SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Name: Trichlorosilane

Product Number: All applicable American Elements product codes, e.g. 3CL-SILAN-02 , 3CL-SILAN-025 , 3CL-SILAN-03 , 3CL-SILAN-035 , 3CL-SILAN-02 , 3CL-SILAN-05

CAS #: 10025-78-2

Relevant identified uses of the substance: Scientific research and development

Supplier details:
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)
GHS02 Flame
Flam. Liq. 1
H224 Extremely flammable liquid and Vapor.
Pyr. Liq. 1
H250 Catches fire spontaneously if exposed to air.
GHS05 Corrosion
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
GHS07
Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H332 Harmful if inhaled.
Hazards not otherwise classified
No data available
GHS label elements
GHS label elements, including precautionary statements
Hazard pictograms



GHS02
GHS05
GHS07
Signal word
Danger
Hazard statements
H224 Extremely flammable liquid and Vapor.
H250 Catches fire spontaneously if exposed to air.
H302+H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.
Precautionary statements
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P422 Store contents under inert gas.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
WHMIS classification
B2 - Flammable liquid
B6 - Reactive flammable material
D2B - Toxic material causing other toxic effects
E - Corrosive material
F - Dangerously reactive material
Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
HEALTH
FIRE
REACTIVITY
3
4
2
Health (acute effects) = 3
Flammability = 4
Physical Hazard = 2
Other hazards
Results of PBT and vPvB assessment
PBT: N/A
vPvB: N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
CAS No. / Substance Name: 10025-78-2 Trichlorosilane
Identification number(s):
EC number: 233-042-5
Index number: 014-001-00-9

SECTION 4. FIRST AID MEASURES

Description of first aid measures
General information
Immediately remove any clothing soiled by the product.
If inhaled:
Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
In case of skin contact:
Immediately wash with soap and water; rinse thoroughly.
Seek immediate medical advice.
In case of eye contact:
Rinse opened eye for several minutes under running water. Consult a physician.
If swallowed:
Seek medical treatment.
Information for doctor
Most important symptoms and effects, both acute and delayed
Causes severe skin burns.
Causes serious eye damage.
Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing agents
In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
For safety reasons unsuitable extinguishing agents
Water
Special hazards arising from the substance or mixture
Reacts violently with water
Spontaneously flammable in air.
If this product is involved in a fire, the following can be released:
Silicon oxide
Hydrogen chloride (HCl)
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Mount respiratory protective device.
Use personal protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
Environmental precautions:
Do not allow product to enter drains, sewage systems, or other water courses.
Methods and materials for containment and cleanup:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.

Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Prevention of secondary hazards:
Keep away from ignition sources.
Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

Handling
Precautions for safe handling
Handle under dry protective gas.
Keep container tightly sealed.
Keep away from heat and direct sunlight.
Ensure good ventilation at the workplace.
Open and handle container with care.
Information about protection against explosions and fires:
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.
Substance/product is self ignitable.
Keep ignition sources away.
Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and receptacles:
Refrigerate
Information about storage in one common storage facility:
Store away from air.
Protect from heat.
Store away from water/moisture.
Store away from strong bases.
Store away from oxidizing agents.
Store away from reducing agents.
Further information about storage conditions:
Store under dry inert gas.
This product is moisture sensitive.
This product is air sensitive.
Protect from humidity and water.
Keep container tightly sealed.
Protect from heat and direct sunlight.
Refrigerate
Specific end use(s)
No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Control parameters

Components with limit values that require monitoring at the workplace:
10025-78-2 Trichlorosilane (100.0%)
WEEL (USA) Ceiling limit value: 0.5 ppm
Additional information:
No data
Exposure controls
Personal protective equipment
Follow typical protective and hygienic practices for handling chemicals.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.
Breathing equipment:
Use suitable respirator when high concentrations are present.
Protection of hands:
Impervious gloves
Inspect gloves prior to use.
Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.
Penetration time of glove material (in minutes)
No data available
Eye protection:
Tightly sealed goggles
Full face protection
Body protection:
Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
Appearance:
Form: Liquid
Color: Colorless
Odor: No data available
Odor threshold: No data available.
pH: No data available.
Melting point/Melting range: -127 °C (-197 °F)
Boiling point/Boiling range: 31-32 °C (88-90 °F)
Sublimation temperature / start: No data available
Flash point: -13 °C (9 °F)
Flammability (solid, gas): No data available.
Ignition temperature: 195 °C (383 °F)
Decomposition temperature: No data available
Autoignition: Spontaneously flammable in air.
Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures is possible.
Explosion limits:
Lower: 6.9 Vol %
Upper: No data available
Vapor pressure at 20 °C (68 °F): 667 hPa (500 mm Hg)
Density at 20 °C (68 °F): 1.34 g/cm³ (11.182 lbs/gal)
Relative density: No data available.

Vapor density: No data available.
Evaporation rate: No data available.
Solubility in Water (H_2O): Reacts violently
Partition coefficient (n-octanol/water): No data available.
Viscosity:
Dynamic: No data available.
Kinematic: No data available.
Other information: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
Reacts violently with water.
Catches fire spontaneously if exposed to air.
Chemical stability
Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions
Reacts with strong oxidizing agents
Spontaneously flammable in air.
Contact with water releases toxic gases
Contact with acids releases toxic gases
Reacts violently with water
Conditions to avoid
No data available
Incompatible materials:
Air
Bases
Reducing agents
Oxidizing agents
Water/moisture
Heat
Hazardous decomposition products:
Silicon oxide
Hydrogen chloride (HCl)

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
Harmful if inhaled.
Harmful if swallowed.
Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.
LD/LC50 values that are relevant for classification:
Oral LD50 1030 mg/kg (rat)
Skin irritation or corrosion:
Causes severe skin burns.

Eye irritation or corrosion:
Causes serious eye damage.
Sensitization:
No sensitizing effects known.
Germ cell mutagenicity:
No effects known.
Carcinogenicity:
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:
No effects known.
Specific target organ system toxicity - repeated exposure:
No effects known.
Specific target organ system toxicity - single exposure:
No effects known.
Aspiration hazard:
No effects known.
Subacute to chronic toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Aquatic toxicity:
No data available
Persistence and degradability
No data available
Bioaccumulative potential
No data available
Mobility in soil
No data available
Additional ecological information:
Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.
Avoid transfer into the environment.
Results of PBT and vPvB assessment
PBT:
N/A
vPvB:
N/A
Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Recommendation
Consult official regulations to ensure proper disposal.

Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, IMDG, IATA
UN1295
UN proper shipping name
DOT
Trichlorosilane
IMDG, IATA
TRICHLOROSILANE
Transport hazard class(es)
DOT
Class
4.3 Substances which, in contact with water, emit flammable gases.
Label
4.3+3+8
Class
4.3 (WFC) Substances which, in contact with water, emit flammable gases
Label
4.3+3+8
IMDG, IATA
Class
4.3 Substances which, in contact with water, emit flammable gases.
Label
4.3+3+8
Packing group
DOT, IMDG, IATA
I
Environmental hazards:
N/A
Special precautions for user
Warning: Substances which, in contact with water, emit flammable gases
EMS Number:
F-G,S-O
Segregation groups
Acids
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N/A
Transport/Additional information: DOT
Marine Pollutant (DOT): No
UN "Model Regulation": UN1295, Trichlorosilane, 4.3 (3+8), I

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
GHS GHS label elements, including precautionary statements
Hazard pictograms

GHS02
GHS05
GHS07
Signal word
Danger
Hazard statements
H224
Extremely flammable liquid and Vapor.
H250
Catches fire spontaneously if exposed to air.
H302+H332 Harmful if swallowed or if inhaled.
H314
Causes severe skin burns and eye damage.
Precautionary statements
P210
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405
Store locked up.
P422
Store contents under inert gas.
P501
Dispose of contents/container in accordance with local/regional/national/international regulations.
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).
SARA Section 313 (specific toxic chemical listings)
10025-78-2 Trichlorosilane
California Proposition 65
Prop 65 - Chemicals known to cause cancer
Substance is not listed.
Prop 65 - Developmental toxicity
Substance is not listed.
Prop 65 - Developmental toxicity, female
Substance is not listed.
Prop 65 - Developmental toxicity, male
Substance is not listed.
Information about limitation of use:
For use only by technically qualified individuals.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.
Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use)
Substance is not listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.