

DECALDEHYDE

DAL

CAUTIONARY RESPONSE INFORMATION

Common Synonyms		Liquid	Colorless to light yellow	Pleasant odor
Aldehyde C-10 Capraldehyde Capric aldehyde Decanal n-Decyl aldehyde		Floats on water. Freezing point in 64°F.		
<p style="color: red;">Avoid contact with liquid. Call fire department. Notify local health and pollution control agencies.</p>				
Fire	Combustible. Extinguish with dry chemical, foam, or carbon dioxide.			
Exposure	CALL FOR MEDICAL AID. LIQUID Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water.			
Water Pollution	Effect of low concentrations on aquatic life is unknown. Fouling to shoreline. May be dangerous if it enters water intakes. Notify local health and pollution control officials. Notify operators of nearby water intakes.			

<p>1. CORRECTIVE RESPONSE ACTIONS</p> <ul style="list-style-type: none"> Stop discharge Contain Collection Systems: Skim Clean shore line Salvage waterfowl 	<p>2. CHEMICAL DESIGNATIONS</p> <ul style="list-style-type: none"> 2.1 CG Compatibility Group: 19; Aldehyde 2.2 Formula: CH₂(CH₂)₈CHO 2.3 IMO/UN Designation: Not listed 2.4 DOT ID No.: Not listed 2.5 CAS Registry No.: Currently not available 2.6 NAERG Guide No.: Not listed 2.7 Standard Industrial Trade Classification: 51621
<p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Protective clothing and chemical goggles.</p> <p>3.2 Symptoms Following Exposure: On direct contact can produce eye and skin irritation; low general toxicity.</p> <p>3.3 Treatment of Exposure: CONTACT WITH EYES AND SKIN: wash with water for 15 min.</p> <p>3.4 TLV-TWA: Not listed.</p> <p>3.5 TLV-STEL: Not listed.</p> <p>3.6 TLV-Ceiling: Not listed.</p> <p>3.7 Toxicity by Ingestion: Grade 0; LD₅₀>>33.3 g/kg (rat)</p> <p>3.8 Toxicity by Inhalation: Currently not available.</p> <p>3.9 Chronic Toxicity: Currently not available</p> <p>3.10 Vapor (Gas) Irritant Characteristics: Currently not available</p> <p>3.11 Liquid or Solid Characteristics: Skin effects thought to be minor.</p> <p>3.12 Odor Threshold: 0.168 ppm</p> <p>3.13 IDLH Value: Not listed.</p> <p>3.14 OSHA PEL-TWA: Not listed.</p> <p>3.15 OSHA PEL-STEL: Not listed.</p> <p>3.16 OSHA PEL-Ceiling: Not listed.</p> <p>3.17 EPA AEGL: Not listed</p>	

4. FIRE HAZARDS

- 4.1 **Flash Point:** 185°F O.C.
- 4.2 **Flammable Limits in Air:** Currently not available
- 4.3 **Fire Extinguishing Agents:** Foam, dry chemical, carbon dioxide
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion Products:** Not pertinent
- 4.6 **Behavior in Fire:** Not pertinent
- 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:** 69.0 (calc.)
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** 20.0 (calc.)
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction
- 5.2 **Reactivity with Common Materials:** No reaction
- 5.3 **Stability During Transport:** Stable
- 5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
- 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: T
Damage to living resources: 3
Human Oral hazard: 1
Human Contact hazard: I
Reduction of amenities: X

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Currently not available
- 7.2 **Storage Temperature:** Ambient
- 7.3 **Inert Atmosphere:** No requirement
- 7.4 **Venting:** Open (flame arrester)
- 7.5 **IMO Pollution Category:** B
- 7.6 **Ship Type:** 3
- 7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Not listed
- 8.2 **49 CFR Class:** Not pertinent
- 8.3 **49 CFR Package Group:** Not listed.
- 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:** 145.3
- 9.3 **Boiling Point at 1 atm:** 404 to 410°F = 207 to 210°C = 480 to 483°K
- 9.4 **Freezing Point:** 64°F = 18°C = 291°K
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** 0.830 at 15°C (liquid)
- 9.8 **Liquid Surface Tension:** 28.0 dynes/cm = 0.0280 N/m at 24°C
- 9.9 **Liquid Water Interfacial Tension:** 16.9 dynes/cm = 0.0169 N/m at 22.7°C
- 9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** 1.036
- 9.12 **Latent Heat of Vaporization:** Not pertinent
- 9.13 **Heat of Combustion:** (est.) -18,000 Btu/lb = -10,000 cal/g = -424 X 10⁵ J/kg
- 9.14 **Heat of Decomposition:** Not pertinent
- 9.15 **Heat of Solution:** Not pertinent
- 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
65	51.600	85	0.548	70	1.005	64	2.112
70	51.430	90	0.551	80	0.997	66	2.063
75	51.261	95	0.554	90	0.989	68	2.015
80	51.080	100	0.557	100	0.982	70	1.968
85	50.910	105	0.560	110	0.974	72	1.923
90	50.740	110	0.563	120	0.966	74	1.879
95	50.560	115	0.565	130	0.959	76	1.837
100	50.390	120	0.568	140	0.951	78	1.796
		125	0.571	150	0.943	80	1.756
		130	0.574	160	0.935	82	1.717
		135	0.577	170	0.928	84	1.679
		140	0.580	180	0.920	86	1.643
		145	0.583	190	0.912	88	1.607
		150	0.586	200	0.905	90	1.573
						92	1.539
						94	1.507
						96	1.475
						98	1.444

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
	I	170	0.013	170	0.00028	0	0.349
	N	180	0.021	180	0.00045	25	0.364
	S	190	0.034	190	0.00070	50	0.379
	O	200	0.053	200	0.00109	75	0.393
	L	210	0.082	210	0.00166	100	0.407
	U	220	0.125	220	0.00250	125	0.421
	B	230	0.189	230	0.00372	150	0.435
	L	240	0.282	240	0.00546	175	0.449
	E	250	0.415	250	0.00792	200	0.462
		260	0.604	260	0.01136	225	0.476
		270	0.869	270	0.01612	250	0.489
		280	1.238	280	0.02265	275	0.502
		290	1.744	290	0.03150	300	0.515
		300	2.435	300	0.04339	325	0.527
		310	3.368	310	0.05923	350	0.540
		320	4.618	320	0.08016	375	0.552
		330	6.277	330	0.10760	400	0.564
						425	0.576
						450	0.587
						475	0.599
						500	0.610
						525	0.621
						550	0.632
						575	0.643
						600	0.654