Material Safety Data Sheet
Trichlorosilane, 99%

ACC# 20402

Section 1 - Chemical Product and Company Identification

MSDS Name: Trichlorosilane, 99%
Catalog Numbers: AC174600000, AC174600050, AC174602500
Synonyms: Trichloorsilaan; Silicochloroform.
Company Identification:
Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410
For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
10025-78-2	Trichlorosilane	99%	233-042-5

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: -13 deg C.
Danger! Highly flammable. Reacts violently and/or explosively with water, steam or moisture. Contact with water liberates toxic gas. Lachrymator (substance which increases the flow of tears). May ignite or explode on contact with moist air. May be harmful if swallowed. May cause central nervous system depression. May cause cardiac disturbances. May cause kidney damage.
Target Organs: Kidneys, central nervous system, cardiovascular system.

Potential Health Effects
Eye: Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. Lachrymator (substance which increases the flow of tears). May cause chemical conjunctivitis and corneal damage.
Skin: Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. May cause cyanosis of the extremities.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May cause cardiac disturbances. May be harmful if swallowed. Ingestion of large amounts may cause CNS depression.
Inhalation: May cause kidney damage. Aspiration may lead to pulmonary edema. Vapors may cause dizziness or suffocation. May cause cardiac abnormalities. Inhalation at high concentrations may cause CNS depression and asphixiation. May cause burning sensation in the chest.
Chronic: Effects may be delayed. May cause kidney damage.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid imme diately. Do NOT allow victim to rub eyes or keep eyes closed.
Skin: Get medical aid immediately. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If water-reactive products are embedded in the skin, no water should be applied. The embedded products should be covered with a light oil.
Ingestion: Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Reacts violently with water giving off flammable gas which may explode. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Water Reactive. Material will react with water and may release a flammable and/or toxic gas. Use water spray to keep fire-exposed containers cool. May ignite or explode on contact with steam or moist air. Will be easily ignited by heat, sparks or flame. May re-ignite after fire is extinguished. Containers may explode if exposed to fire.
Extinguishing Media: Use dry sand or earth to smother fire. Do NOT use water directly on fire. Use foam, dry chemical, or carbon dioxide. If water is the only media available, use in flooding amounts. DO NOT USE WATER! Do NOT get water inside containers. Do NOT use straight streams of water. Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out.
Flash Point: -13 deg C (8.60 deg F)
Autoignition Temperature: 185 deg C (365.00 deg F)
Explosion Limits, Lower:1.20 vol %

Upper: 90.50 vol %
NFPA Rating: (estimated) Health: 3; Flammability: 4; Instability: 2; Special Hazard: -W-

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Do not expose spill to water. Do not get water inside containers. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not allow water to get into the container because of violent reaction. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not allow contact with water. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep from contact with moist air and steam.
Storage: Keep away from sources of ignition. Keep away from water. Flammables-area. Refrigerator/flammables. Keep refrigerated. (Store below 4°C/39°F.) Store protected from moisture.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Trichlorosilane	none listed	none listed	none listed

OSHA Vacated PELs: Trichlorosilane: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves and clothing to prevent skin exposure.
Clothing: Wear appropriate protective clothing to minimize contact with skin.
Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: clear, colorless
Odor: None reported.
pH: Not available.
Vapor Pressure: 533 hPa @ 15 C
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: 0.332 cP 20.00
Boiling Point: 31 - 32 deg C @ 760.00mmHg
Freezing/Melting Point:-126.6 deg C
Decomposition Temperature: Not available.
Solubility: reacts
Specific Gravity/Density:1.3420g/cm3
Molecular Formula:HCl3Si
Molecular Weight:135.45

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Combines vigorously or explosively with water.
Conditions to Avoid: Incompatible materials, ignition sources, moisture, excess heat, strong oxidants, exposure to moist air or water.
Incompatibilities with Other Materials: Oxidizing agents, acids, bases, alcohols, amines, moisture, water.
Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, silicon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 10025-78-2: VV5950000
LD50/LC50:
CAS# 10025-78-2:
Inhalation, mouse: LC50 = 1500 mg/m3/2H;
Oral, rat: LD50 = 1030 mg/kg;
.

Carcinogenicity:
CAS# 10025-78-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	TRICHLOROSILANE	TRICHLOROSILANE
Hazard Class:	4.3	4.3(3)(8)
UN Number:	UN1295	UN1295
Packing Group:	I	I

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 10025-78-2 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
Section 313 No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
CAS# 10025-78-2 is considered highly hazardous by OSHA.
STATE
CAS# 10025-78-2 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
F+ C

Risk Phrases:

R 12 Extremely flammable.
R 14 Reacts violently with water.
R 17 Spontaneously flammable in air.
R 20/22 Harmful by inhalation and if swallowed.
R 29 Contact with water liberates toxic gas.
R 35 Causes severe burns.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face pr otection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 7/9 Keep container tightly closed and in a well-ventilated place.
S 43A In case of fire, use dry chemical (never use water).

WGK (Water Danger/Protection)

CAS# 10025-78-2: No information available.

Canada - DSL/NDSL

CAS# 10025-78-2 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, B6.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 10025-78-2 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997
Revision #8 Date: 10/03/2005