

# ALLYLTRICHLOROSILANE

ATC

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> Allylsilicone trichloride	Liquid Colorless Sharp, irritating odor	Reacts violently with water. Irritating visible vapor cloud is produced.
<p>Restrict access. Evacuate. Avoid contact with liquid and vapor. Call fire department. Call fire department. Notify local health and pollution control agencies. Protect water intakes.</p>		
<b>Fire</b>	<p>Combustible. POISONOUS GASES MAY BE PRODUCED IN FIRE. Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). Extinguish with dry chemicals or carbon dioxide. DO NOT USE WATER OR FOAM ON FIRE.</p>	
<b>Exposure</b>	<p>Call for medical aid.</p> <p>VAPOR Irritating to eyes, nose and throat. If inhaled will cause coughing or difficult breathing. Move victim to fresh air. If breathing is difficult, give oxygen.</p> <p>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.</p>	
<b>Water Pollution</b>	<p>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

Dilute and disperse  
Stop discharge  
Chemical and Physical Treatment:  
Neutralize  
Do not add water to undissolved material  
Do not burn

### 2. CHEMICAL DESIGNATIONS

2.1 **CG Compatibility Group:** Not listed.  
2.2 **Formula:** CH<sub>2</sub>=CHCH<sub>2</sub>SiCl<sub>3</sub>  
2.3 **IMO/UN Designation:** 8/1724  
2.4 **DOT ID No.:** 1724  
2.5 **CAS Registry No.:** 107-37-9  
2.6 **NAERG Guide No.:** 155  
2.7 **Standard Industrial Trade Classification:** 51550

### 3. HEALTH HAZARDS

3.1 **Personal Protective Equipment:** Acid-vapor-type respiratory protection; rubber gloves; chemical goggles; other equipment necessary to protect skin and eyes.  
3.2 **Symptoms Following Exposure:** Inhalation of vapor irritates mucous membranes. Liquid causes severe burns of eyes and skin and severe internal burns if ingested.  
3.3 **Treatment of Exposure:** Get medical attention after all exposures to this compound. INHALATION: remove from exposure; support respiration. EYES: flush with water 15 min. SKIN: flush with water. INGESTION: do NOT induce vomiting; give water.  
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<sub>50</sub> = 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 severe irritation of eyes and throat and can cause eye or lung injury. They cannot be tolerated even at low concentrations.  
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:** 100°F O.C. 95°F C.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 or foam  
4.5 **Special Hazards of Combustion Products:** Irritating vapors of hydrogen chloride and phosgene may form.  
4.6 **Behavior in Fire:** Difficult to extinguish. Re-ignition may occur.  
4.7 **Auto Ignition Temperature:** Currently not available  
4.8 **Electrical Hazards:** Currently not available  
4.9 **Burning Rate:** 2.2 mm/min.  
4.10 **Adiabatic Flame Temperature:** Currently not available  
4.11 **Stoichiometric Air to Fuel Ratio:** 21.4 (calc.)  
4.12 **Flame Temperature:** Currently not available  
4.13 **Combustion Molar Ratio (Reactant to Product):** 8.0 (calc.)  
4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

### 5. CHEMICAL REACTIVITY

5.1 **Reactivity with Water:** Reacts vigorously, generating hydrogen chloride (hydrochloric acid).  
5.2 **Reactivity with Common Materials:** Corrodes metal because of hydrochloric acid formed.  
5.3 **Stability During Transport:** Stable  
5.4 **Neutralizing Agents for Acids and Caustics:** Flush with water, rinse with sodium bicarbonate  
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 **NAFTA Hazard Classification:**

Category	Classification
Health Hazard (Blue).....	3
Flammability (Red).....	3
Instability (Yellow).....	2
Special (White).....	W

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:** 175.5  
9.3 **Boiling Point at 1 atm:** 241°F = 116°C = 389°K  
9.4 **Freezing Point:** Not pertinent  
9.5 **Critical Temperature:** Not pertinent  
9.6 **Critical Pressure:** Not pertinent  
9.7 **Specific Gravity:** 1.215 at 20°C (liquid)  
9.8 **Liquid Surface Tension:** (est.) 20 dynes/cm = 0.020 N/m at 20°C  
9.9 **Liquid Water Interfacial Tension:** Not pertinent  
9.10 **Vapor (Gas) Specific Gravity:** 6  
9.11 **Ratio of Specific Heats of Vapor (Gas):** 1.0863  
9.12 **Latent Heat of Vaporization:** 97 Btu/lb = 54 cal/g = 2.3 X 10<sup>5</sup> J/kg  
9.13 **Heat of Combustion:** (est.) -5,200 Btu/lb = -2,900 cal/g = -120 X 10<sup>3</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
34	77.020	34	0.500	34	0.839	34	5.243
36	76.950	36	0.500	36	0.839	36	5.084
38	76.879	38	0.500	38	0.839	38	4.930
40	76.809	40	0.500	40	0.839	40	4.783
42	76.740	42	0.500	42	0.839	42	4.641
44	76.679	44	0.500	44	0.839	44	4.504
46	76.610	46	0.500	46	0.839	46	4.372
48	76.540	48	0.500	48	0.839	48	4.245
50	76.469	50	0.500	50	0.839	50	4.123
52	76.400	52	0.500	52	0.839	52	4.005
54	76.330	54	0.500	54	0.839	54	3.892
56	76.259	56	0.500	56	0.839	56	3.782
58	76.190	58	0.500	58	0.839	58	3.677
60	76.120	60	0.500	60	0.839	60	3.575
62	76.049	62	0.500	62	0.839	62	3.476
64	75.980	64	0.500	64	0.839	64	3.381
66	75.910	66	0.500	66	0.839	66	3.290
68	75.839	68	0.500	68	0.839	68	3.201
70	75.770	70	0.500	70	0.839	70	3.116
72	75.700	72	0.500	72	0.839	72	3.033
74	75.629	74	0.500	74	0.839	74	2.954
76	75.570	76	0.500	76	0.839	76	2.877
78	75.500	78	0.500	78	0.839	78	2.802
80	75.429	80	0.500	80	0.839	80	2.730
82	75.360	82	0.500	82	0.839	82	2.660
84	75.290	84	0.500	84	0.839	84	2.593

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	0	0.026	0	0.00091	85	0.142
	E	10	0.038	10	0.00133	90	0.142
	A	20	0.056	20	0.00189	95	0.142
	C	30	0.080	30	0.00266	100	0.142
	T	40	0.113	40	0.00369	105	0.142
	S	50	0.158	50	0.00505	110	0.142
		60	0.217	60	0.00683	115	0.142
		70	0.296	70	0.00913	120	0.142
		80	0.398	80	0.01206	125	0.142
		90	0.530	90	0.01577	130	0.142
		100	0.699	100	0.02041	135	0.142
		110	0.912	110	0.02618	140	0.142
		120	1.180	120	0.03328	145	0.142
		130	1.513	130	0.04194	150	0.142
		140	1.924	140	0.05245	155	0.142
		150	2.427	150	0.06509	160	0.142
		160	3.039	160	0.08019	165	0.142
		170	3.779	170	0.09812	170	0.142
		180	4.667	180	0.11930		
		190	5.726	190	0.14410		
		200	6.981	200	0.17300		
		210	8.462	210	0.20660		
		220	10.200	220	0.24530		
		230	12.230	230	0.28980		