

# Safety Data Sheet

Product :

**Dichlorosilane**

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MSDS Nr : 344-00-0001BOC(U)

Version : 1.02

Date : 04/08/2000

Replaces version dated : 23/06/1994

## 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product name	Dichlorosilane
Chemical formula	SiH <sub>2</sub> Cl <sub>2</sub>
Company identification	see heading and/or footer
Emergency phone numbers	see heading and/or footer

## 2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation	Substance.
Components/Impurities	Contains no other components or impurities which will influence the classification of the product.
CAS Nr	04109-96-0
EC Nr (from EINECS)	223-888-3

## 3 HAZARDS IDENTIFICATION

Hazards identification	Liquefied gas Extremely flammable Toxic by inhalation. Corrosive to eyes, respiratory system and skin.
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## 4 FIRST AID MEASURES

Inhalation	Toxic by inhalation. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped. Delayed adverse effects possible.
Skin/eye contact	May cause chemical burns to skin and cornea (with temporary disturbance to vision) Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contaminated clothing. Drench affected area with water for at least 15 minutes Obtain medical assistance
Ingestion	Ingestion is not considered a potential route of exposure.

## 5 FIRE FIGHTING MEASURES

Specific hazards	Exposure to fire may cause containers to rupture/explode.
Hazardous combustion products	If involved in a fire the following toxic and/or corrosive fumes may be produced by thermal decomposition: Hydrogen chloride Silica dust (inert - but may irritate respiratory tract and eyes)
Suitable extinguishing media	All known extinguishants can be used.
Specific methods	If possible, stop flow of product. Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire. Move away from the container and cool with water from a protected position.

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Special protective equipment for fire fighters

Use self-contained breathing apparatus and chemically protective clothing.

## 6 ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate area.  
Use self-contained breathing apparatus and chemically protective clothing.  
Ensure adequate air ventilation.  
Eliminate ignition sources.

Environmental precautions

Try to stop release.  
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.  
Reduce vapour with fog or fine water spray.

Clean up methods

Ventilate area.  
Hose down area with water.  
Wash contaminated equipment or sites of leaks with copious quantities of water.

## 7 HANDLING AND STORAGE

Handling and storage

Ensure equipment is adequately earthed.  
Suck back of water into the container must be prevented.  
Purge air from system before introducing gas.  
Do not allow backfeed into the container.  
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.  
Keep away from ignition sources (including static discharges).  
Segregate from oxidant gases and other oxidants in store.  
Refer to supplier's container handling instructions.  
Keep container below 50°C in a well ventilated place.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection

Protect eyes, face and skin from liquid splashes.  
Keep suitable chemically resistant protective clothing readily available for emergency use.  
Keep self contained breathing apparatus readily available for emergency use.  
Do not smoke while handling product.  
Ensure adequate ventilation.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

Molecular weight	101
Melting point	-122 °C
Boiling point	8.4 °C
Critical temperature	176 °C
Relative density, gas	3.5 (air=1)
Relative density, liquid	1.3 (water=1)

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Vapour Pressure 20°C	1.6 bar
Solubility mg/l water	Hydrolyses.
Appearance/Colour	Colourless gas Gives off white fumes in moist air
Odour	Pungent
Flammability range	2,5-80 vol% in air.
Autoignition temperature	185 °C
Other data	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

## 10 STABILITY AND REACTIVITY

Stability and reactivity	May react violently with oxidants. Can form explosive mixture with air. With water causes rapid corrosion of some metals.
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## 11 TOXICOLOGICAL INFORMATION

General	Severe corrosion to skin, eyes and respiratory tract at high concentrations. Delayed fatal pulmonary oedema possible. May cause nausea and irritation of the respiratory tract. Hydrolysis of silanes in the body forms silicic acid or hydrated silica.
LC50/1h (ppm)	314 ppm

## 12 ECOLOGICAL INFORMATION

General	May cause pH changes in aqueous ecological systems.
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## 13 DISPOSAL CONSIDERATIONS

General	Avoid discharge to atmosphere. Do not discharge into any place where its accumulation could be dangerous. Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor. Toxic and corrosive gases formed during combustion should be scrubbed before discharge to atmosphere. Contact supplier if guidance is required.
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## 14 TRANSPORT INFORMATION

UN Nr	2189
Class	2.3
Subsidiary risk	2.1 8
ADR/RID Classification code	2TFC
ADR/RID Hazard Nr	263

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Labelling ADR	Label 2.3: toxic substance. Label 2.1: flammable gas Label 8: corrosive substance.
Other transport information	Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly secured and: - cylinder valve is closed and not leaking - valve outlet cap nut or plug (where provided) is correctly fitted - valve protection device (where provided) is correctly fitted - there is adequate ventilation. - compliance with applicable regulations.

## 15 REGULATORY INFORMATION

Number in Annex I of Dir 67/548	Not included in Annex I.
EC Classification	F+.R12 T;R23 C;R34
-Symbols	F+: Extremely flammable T: Toxic C: Corrosive
Labelling of cylinders	
-Symbols	Label 2.3: toxic substance. Label 2.1: flammable gas Label 8: corrosive substance.
-Risk phrases	R12 Extremely flammable. R23 Toxic by inhalation. R34 Cause burns (to eyes, respiratory system and skin).
-Safety phrases	S9 Keep container in well ventilated place. S16 Keep away from ignition sources - No smoking. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S33 Take precautionary measures against static discharges. S36 Wear suitable protective clothing. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

## 16 OTHER INFORMATION

Ensure all national/local regulations are observed.

Ensure operators understand the flammability hazard.

Ensure operators understand the toxicity hazard.

Users of breathing apparatus must be trained.

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

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