

DODECYLTRICHLOROSILANE

DTC

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Liquid	Colorless	Sharp, irritating odor
Reacts with water. Irritating gas is produced on contact with water.			
<p>Keep people away. Avoid contact with liquid and vapor. Wear goggles and self-contained breathing apparatus. Call fire department. Notify local health and pollution control agencies. Protect water intakes.</p>			
Fire	Combustible. POISONOUS GASES MAY BE PRODUCED IN FIRE. Extinguish with dry chemicals or carbon dioxide. DO NOT USE WATER OR FOAM ON FIRE.		
Exposure	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.		
Water Pollution	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>1. CORRECTIVE RESPONSE ACTIONS</p> Dilute and disperse Stop discharge Chemical and Physical Treatment: Neutralize Do not burn	<p>2. CHEMICAL DESIGNATIONS</p> 2.1 CG Compatibility Group: Not listed. 2.2 Formula: $\text{CH}_3(\text{CH}_2)_{11}\text{SiCl}_3$ 2.3 IMO/UN Designation: 8/1771 2.4 DOT ID No.: 1771 2.5 CAS Registry No.: 4484-72-4 2.6 NAERG Guide No.: 156 2.7 Standard Industrial Trade Classification: 51550
<p>3. HEALTH HAZARDS</p> 3.1 Personal Protective Equipment: Acid-vapor type respiratory protection; rubber gloves; chemical worker's goggles; other protective equipment as necessary to protect eyes and skin. 3.2 Symptoms Following Exposure: Inhalation irritates mucous membrane. Contact with liquid causes severe burns of eyes and skin. Ingestion causes severe burns of mouth and stomach. 3.3 Treatment of Exposure: INHALATION: remove 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 if skin is burned. INGESTION: if victim is conscious, give large amounts of water, then milk or milk of magnesia. 3.4 TLV-TWA: Not listed. 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Grade 3; LD_{50} = 50 to 500 mg/kg 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Currently not available 3.10 Vapor (Gas) Irritant Characteristics: Vapors cause moderate irritation such that personnel will find high concentrations unpleasant. The effect is temporary. 3.11 Liquid or Solid Characteristics: Severe skin irritant. Causes second and third degree burns on short contact and is very injurious to the eyes. 3.12 Odor Threshold: Currently not available 3.13 IDLH Value: Not listed. 3.14 OSHA PEL-TWA: Not listed. 3.15 OSHA PEL-STEL: Not listed. 3.16 OSHA PEL-Ceiling: Not listed. 3.17 EPA AEGL: Not listed	

4. FIRE HAZARDS

- 4.1 **Flash Point:** > 150°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, foam
 4.5 **Special Hazards of Combustion Products:** Hydrochloric acid and phosgene fumes may form in fires.
 4.6 **Behavior in Fire:** Difficult to extinguish; re-ignition may occur. Contact with water applied to adjacent fires produces irritating hydrogen chloride fumes.
 4.7 **Auto Ignition Temperature:** Currently not available
 4.8 **Electrical Hazards:** Currently not available
 4.9 **Burning Rate:** Currently not available
 4.10 **Adiabatic Flame Temperature:** Currently not available
 4.11 **Stoichiometric Air to Fuel Ratio:** 88.1 (calc.)
 4.12 **Flame Temperature:** Currently not available
 4.13 **Combustion Molar Ratio (Reactant to Product):** 27.0 (calc.)
 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** Generates 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:** Flush 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:** Commercial
 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:** Not listed
 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:** 303.7
 9.3 **Boiling Point at 1 atm:** >300°F = >149°C = >422°K
 9.4 **Freezing Point:** Not pertinent
 9.5 **Critical Temperature:** Not pertinent
 9.6 **Critical Pressure:** Not pertinent
 9.7 **Specific Gravity:** 1.03 at 20°C (liquid)
 9.8 **Liquid Surface Tension:** Currently not available
 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:** Not pertinent
 9.13 **Heat of Combustion:** (est.) -11,000 Btu/lb = -6,200 cal/g = -260 X 10⁵ 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	64.849	52	0.441	52	1.048		N
54	64.780	54	0.442	54	1.048		O
56	64.709	56	0.443	56	1.048		T
58	64.639	58	0.444	58	1.048		
60	64.570	60	0.446	60	1.048		P
62	64.500	62	0.447	62	1.048		E
64	64.429	64	0.448	64	1.048		R
66	64.360	66	0.449	66	1.048		T
68	64.290	68	0.450	68	1.048		I
70	64.230	70	0.451	70	1.048		N
72	64.160	72	0.452	72	1.048		E
74	64.089	74	0.453	74	1.048		N
76	64.020	76	0.454	76	1.048		T
78	63.950	78	0.456	78	1.048		
80	63.880	80	0.457	80	1.048		
82	63.810	82	0.458	82	1.048		
84	63.740	84	0.459	84	1.048		
86	63.670	86	0.460	86	1.048		

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 E A C T S		N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T