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**MSDS: Dichlorosilane**

## PRODUCT INFORMATION

**PRODUCT:** Dichlorosilane  
**TRADE NAME:** Dichlorosilane  
**CHEMICAL NAME:** Dichlorosilane  
**SYNONYMS:** None  
**FORMULA:** SiH<sub>2</sub>Cl<sub>2</sub>  
**CHEMICAL FAMILY:** Chloro silane  
**SUPPLIER'S NAME:** MEGS Inc.  
**SUPPLIER'S ADDRESS:** 2675 De Miniac  
Ville St-Laurent, Qc, H4S  
**EMERGENCY PHONE NUMBER:** (514) 956-7503  
**MOLECULAR WEIGHT:** 101.01  
**PRODUCT USE:** Various  
**PRODUCT IDENTIFICATION UN 2189`  
NUMBER:**

## HAZARDOUS INGREDIENTS

CHEMICAL ID	CONCENTRATION	CAS #	LD(50)	LC(50)
Dichlorosilane	100%	4109-96-0	None	None

## PHYSICAL DATA

**PHYSICAL STATE:** Liquid and gas under pressure  
**APPEARANCE:** Colorless gas and liquid  
**ODOR:** Acidic, irritating odor  
**ODOR THRESHOLD:** Unknown  
**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** 1.26  
**VAPOR PRESSURE:** 130 kPa

VAPOR DENSITY (air = 1): 3.44  
EVAPORATION RATE: Unknown  
BOILING POINT: 8.2 °C  
FREEZING POINT: - 122 °C  
pH: Unknown  
GAS DENSITY: 4.16 kg/m<sup>3</sup> @ 15 °C, 101.3 kPa  
COEFFICIENT OF WATER/OIL Hydrolyzes in water to produce  
DISTRIBUTION: hydrogen chloride

### FIRE OR EXPLOSION HAZARD

**CONDITIONS OF FLAMMABILITY:** Flammable in air over a very wide range.  
PYROPHORIC

**MEANS OF EXTINCTION:** Use carbon dioxide or dry chemical for small fires. Coarse water spray on large fires. Material may reignite. "Stop flow of gas before extinguishing fire".

**FLASHPOINT AND METHOD OF DETERMINATION:** - 18 °C (cc)

**UPPER EXPLOSION LIMIT (% BY VOL):** 96  
**LOWER EXPLOSION LIMIT (% BY VOL):** 4.7  
**AUTO-IGNITION TEMPERATURE:** 111 °C  
**FLAMMABILITY CLASSIFICATION:** Not assigned  
**HAZARDOUS COMBUSTION PRODUCTS:** Hydrogen chloride, hydrogen, chlorine and finely divided amorphous silica  
**EXPLOSION DATA:** Reacts vigorously with water or moist air yielding HCl  
**SENSITIVITY TO STATIC DISCHARGE:** Unknown

### REACTIVITY DATA

**CHEMICAL STABILITY:** Hydrolyzes rapidly to produce silica and silicon oxyhydride  
**INCOMPATIBLE MATERIALS:** Water, oxydizers and halocarbons  
**CONDITIONS OF REACTIVITY:** Heat and moisture  
**HAZARDOUS DECOMPOSITION PRODUCTS:** Hydrogen chloride, hydrogen, chlorine and finely divided amorphous silica.

## TOXICOLOGICAL PROPERTIES

### ROUTES OF ENTRY:

**SKIN CONTACT:** Similar to burns from hydrogen chloride.

**SKIN ABSORPTION:** None

**EYE:** Severe irritation, lachrymation, closure of eyelids and marked redness and swelling of the conjunctiva.

**INHALATION:** Corrosive and irritating to the upper and lower respiratory tracts. It hydrolyzes very rapidly in water or with the moisture in the air yielding hydrogen chloride. Symptoms include lachrymation, cough, labored breathing and excessive salivary and sputum formation. Excessive irritation of the lungs causes acute pneumonitis and pulmonary edema which could be fatal.

**INGESTION:** No

**ACUTE OVER EXPOSURE EFFECTS:** Dichlorosilane is irritating and corrosive to all living tissue. Toxic level exposure to dermal tissue causes acid-like burns and skin lesions resulting in early necrosis and scarring. Chemical pneumonitis and pulmonary edema result from exposure to the lower respiratory tract and deep lung. Residual pulmonary malfunction might also occur. Burns to the eye result in lesions and possible loss of vision.

**CHRONIC OVER EXPOSURE EFFECTS:** None known

**EXPOSURE LIMITS:** No TWA is established. Recommend using hydrogen chloride which is a hydrolysis product of dichlorosilane. Hydrogen chloride has a ceiling limit of 5 molar ppm (ACGIH, 1995-1996)

**IRRITANCY OF PRODUCT:** See Skin Contact above

**SENSITIZATION TO MATERIAL:** None known

**CARCINOGENICITY, REPRODUCTIVE EFFECTS:** None known

**TERATOGENICITY, MUTAGENICITY:** None known

**TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** None known

## PREVENTIVE MEASURES

**PERSONAL PROTECTIVE EQUIPMENT:** Natural rubber, PVC

**SPECIFIC ENGINEERING CONTROLS:**

**LEAK AND SPILL PROCEDURES:** EVACUATE ALL PERSONNEL FROM AFFECTED AREA.

Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is on container or container valve, contact the closest MEGS location.

**WASTE DISPOSAL:** Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to MEGS for proper disposal. For emergency disposal, contact the closest MEGS location.

**HANDLING PROCEDURES AND EQUIPMENT:** USE ONLY IN WELL-VENTILATED AREAS.

Valve protection caps must remain in place unless container is secured with valve outlet piped to the point of use. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Do not tamper with (valve) safety device. Close valve after each use and when empty.

**STORAGE REQUIREMENTS:** Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 52°C. Cylinders must be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "No Smoking or Open Flames" signs in the storage or use area. There should be no sources of ignition in the storage or use area.

**TDG CLASSIFICATION:** 2.3 (2.1)

**WHMIS CLASSIFICATION:** A, B, D1, F

**SPECIAL SHIPPING INFORMATION:** Always secure cylinders in an upright position before transporting them. NEVER transport cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.

<b>FIRST AID MEASURES</b>
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**SPECIFIC FIRST AID PROCEDURES:** PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO DICHLOROSILANE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS AND BE COGNIZANT OF EXTREME FIRE AND EXPLOSION HAZARD.

**INHALATION:** Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Unconscious persons should be moved to an uncontaminated area and given assisted respiration and supplemental oxygen. Keep the victim warm and quiet. Assure that mucous or vomited material does not obstruct the airway by positional drainage. Delayed pulmonary edema may occur. Keep patient under medical observation for at least 24 hours.

**EYE CONTACT:** PERSONS WITH POTENTIAL EXPOSURE TO DIBORANE SHOULD NOT WEAR CONTACT LENSES.

Flush contaminated eye(s) with copious quantities of water. Part eyelids to assure complete flushing. Continue for a minimum of 15 minutes.

**SKIN CONTACT:** Flush affected areas with copious quantities of water. remove affected clothing as rapidly as possible.

## **PREPARATION INFORMATION**

**PREPARED BY:** Safety Department

**DATE PREPARED:** 06/05/1999

**LAST REVISION DATE:** 05/21/2002

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