Material Safety Data Sheet

1. Product and Company Identification

Product name : **Dichlorosilane**

Chemical formula : H2SiCl2

Synonyms : Dichlorosilicane; UN 2189

Company : Specialty Gases of America, Inc
6055 Brent Dr.
Toledo, OH 43611

Telephone : 419-729-7732

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Dichlorosilane	4109-96-0	100%

3. Hazards Identification

Emergency Overview

Flammable gas. May cause flash fire. May polymerize. Containers may rupture or explode if exposed to heat. May react on contact with air, heat, light or water.
May cause respiratory tract burns, skin burns, eye burns, mucous membrane burns.

Potential Health Effects

Inhalation : Burns, difficulty breathing, headache, dizziness, bluish skin color, lung congestion. May cause digestive disorders in long term exposure.

Eye contact : Irritation (possibly severe).

Skin contact : Burns.

Ingestion : Burns.

Chronic Health Hazard : Not available.

4. First Aid Measures

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Skin contact : Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes.

Ingestion : If a large amount is swallowed, get medical attention.

Inhalation : If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Notes to physicians : For inhalation, consider oxygen.

5. Fire-Fighting Measures

Suitable extinguishing media	:	Regular dry chemical, carbon dioxide. Large fires: Use regular foam or flood with fine water spray.
Specific hazards	:	Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Gas/air mixtures are explosive.
Fire fighting	:	Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. For tank, rail car or tank truck: Let burn unless leak can be stopped immediately. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For smaller tanks or cylinders, extinguish fire and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Cool containers with water spray until well after the fire is out. Apply water form a protected location or from a safe distance. Do not get water directly on material. Large fires: Flood with fine water spray. Reduce vapors with water spray. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

6. Accidental Release Measures

Occupational spill/release	:	Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Do not get water inside container. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition.
Additional advice	:	None.

7. Handling and Storage

Handling

Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

Storage

Store in accordance with all current regulations and standards. Keep separated from incompatible substances.

8. Exposure Controls / Personal Protection

ACGIH, OSHA and NIOSH have not developed exposure limits for any of this product's components.

Engineering measures/Ventilation

Ensure compliance with applicable exposure limits. Provide local exhaust or process enclosure ventilation system.

Personal protective equipment

Respiratory protection	:	Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. For unknown concentrations or Immediately Dangerous to Life or Health – Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-

contained breathing apparatus operated in pressure-demand or other positive-pressure mode.
Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Hand protection	:	Wear appropriate chemical resistant gloves.
Eye protection	:	Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Skin and body protection	:	Wear appropriate chemical resistant clothing.

9. Physical and Chemical Properties

Form	:	Gas.
Color	:	Colorless.
Odor	:	Irritating odor.
Molecular weight	:	101.01
Vapor pressure	:	1.7 atm @ 20°C
Vapor density	:	3.5 (air = 1)
Specific gravity	:	1.2 (water = 1)
Boiling point	:	8°C
Melting point	:	-122°C
Water solubility	:	Reacts.
Solvent solubility	:	Soluble: Benzene, carbon tetrachloride, ether.

10. Stability and Reactivity

Stability	:	May polymerize violently or explosively. Avoid contact with incompatible materials.
Conditions to avoid	:	Avoid heat, flames, sparks and other sources of ignition. Minimize contact with materials. Keep out of water supplies and sewer.
Materials to avoid	:	Combustible materials, halo carbons, oxidizing materials.
Hazardous decomposition products	:	Thermal decomposition products: acid halides, halogenated compounds, crystalline silica, oxides of silicon.

11. Toxicological Information

The components of this material have been reviewed in various sources and the following endpoints are published:

DICHLOROSILANE (4109-96-0)	:	Inhalation LC50 Mouse: 144 ppm/4H

Acute Toxicity Level

DICHLOROSILANE (4109-96-0)	:	Toxic: inhalation

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, OSHA or DFG.

Local Effects

DICHLOROSILANE (4109-96-0)	:	Corrosive: Inhalation, skin, eye, ingestion.

12. Ecological Information

No LOLI ecotoxicity data are available for this product's components.

13. Disposal Considerations

Waste from residues / unused products	:	Dispose in accordance with all applicable regulations.
Contaminated packaging	:	Return cylinder to supplier.

14. Transport Information

DOT (US only)

Proper shipping name	:	Dichlorosilane
Class	:	2.3
UN/ID No.	:	UN2189
Labeling	:	Poison Gas, Flammable Gas, Corrosive
Additional Info	:	Toxic-Inhalation Hazard Zone B

15. Regulatory Information

U.S. Federal Regulations

This material contains one or more of the following chemicals required under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

DICHLOROSILANE (4109-96-0) : OSHA (safety): 2500 lb TQ

SARA 311/312

Acute: Yes
Chronic: No
Fire: Yes
Reactive: Yes
Pressure: Yes

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
DICHLOROSILANE	4109-96-0	No	No	No	Yes	Yes	No

Not regulated under California Proposition 65

16. Other Information

Prepared by : Specialty Gases of America, Inc.

For additional information, please visit our website at www.americangasgroup.com.