# SAFETY DATA SHEET

**METHYLTRICHLOROSILANE, Part Number 6702222**

## Section 1. Identification

<table>
<thead>
<tr>
<th>Product identifier</th>
<th>METHYLTRICHLOROSILANE, Part Number 6702222</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical name</td>
<td>trichloro(methyl)silane</td>
</tr>
<tr>
<td>Part no.</td>
<td>6702222</td>
</tr>
<tr>
<td>Material uses</td>
<td>Reagents and Standards for Analytical Chemistry Laboratory Use 1 g</td>
</tr>
<tr>
<td>Supplier/Manufacturer</td>
<td>Agilent Technologies, Inc. 5301 Stevens Creek Blvd Santa Clara, CA 95051, USA 800-227-9770</td>
</tr>
<tr>
<td>Emergency telephone number (with hours of operation)</td>
<td>CHEMTREC®: 1-800-424-9300</td>
</tr>
</tbody>
</table>

## Section 2. Hazard identification

**Classification of the substance or mixture**

- **H225** - FLAMMABLE LIQUIDS - Category 2
- **H331** - ACUTE TOXICITY (inhalation) - Category 3
- **H314** - SKIN CORROSION - Category 1
- **H318** - SERIOUS EYE DAMAGE - Category 1
- **H335** - SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

**GHS label elements**

- **Hazard pictograms**: ![Flammable Liquid](fire), ![Toxic](skull-bones), ![Corrosive](eye-with-drop), ![Specific Target Organ Toxicity](exclamation)

- **Signal word**: Danger

- **Hazard statements**:  
  - **H225** - Highly flammable liquid and vapor.  
  - **H331** - Toxic if inhaled.  
  - **H314** - Causes severe skin burns and eye damage.  
  - **H335** - May cause respiratory irritation.

**Precautionary statements**

- **Prevention**:  
  - P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection.  
  - P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
  - P271 - Use only outdoors or in a well-ventilated area.  
  - P261 - Avoid breathing vapor.  
  - P264 - Wash hands thoroughly after handling.
Section 2. Hazard identification

Response:
P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.
P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.
P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage:
P405 - Store locked up.

Disposal:
P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredient name</td>
<td>% (w/w)</td>
</tr>
<tr>
<td>trichloro(methyl)silane</td>
<td>100</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact:
Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation:
Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact:
Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion:
Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or
Section 4. First-aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: Causes serious eye damage.
Inhalation: Toxic if inhaled. May cause respiratory irritation.
Skin contact: Causes severe burns.
Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:
- pain
- watering
- redness
Inhalation: Adverse symptoms may include the following:
- respiratory tract irritation
- coughing
Skin contact: Adverse symptoms may include the following:
- pain or irritation
- redness
- blistering may occur
Ingestion: Adverse symptoms may include the following:
- stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments: No specific treatment.
Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media: Use dry chemical, CO₂, water spray (fog) or foam.
Unsuitable extinguishing media: Do not use water jet.

Specific hazards arising from the chemical: Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
Section 5. Fire-fighting measures

**Hazardous thermal decomposition products**: Decomposition products may include the following materials:
- carbon dioxide
- carbon monoxide
- halogenated compounds
- metal oxide/oxides

**Special protective actions for fire-fighters**: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters**: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders**: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions**: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and materials for containment and cleaning up**

**Methods for cleaning up**: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures**: Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene**: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>trichloro(methyl)silane</td>
<td>AIHA WEEL (United States, 7/2018). CEIL: 1 ppm</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Date of issue/Date of revision : 08/16/2019  Date of previous issue : 08/02/2017  Version : 4  5/11
Section 8. Exposure controls/personal protection

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

**Appearance**
- Physical state: Liquid.
- Color: Colorless.
- Odor: Pungent.
- Odor threshold: Not available.
- pH: Not available.
- Melting point: -77.8°C (-108°F)
- Boiling point: 66.4°C (151.5°F)
- Flash point: Closed cup: -15°C (5°F)
  Open cup: 7.22°C (45°F)
- Evaporation rate: Not available.
- Flammability (solid, gas): Not applicable.
- Lower and upper explosive (flammable) limits: Lower: 4.5%
  Upper: 20%
- Vapor pressure: 17.9 kPa (134.26 mm Hg) [room temperature]
- Vapor density: 5.2 [Air = 1]
- Relative density: 1.3
- Density: 1.275 g/cm³ [20°C (68°F)]
- Solubility: Easily soluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/water: Not available.
- Auto-ignition temperature: 350°C (662°F)
- Decomposition temperature: Not available.
- Viscosity: Dynamic (room temperature): 0.53 mPa·s (0.53 cP)
  Kinematic (room temperature): 0.0042 cm²/s (0.42 cSt)

**Aerosol product**
- Heat of combustion: -6978000 J/kg

Section 10. Stability and reactivity

Reactivity: No specific test data related to reactivity available for this product or its ingredients.

Chemical stability: The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.
Section 10. Stability and reactivity

**Conditions to avoid**
Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

**Incompatible materials**
Reactive or incompatible with the following materials: oxidizing materials.

**Hazardous decomposition products**
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichloro(methyl)silane</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>450 ppm</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichloro(methyl)silane</td>
<td>Eyes - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 5 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Severe irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>500 microliters</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitization**
Not available.

**Mutagenicity**

**Conclusion/Summary**
Not available.

**Carcinogenicity**

**Conclusion/Summary**
Not available.

**Reproductive toxicity**

**Conclusion/Summary**
Not available.

**Teratogenicity**

**Conclusion/Summary**
Not available.

**Specific target organ toxicity (single exposure)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichloro(methyl)silane</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

**Specific target organ toxicity (repeated exposure)**
Not available.

**Aspiration hazard**
Not available.

**Information on the likely routes of exposure**
Routes of entry anticipated: Oral, Dermal, Inhalation.

**Potential acute health effects**

**Date of issue/Date of revision**: 08/16/2019
**Date of previous issue**: 08/02/2017
**Version**: 4
Section 11. Toxicological information

**Inhalation**
- Toxic if inhaled. May cause respiratory irritation.
- No known significant effects or critical hazards.

**Skin contact**
- Causes severe burns.
- Causes serious eye damage.
- Causes pain or irritation.
- Redness may occur.

**Ingestion**
- No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact**
- Adverse symptoms may include the following:
  - Pain
  - Watering
  - Redness

**Inhalation**
- Adverse symptoms may include the following:
  - Respiratory tract irritation
  - Coughing

**Skin contact**
- Adverse symptoms may include the following:
  - Pain or irritation
  - Redness
  - Blistering may occur

**Ingestion**
- Adverse symptoms may include the following:
  - Stomach pains

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

**Long term exposure**
- Potential immediate effects: Not available.
- Potential delayed effects: Not available.

**Potential chronic health effects**
- General: No known significant effects or critical hazards.
- Carcinogenicity: No known significant effects or critical hazards.
- Mutagenicity: No known significant effects or critical hazards.
- Teratogenicity: No known significant effects or critical hazards.
- Developmental effects: No known significant effects or critical hazards.
- Fertility effects: No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Oral (mg/kg)</th>
<th>Dermal (mg/kg)</th>
<th>Inhalation (gases) (ppm)</th>
<th>Inhalation (vapors) (mg/l)</th>
<th>Inhalation (dusts and mists) (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichloro(methyl)silane</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>2.75</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Date of issue/Date of revision**: 08/16/2019  **Date of previous issue**: 08/02/2017  **Version**: 4
Section 12. Ecological information

**Toxicity**
Not available.

**Persistence and degradability**
Not available.

**Bioaccumulative potential**
Not available.

**Mobility in soil**

*Soil/water partition coefficient (K<sub>OC</sub>)*
: Not available.

**Other adverse effects**
: No known significant effects or critical hazards.

Section 13. Disposal considerations

**Disposal methods**
: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

**TDG / IMDG / IATA**
: Not regulated.

**Additional information**

**Remarks**: De minimis quantities

**Special precautions for user**
: **Transport within user’s premises**: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL and the IBC Code**
: Not available.
Section 15. Regulatory information

Canadian lists
- Canadian NPRI: This material is not listed.
- CEPA Toxic substances: This material is not listed.

International regulations
- UNECE Aarhus Protocol on POPs and Heavy Metals: Not listed.

Inventory list
- Australia: This material is listed or exempted.
- Canada: This material is listed or exempted.
- China: This material is listed or exempted.
- Europe: This material is listed or exempted.
- Japan: Japan inventory (ENCS): This material is listed or exempted. Japan inventory (ISHL): This material is listed or exempted.
- New Zealand: This material is listed or exempted.
- Philippines: This material is listed or exempted.
- Republic of Korea: This material is listed or exempted.
- Taiwan: This material is listed or exempted.
- Thailand: Not determined.
- Turkey: Not determined.
- United States: This material is listed or exempted.
- Viet Nam: Not determined.

Section 16. Other information

History
- Date of issue/Date of revision: 08/16/2019
- Date of previous issue: 08/02/2017
- Version: 4
- Key to abbreviations: ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- HPR = Hazardous Products Regulations
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
**Section 16. Other information**

N/A = Not available  
UN = United Nations

**Procedure used to derive the classification**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLAMMABLE LIQUIDS - Category 2</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>ACUTE TOXICITY (inhalation) - Category 3</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>SKIN CORROSION - Category 1</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>SERIOUS EYE DAMAGE - Category 1</td>
<td>Expert judgment</td>
</tr>
<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</td>
<td>Expert judgment</td>
</tr>
</tbody>
</table>

**References**

Not available.

*Indicates information that has changed from previously issued version.*

**Notice to reader**

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