

Dichlorosilane**AL043**

Label 2.3 : Toxic gas.



Label 2.1 : flammable gas.



Label 8 : Corrosive substance.



C : Corrosive



T : Toxic



F+ : Extremely flammable

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

Trade name : Dichlorosilane
MSDS No : AL043
Chemical formula : SiH₂Cl₂
Company identification : AIR LIQUIDE SA
France
See paragraph 16 "OTHER INFORMATION"
Emergency phone nr : See paragraph 16 "OTHER INFORMATION"

2 COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Preparation : Substance.

Substance name	Contents	CAS No	EC No	Index No	Classification
Dichlorosilane	: 100 %	4109-96-0	223-888-3	----	F+; R12 T; R23 C; R34

Contains no other components or impurities which will influence the classification of the product.

3 HAZARDS IDENTIFICATION

Hazards identification : Liquefied gas.
Extremely flammable.
Toxic by inhalation.
Corrosive to eyes, respiratory system and skin.

4 FIRST AID MEASURES**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.
- **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

Flammable class : Extremely flammable.
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



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5 FIRE-FIGHTING MEASURES (continued)

thermal decomposition : Silica dust (inert - but may irritate respiratory tract and eyes). Hydrogen chloride.

Extinguishing media

- 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.

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

Storage

: Segregate from oxidant gases and other oxidants in store.
Keep container below 50°C in a well ventilated place.

Handling

: 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).
Refer to supplier's container handling instructions.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protection

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

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 20 °C

: Liquefied gas.

Colour

: Colourless.
Gives off white fumes in moist air.



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9 PHYSICAL AND CHEMICAL PROPERTIES (continued)

Odo(u)r	: Pungent.
Molecular weight	: 101
Melting point [°C]	: -122
Boiling point [°C]	: 8.4
Critical temperature [°C]	: 176
Vapour pressure, 20°C	: 1.6 bar
Relative density, gas (air=1)	: 3.5
Relative density, liquid (water=1)	: 1.3
Solubility in water [mg/l]	: Hydrolyses.
Flammability range [vol% in air]	: 2.5 to 80
Auto-ignition temperature [°C]	: 185
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.
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11 TOXICOLOGICAL INFORMATION

Toxicity information	: 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 [ppm/1h]	: 314

12 ECOLOGICAL INFORMATION

Ecological effects information	: 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 No.	: 2189
H.I. nr	: 263
ADR/RID	
- Proper shipping name	: DICHLOROSILANE
- ADR Class	: 2



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14 TRANSPORT INFORMATION (continued)

- ADR/RID Classification code : 2 TFC
- Labelling ADR : Label 2.3 : Toxic gas.
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 containers are firmly secured.
 - Ensure cylinder valve is closed and not leaking.
 - Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
 - Ensure valve protection device (where provided) is correctly fitted.
 - Ensure there is adequate ventilation.
 - Compliance with applicable regulations.

15 REGULATORY INFORMATION

- EC Classification** : Not included in Annex I.
Proposed by the industry.
F+; R12
T; R23
C; R34
- EC Labelling**
- **Symbol(s)** : F+ : Extremely flammable
T : Toxic
C : Corrosive.
- **R Phrase(s)** : R12 : Extremely flammable.
R23 : Toxic by inhalation.
R34 : Causes burns.
- **S Phrase(s)** : S9 : Keep container in a well-ventilated place.
S16 : Keep away from sources of ignition - 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.
S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.
S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible).

16 OTHER INFORMATION

Ensure operators understand the flammability hazard.
Ensure operators understand the toxicity hazard.
Users of breathing apparatus must be trained.

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

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

Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

Recommended uses and restrictions : This SDS is for information purposes only and is subject to change without notice. [Prior to purchase of products, please contact your local AIR LIQUIDE office for a complete SDS (with Manufacturer's name and emergency phone number).]



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