SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.1
Creation Date: July 15, 2019
Revision Date: August 17, 2023

SECTION 1: Identification

1.1 GHS Product identifier

Product name Chlorotrimethylsilane

1.2 Other means of identification

Product number 75-77-4
Other names Silane, chlorotrimethyl-; Chlorotrimethylsilane; chloro(trimethyl)silane

1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.
Uses advised against no data available

1.4 Supplier's details

Company Zhongshan Greenrock Technology Co., Ltd.
Address Jinsan Avenue, Sanjiao Town, Zhongshan City, Guangdong Province, China
Telephone +86-2087066781

1.5 Emergency phone number

Emergency phone number +86-2087066781
Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Flammable liquids, Category 2
Acute toxicity - Category 3, Oral
Acute toxicity - Category 4, Dermal
Skin corrosion, Sub-category 1A
Acute toxicity - Category 3, Inhalation

2.2 GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger
Hazard statement(s) H225 Highly flammable liquid and vapour
H301 Toxic if swallowed
H312 Harmful in contact with skin
H314 Causes severe skin burns and eye damage
H331 Toxic if inhaled

Precautionary statement(s)

Prevention	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/... P264 Wash ... thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P271 Use only outdoors or in a well-ventilated area.
Response	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower]. P370+P378 In case of fire: Use ... to extinguish. P301+P316 IF SWALLOWED: Get emergency medical help immediately. P321 Specific treatment (see ... on this label). P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of water/... P317 Get medical help. P362+P364 Take off contaminated clothing and wash it before reuse. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P363 Wash contaminated clothing before reuse. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P316 Get emergency medical help immediately. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage	P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up. P403+P233 Store in a well-ventilated place. Keep container tightly closed.
Disposal	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Chlorotrimethylsilane	Chlorotrimethylsilane	75-77-4	200-900-5	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention. See Notes.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Give nothing to drink. Refer for medical attention .

4.2 Most important symptoms/effects, acute and delayed

Similar to other silanes. Toxicity is rated high for inhalation, ingestion and local irritation. May cause death or permanent injury after a very short exposure to small quantities. (EPA, 1998)

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

No specific antidote is available /for chlorosilanes/, but first aid treatment consists of copious irrigation with water, & subsequent treatment is as for chemical burns in general. Chlorosilanes

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Aqueous film forming foam (AFFF), carbon dioxide, dry sand, special powder. NO hydrous agents. NO water.

5.2 Specific hazards arising from the chemical

Violent reaction with water. Toxic and irritating hydrogen chloride and phosgene may be formed in fires. Difficult to extinguish, re-ignition may occur. Flashback along vapor trail may occur. Containers may explode in fire. Vapor may explode if ignited in enclosed area. When heated to decomposition or on contact with acids or acid fumes, chloride fumes are emitted. Reacts with surface moisture, releasing hydrogen chloride, which will corrode common metals and form flammable hydrogen gas. Avoid contact with water; it readily hydrolyzes, liberating hydrochloric acid. Hazardous polymerization may not occur. (EPA, 1998)

5.3 Special protective actions for fire-fighters

Use AFFF, carbon dioxide, dry sand, special powder. NO hydrous agents. NO water. In case of fire: keep drums, etc., cool by spraying with water. NO direct contact with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate danger area! Consult an expert! Collect leaking and spilled liquid in sealable dry non-plastic containers as far as possible. Absorb remaining liquid in dry sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT wash away into sewer. Personal protection: complete protective clothing including self-contained breathing apparatus.

6.2 Environmental precautions

Evacuate danger area! Consult an expert! Collect leaking and spilled liquid in sealable dry non-plastic containers as far as possible. Absorb remaining liquid in dry sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT wash away into sewer. Personal protection: complete protective clothing including self-contained breathing apparatus.

6.3 Methods and materials for containment and cleaning up

Shut off ignition sources. Call fire department. Avoid contact with liquid. Keep people away. Stop discharge if possible. Isolate and remove discharged material. Notify local health and pollution control agencies.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames, NO sparks and NO smoking. NO contact with hot surfaces. Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Fireproof. Separated from food and feedstuffs and other compounds. Cool. Dry. Well closed.Storage temperature; ambient.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Trimethylchlorosilane is a colorless fuming liquid with a pungent odor. Boiling point 135° F, Flash point -18°F. Density 0.854 g / cm3. The vapor and liquid may cause burns. Vapors are heavier than air.
Colour	Colorless liquid
Odour	SHARP, HYDROCHLORIC ACID-LIKE ODOR; ACRID.
Melting point/freezing point	-58°C(lit.)
Boiling point or initial boiling point and boiling range	57°C(lit.)
Flammability	Highly flammable. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit	Lower flammable limit: 1.8% by volume; Upper flammable limit: 6.0% by volume
Flash point	-28°C
Auto-ignition temperature	752°F
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	Decomposes (NTP, 1992)
Partition coefficient n-octanol/water	no data available
Vapour pressure	100 mm Hg (25 °C)
Density and/or relative density	0.856g/mLat 25°C(lit.)
Relative vapour density	3.7 (vs air)
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Decomposes on heating. This produces toxic and corrosive fumes including hydrogen chloride and phosgene. Reacts violently with water. This produces hydrogen chloride (see ICSC 0163). Reacts violently with alcohols and amines. This generates fire and explosion hazard. Attacks many metals in the presence of water.

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

A flammable liquid and very dangerous fire haszard when exposed to heat or flame.The vapour is heavier than air and may travel along the ground; distant ignition possible.TRIMETHYLCHLOROSILANE reacts vigorously and exothermically with water to produce hydrogen chloride.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Reacts with surface moisture to evolve hydrogen chloride, which will corrode common metals & form flammable hydrogen gas.

10.6 Hazardous decomposition products

Trimethylchlorosilane/ decomposes on heating producing toxic and corrosive fumes including hydrogen chloride, phosgene.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 Rat oral 5660 uL/kg
- Inhalation: LC50 Rat inhalation 12.9 mg/L/1 hr
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance and the vapour are corrosive to the eyes, skin and respiratory tract. Corrosive on ingestion. Inhalation of the vapour may cause lung oedema. Exposure could cause death. Medical observation is indicated. See Notes.

STOT-repeated exposure

no data available

Aspiration hazard

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Trimethylchlorosilane has been reported to hydrolyze immediately upon contact with water(1) and therefore bioconcentration of trimethylchlorosilane is not expected(SRC).

12.4 Mobility in soil

All silicon chlorides are immediately and completely hydrolyzed by water(1) and trimethylchlorosilane has been reported to hydrolyze in water releasing hydrochloric acid(2). Decomposition of trimethylcholorsilane is expected to occur more rapidly than adsorption(SRC).

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: UN1298 (For reference only, please check.)	IMDG: UN1298 (For reference only, please check.)	IATA: UN1298 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: TRIMETHYLCHLOROSILANE (For reference only, please check.)	IMDG: TRIMETHYLCHLOROSILANE (For reference only, please check.)	IATA: TRIMETHYLCHLOROSILANE (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)	IMDG: 3 (For reference only, please check.)	IATA: 3 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: II (For reference only, please check.)	IMDG: II (For reference only, please check.)	IATA: II (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: No	IMDG: No	IATA: No

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Chlorotrimethylsilane	Chlorotrimethylsilane	75-77-4	200-900-5
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

SECTION 16: Other information

Information on revision

Creation Date	July 15, 2019
Revision Date	August 17, 2023

Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Reacts violently with fire extinguishing agents such as water.The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential.Immediate administration of an appropriate inhalation therapy by a doctor, or by an authorized person, should be considered.Toxicological properties are inferred from those of Methyldichlorosilane (ICSC 0297).

Any questions regarding this SDS, Please send your inquiry to export@greenrockchem.com