Section 1 - Product and Company Information

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  

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 313</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHLOROTRIMETHYLSILANE</td>
<td>75-77-4</td>
<td>No</td>
</tr>
</tbody>
</table>

Formula       C3H9ClSi  
Synonyms      Chlorotrimethylsilane * Silane, trimethylchloro-  
              * Silicane, chlorotrimethyl- * TL 1163 *  
              Trimethyl chlorosilane * Trimethylsilyl chloride  
RTECS Number  VV2710000  

Section 3 - Hazards Identification

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.  

Section 4 - First Aid Measures

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.

Section 5 - Fire Fighting Measures

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.

Section 6 - Accidental Release Measures

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.

Section 7 - Handling and Storage

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

STORAGE

SPECIAL REQUIREMENTS
Store under inert gas.

Section 8 - Exposure Controls / PPE

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.

Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Physical State: Clear liquid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Color: Colorless</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>108.64 AMU</td>
<td></td>
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<tr>
<td>pH</td>
<td>N/A</td>
<td></td>
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<tr>
<td>BP/BP Range</td>
<td>56.0 - 57.0 °C</td>
<td></td>
</tr>
<tr>
<td>MP/MP Range</td>
<td>- 40.0 °C</td>
<td></td>
</tr>
<tr>
<td>Freezing Point</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
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<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>3.7 g/l</td>
<td></td>
</tr>
<tr>
<td>Saturated Vapor Conc.</td>
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<td></td>
</tr>
<tr>
<td>SG/Density</td>
<td>0.859 g/cm³</td>
<td></td>
</tr>
<tr>
<td>Bulk Density</td>
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<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
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<td></td>
</tr>
<tr>
<td>Volatile%</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>VOC Content</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Water Content</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>
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

Section 10 - Stability and Reactivity

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

Section 11 - Toxicological Information

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,
whistling, 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

**Skin**
Rabbit
1780 UL/KG
LD50

**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**

No data available.

**Section 13 - Disposal Considerations**

**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.

Section 14 - Transport Information

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

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION
Symbol of Danger: F-C
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
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).

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
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