

N-AMYLTRICHLOROSILANE

ATS

CAUTIONARY RESPONSE INFORMATION

Common Synonyms		Liquid	Colorless	Sharp irritating odor
Pentylsilicon trichloride Trichloroamylsilane Trichloropentylsilane		Reacts violently with water. Irritating visible vapor cloud is produced.		
<p>Restrict access. Evacuate. Avoid contact with liquid and vapor. 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>				
Fire	<p>Combustible. POISONOUS GASES ARE PRODUCED IN FIRE. Wear goggles and self-contained breathing apparatus. Extinguish with dry chemicals or carbon dioxide. DO NOT USE WATER OR FOAM ON FIRE.</p>			
Exposure	<p>Call for medical aid.</p> <p>VAPOR Irritating to eyes, nose and throat. If inhaled will cause difficult breathing. Move victim to fresh air. If breathing has stopped, give artificial respiration. 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>			
Water Pollution	<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>			

<p>1. CORRECTIVE RESPONSE ACTIONS</p> <p>Dilute and disperse Stop discharge Chemical and Physical Treatment: Neutralize Do not add water to undissolved material Do not burn</p>	<p>2. CHEMICAL DESIGNATIONS</p> <p>2.1 CG Compatibility Group: Not listed. 2.2 Formula: CH₃CH₂CH₂CH₂CH₂SiCl₃ 2.3 IMO/UN Designation: 8/1728 2.4 DOT ID No.: 1728 2.5 CAS Registry No.: 107-72-2 2.6 NAERG Guide No.: 155 2.7 Standard Industrial Trade Classification: 51550</p>
<p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Acid-vapor-type respiratory protection; rubber gloves; chemical worker's goggles. 3.2 Symptoms Following Exposure: Inhalation causes irritation of mucous membrane. Contact of liquid with eyes or skin causes severe burns, and ingestion causes severe burns of mouth and stomach. 3.3 Treatment of Exposure: Get medical attention immediately after exposure to this compound. INHALATION: remove from exposure; support respiration. EYES: flush with water for 15 min. SKIN: flush with water. INGESTION: give large amounts of 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 2; oral rat LD₅₀ = 2,340 mg/kg 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Currently not available 3.10 Vapor (Gas) Irritant Characteristics: Vapors are moderately irritating such that personnel will not usually tolerate moderate or high vapor 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</p>	

4. FIRE HAZARDS

- 4.1 **Flash Point:** 145°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:** Irritating hydrogen chloride and toxic phosgene may be formed.
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:** 2.5 mm/min.
4.10 **Adiabatic Flame Temperature:** Currently not available
4.11 **Stoichiometric Air to Fuel Ratio:** 38.1 (calc.)
4.12 **Flame Temperature:** Currently not available
4.13 **Combustion Molar Ratio (Reactant to Product):** 13.0 (calc.)
4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** Reacts vigorously to generate toxic hydrogen chloride gas (hydrochloric acid).
5.2 **Reactivity with Common Materials:** Corrodes metal
5.3 **Stability During Transport:** Stable
5.4 **Neutralizing Agents for Acids and Caustics:** After flushing with water, rinse with sodium bicarbonate solution or lime water.
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:**
- | Category | Classification |
|---------------------------|----------------|
| Health Hazard (Blue)..... | 3 |
| Flammability (Red)..... | 2 |
| 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:** 205.6
9.3 **Boiling Point at 1 atm:** 320°F = 160°C = 433°K
9.4 **Freezing Point:** Not pertinent
9.5 **Critical Temperature:** Not pertinent
9.6 **Critical Pressure:** Not pertinent
9.7 **Specific Gravity:** 1.137 at 25°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:** 7.1
9.11 **Ratio of Specific Heats of Vapor (Gas):** Currently not available
9.12 **Latent Heat of Vaporization:** (est.) 86.8 Btu/lb = 48.2 cal/g = 2.02 X 10⁵ J/kg
9.13 **Heat of Combustion:** (est.) -6,630 Btu/lb = -3,680 cal/g = -154 X 10³ J/kg
9.14 **Heat of Decomposition:** Not pertinent
9.15 **Heat of Solution:** (est.) 180 Btu/lb = 100 cal/g = 4.0 X 10⁵ J/kg
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
51	71.879	51	0.436	52	0.783	51	9.018
52	71.839	52	0.436	54	0.783	52	8.773
53	71.809	53	0.437	56	0.783	53	8.535
54	71.770	54	0.437	58	0.783	54	8.305
55	71.740	55	0.438	60	0.783	55	8.082
56	71.700	56	0.438	62	0.783	56	7.865
57	71.669	57	0.439	64	0.783	57	7.656
58	71.629	58	0.439	66	0.783	58	7.452
59	71.599	59	0.440	68	0.783	59	7.255
60	71.559	60	0.441	70	0.783	60	7.064
61	71.530	61	0.441	72	0.783	61	6.879
62	71.490	62	0.442	74	0.783	62	6.699
63	71.459	63	0.442	76	0.783	63	6.524
64	71.419	64	0.443	78	0.783	64	6.355
65	71.389	65	0.443	80	0.783	65	6.190
66	71.360	66	0.444	82	0.783	66	6.031
67	71.320	67	0.444	84	0.783	67	5.876
68	71.290	68	0.445	86	0.783	68	5.726
69	71.250	69	0.446	88	0.783	69	5.580
70	71.219	70	0.446			70	5.438
71	71.179	71	0.447			71	5.301
72	71.150	72	0.447			72	5.167
73	71.110	73	0.448			73	5.037
74	71.080	74	0.448			74	4.911
75	71.040	75	0.449			75	4.789
76	71.009	76	0.449			76	4.670

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	70	0.403	70	0.01459		N
	E	80	0.496	80	0.01762		O
	A	90	0.607	90	0.02114		T
	C	100	0.736	100	0.02518		
	T	110	0.886	110	0.02980		P
	S	120	1.061	120	0.03505		E
		130	1.262	130	0.04099		R
		140	1.493	140	0.04768		T
		150	1.756	150	0.05516		I
		160	2.055	160	0.06351		N
		170	2.392	170	0.07277		E
		180	2.772	180	0.08300		N
		190	3.198	190	0.09427		T
		200	3.673	200	0.10660		
		210	4.201	210	0.12020		
		220	4.786	220	0.13490		
		230	5.432	230	0.15090		
		240	6.143	240	0.16820		
		250	6.923	250	0.18690		
		260	7.777	260	0.20700		
		270	8.707	270	0.22860		
		280	9.720	280	0.25170		
		290	10.820	290	0.27640		
		300	12.010	300	0.30270		
		310	13.290	310	0.33070		
		320	14.670	320	0.36040		