

# DIPHENYLDICHLOROSILANE

DPD

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> Dichlorodiphenylsilane Dichlorodiphenylsilicane Diphenylsilicon dichloride		Liquid	Colorless	Sharp, irritating odor
Reacts with water. Irritating vapor is produced.				
<p>Keep people away. Avoid inhalation. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Call fire department. Notify local health and pollution control agencies. Protect water intakes.</p>				
<b>Fire</b>	Combustible. POISONOUS GASES MAY BE PRODUCED IN FIRE. Extinguish with dry chemicals or carbon dioxide. DO NOT USE WATER OR FOAM ON FIRE.			
<b>Exposure</b>	Call for medical aid.  VAPOR Irritating to eyes, nose and throat. Move victim to fresh air. If breathing is difficult, give oxygen.  LIQUID Will burn skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. DO NOT INDUCE VOMITING.			
<b>Water Pollution</b>	Effect of low concentrations on aquatic life is unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.			

<p><b>1. CORRECTIVE RESPONSE ACTIONS</b></p> Dilute and disperse Stop discharge Chemical and Physical Treatment: Neutralize Do not burn	<p><b>2. CHEMICAL DESIGNATIONS</b></p> 2.1 CG Compatibility Group: Not listed. 2.2 Formula: (C <sub>6</sub> H <sub>5</sub> ) <sub>2</sub> SiCl <sub>2</sub> 2.3 IMO/UN Designation: 8/1769 2.4 DOT ID No.: 1769 2.5 CAS Registry No.: 80-10-4 2.6 NAERG Guide No.: 156 2.7 Standard Industrial Trade Classification: 51550
<p><b>3. HEALTH HAZARDS</b></p> 3.1 <b>Personal Protective Equipment:</b> Acid-vapor-type respiratory protection; rubber gloves; chemical worker's goggles; other protective equipment as necessary to protect skin and eyes. 3.2 <b>Symptoms Following Exposure:</b> Inhalation irritates mucous membranes. Contact with liquid causes severe burns of eyes and skin. Ingestion causes severe burns of mouth and stomach. 3.3 <b>Treatment of Exposure:</b> INHALATION: remove victim from exposure; support respiration; call physician if needed. EYES: flush with water for 15 min.; obtain medical attention immediately. SKIN: flush with water; obtain medical attention for acid burns. INGESTION: give large amounts of water, if victim is conscious; give milk, or milk of magnesia; call physician. 3.4 TLV-TWA: Not listed. 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 <b>Toxicity by Ingestion:</b> Grade 3; LD <sub>50</sub> = 50 to 500 mg/kg 3.8 <b>Toxicity by Inhalation:</b> Currently not available. 3.9 <b>Chronic Toxicity:</b> Currently not available 3.10 <b>Vapor (Gas) Irritant Characteristics:</b> Vapors cause moderate irritation such that personnel will find high concentrations unpleasant. The effect is temporary. 3.11 <b>Liquid or Solid Characteristics:</b> Severe skin irritant. Causes second-and-third-degree burns on short contact and is very injurious to the eyes. 3.12 <b>Odor Threshold:</b> Currently not available 3.13 <b>IDLH Value:</b> Not listed. 3.14 <b>OSHA PEL-TWA:</b> Not listed. 3.15 <b>OSHA PEL-STEL:</b> Not listed. 3.16 <b>OSHA PEL-Ceiling:</b> Not listed. 3.17 <b>EPA AEGL:</b> Not listed	

## 4. FIRE HAZARDS

- 4.1 **Flash Point:** 288°F O.C.  
 4.2 **Flammable Limits in Air:** Currently not available  
 4.3 **Fire Extinguishing Agents:** Dry chemical, carbon dioxide  
 4.4 **Fire Extinguishing Agents Not to Be Used:** Water and foam  
 4.5 **Special Hazards of Combustion Products:** Hydrochloric acid and phosgene fumes may be formed.  
 4.6 **Behavior in Fire:** Difficult to extinguish; re-ignition may occur. Contact with water or foam applied to adjacent fires will produce irritating hydrogen chloride fumes.  
 4.7 **Auto Ignition Temperature:** Currently not available  
 4.8 **Electrical Hazards:** Currently not available  
 4.9 **Burning Rate:** 2.7 mm/min.  
 4.10 **Adiabatic Flame Temperature:** Currently not available  
 4.11 **Stoichiometric Air to Fuel Ratio:** 71.4 (calc.)  
 4.12 **Flame Temperature:** Currently not available  
 4.13 **Combustion Molar Ratio (Reactant to Product):** 19.0 (calc.)  
 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

## 5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** Reacts with water to generate hydrogen chloride (hydrochloric acid).  
 5.2 **Reactivity with Common Materials:** Reacts with surface moisture to generate hydrogen chloride, which is corrosive to common metals.  
 5.3 **Stability During Transport:** Stable  
 5.4 **Neutralizing Agents for Acids and Caustics:** Flood with water, rinse with sodium bicarbonate or lime solution.  
 5.5 **Polymerization:** Not pertinent  
 5.6 **Inhibitor of Polymerization:** Not pertinent

## 6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:** Currently not available  
 6.2 **Waterfowl Toxicity:** Currently not available  
 6.3 **Biological Oxygen Demand (BOD):** Currently not available  
 6.4 **Food Chain Concentration Potential:** None  
 6.5 **GESAMP Hazard Profile:**  
 Bioaccumulation: 0  
 Damage to living resources: 1  
 Human Oral hazard: 1  
 Human Contact hazard: II  
 Reduction of amenities: XX

## 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 96+%  
 7.2 **Storage Temperature:** Ambient  
 7.3 **Inert Atmosphere:** No requirement  
 7.4 **Venting:** Pressure-vacuum  
 7.5 **IMO Pollution Category:** Currently not available  
 7.6 **Ship Type:** Currently not available  
 7.7 **Barge Hull Type:** Currently not available

## 8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Corrosive material  
 8.2 **49 CFR Class:** 8  
 8.3 **49 CFR Package Group:** II  
 8.4 **Marine Pollutant:** No  
 8.5 **NFPA Hazard Classification:**
- | Category             | Classification |
|----------------------|----------------|
| Health Hazard (Blue) | 3              |
| Flammability (Red)   | 1              |
| Instability (Yellow) | 0              |
- 8.6 **EPA Reportable Quantity:** Not listed.  
 8.7 **EPA Pollution Category:** Not listed.  
 8.8 **RCRA Waste Number:** Not listed  
 8.9 **EPA FWPCA List:** Not listed

## 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Liquid  
 9.2 **Molecular Weight:** 253  
 9.3 **Boiling Point at 1 atm:** 579°F = 304°C = 577°K  
 9.4 **Freezing Point:** Not pertinent  
 9.5 **Critical Temperature:** Not pertinent  
 9.6 **Critical Pressure:** Not pertinent  
 9.7 **Specific Gravity:** 1.22 at 25°C (liquid)  
 9.8 **Liquid Surface Tension:** (est.) 26 dynes/cm = 0.026 N/m at 20°C  
 9.9 **Liquid Water Interfacial Tension:** Not pertinent  
 9.10 **Vapor (Gas) Specific Gravity:** Not pertinent  
 9.11 **Ratio of Specific Heats of Vapor (Gas):** Not pertinent  
 9.12 **Latent Heat of Vaporization:** 106 Btu/lb = 59 cal/g 2.5 X 10<sup>5</sup> J/kg  
 9.13 **Heat of Combustion:** (est.) -11,000 Btu/lb = -6,200 cal/g = -260 X 10<sup>5</sup> J/kg  
 9.14 **Heat of Decomposition:** Not pertinent  
 9.15 **Heat of Solution:** Currently not available  
 9.16 **Heat of Polymerization:** Not pertinent  
 9.17 **Heat of Fusion:** Currently not available  
 9.18 **Limiting Value:** Currently not available  
 9.19 **Reid Vapor Pressure:** Currently not available

## NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
52	76.709	52	0.400	52	0.783	52	8.773
54	76.639	54	0.400	54	0.783	54	8.305
56	76.570	56	0.400	56	0.783	56	7.865
58	76.500	58	0.400	58	0.783	58	7.452
60	76.429	60	0.400	60	0.783	60	7.064
62	76.360	62	0.400	62	0.783	62	6.699
64	76.290	64	0.400	64	0.783	64	6.355
66	76.219	66	0.400	66	0.783	66	6.031
68	76.150	68	0.400	68	0.783	68	5.726
70	76.089	70	0.400	70	0.783	70	5.438
72	76.020	72	0.400	72	0.783	72	5.167
74	75.950	74	0.400	74	0.783	74	4.911
76	75.879	76	0.400	76	0.783	76	4.670
78	75.809	78	0.400	78	0.783	78	4.442
80	75.740	80	0.400	80	0.783	80	4.227
82	75.669	82	0.400	82	0.783	82	4.024
84	75.599	84	0.400	84	0.783	84	3.832
86	75.530	86	0.400	86	0.783	86	3.650
				88	0.783		

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	R	400	1.014	400	0.02779		N
	E	410	1.211	410	0.03282		O
	A	420	1.441	420	0.03862		T
	C	430	1.709	430	0.04527		
	T	440	2.018	440	0.05287		P
	S	450	2.375	450	0.06153		E
		460	2.785	460	0.07136		R
		470	3.254	470	0.08249		T
		480	3.790	480	0.09505		I
		490	4.399	490	0.10920		N
		500	5.092	500	0.12500		E
		510	5.875	510	0.14280		N
		520	6.759	520	0.16260		N
		530	7.754	530	0.18470		T
		540	8.871	540	0.20910		
		550	10.120	550	0.23630		
		560	11.520	560	0.26630		
		570	13.080	570	0.29930		