Method: closed cup

#### EXPLOSION LIMITS

Lower: 2 % Upper: 6.4 %

#### AUTOIGNITION TEMP

400 °C

#### FLAMMABILITY

N/A

#### EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

Unsuitable: Do not use water.

#### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

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### Section 6 - Accidental Release Measures

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#### PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

## METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

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## Section 7 - Handling and Storage

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### HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

### STORAGE

Suitable: Store under inert gas. Keep tightly closed. Keep away from heat, sparks, and open flame.

### SPECIAL REQUIREMENTS

Store under inert gas.

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## Section 8 - Exposure Controls / PPE

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### ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Use only in a chemical fume hood.

### PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (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.  
Hand: Compatible chemical-resistant gloves.  
Eye: Chemical safety goggles.  
Other: Faceshield (8-inch minimum).

### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

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## Section 9 - Physical/Chemical Properties

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Appearance	Physical State: Clear liquid Color: Colorless	
Property	Value	At Temperature or Pressure
Molecular Weight	108.64 AMU	
pH	N/A	
BP/BP Range	56.0 - 57.0 °C	
MP/MP Range	- 40.0 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	3.7 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	0.859 g/cm <sup>3</sup>	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	

Solvent Content N/A  
Evaporation Rate N/A  
Viscosity N/A  
Surface Tension N/A  
Partition Coefficient N/A  
Decomposition Temp. N/A  
Flash Point - 0.4 °F - 18.0 °C Method: closed cup

Explosion Limits Lower: 2 %  
Upper: 6.4 %  
Flammability N/A  
Autoignition Temp 400 °C  
Refractive Index 1.388  
Optical Rotation N/A  
Miscellaneous Data N/A  
Solubility N/A

N/A = not available

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## Section 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Reactions to Avoid: Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas.

Conditions to Avoid: Do not allow water to enter container because of violent reaction.

Materials to Avoid: Strong acids, Strong bases, Strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Silicon oxide, Formaldehyde, Silicon dioxide.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## Section 11 - Toxicological Information

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### ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: Harmful if absorbed through skin.

Eye Contact: Causes burns.

Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Harmful if inhaled.

Ingestion: May be harmful if swallowed.

### TARGET ORGAN(S) OR SYSTEM(S)

Nerves. Lungs.

### SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### TOXICITY DATA

Inhalation  
Rat  
12,900 mg/m3  
LC50

Oral  
Rat  
5660 UL/KG  
LD50

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

Skin  
Rabbit  
1780 UL/KG  
LD50

Remarks: Nutritional and Gross Metabolic:Weight loss or decreased weight gain. Behavioral:Altered sleep time (including change in righting reflex). Gastrointestinal:Hypermotility, diarrhea.

#### IRRITATION DATA

Skin  
Rabbit  
Remarks: Severe irritation effect

Skin  
Rabbit  
0.5 ml  
Remarks: Moderate irritation effect

Eyes  
Rabbit  
0.005 ml  
Remarks: Moderate irritation effect

#### CHRONIC EXPOSURE - CARCINOGEN

Result: 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.

Species: Mouse  
Route of Application: Intraperitoneal  
Dose: 1000 MG/KG  
Exposure Time: I  
Result: Tumorigenic:Neoplastic by RTECS criteria. Lungs, Thorax, or Respiration:Tumors.

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#### Section 12 - Ecological Information

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No data available.

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#### Section 13 - Disposal Considerations

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#### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this

material is highly flammable. Observe all federal, state, and local environmental regulations.

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## Section 14 - Transport Information

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### DOT

Proper Shipping Name: Trimethylchlorosilane  
UN#: 1298  
Class: 3  
Packing Group: Packing Group II  
Hazard Label: Flammable liquid  
Hazard Label: Corrosive  
PIH: Not PIH

### IATA

Proper Shipping Name: Trimethylchlorosilane  
IATA UN Number: 1298  
Hazard Class: 3  
Packing Group: II

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## Section 15 - Regulatory Information

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### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: F-C  
Indication of Danger: Highly Flammable. Corrosive.  
R: 11-14-20/21-35-37  
Risk Statements: Highly flammable. Reacts violently with water. Harmful by inhalation and in contact with skin. Causes severe burns. Irritating to respiratory system.  
S: 16-26-36/37/39-45  
Safety Statements: Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable (USA) Highly Flammable (EU). Corrosive.  
Risk Statements: Reacts violently with water. Causes severe burns. Irritating to respiratory system. Harmful by inhalation and in contact with skin.  
Safety Statements: Keep container tightly closed and in well-ventilated place. Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
US Statements: Target organ(s): Lungs. Nerves.

### UNITED STATES REGULATORY INFORMATION

SARA LISTED: No  
TSCA INVENTORY ITEM: Yes

### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.  
DSL: Yes  
NDSL: No

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

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