

ISOCTALDEHYDE

IOC

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Dimethylhexanals Isooctylaldehyde 6-Methyl-1-heptanal Oxo octaldehyde		Liquid	Colorless	Mild fruity odor
		Floats on water.		
Call fire department. Notify local health and pollution control agencies.				
Fire	Combustible. Extinguish with dry chemical, foam, or carbon dioxide.			
Exposure	CALL FOR MEDICAL AID. LIQUID Irritating to eyes. 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 wildlife officials. Notify operators of nearby water intakes.			

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Skim
Clean shore line
Salvage waterfowl

2. CHEMICAL DESIGNATIONS

2.1 **CG Compatibility Group:** 19; Aldehyde
2.2 **Formula:** (CH₃)₂CH(CH₂)₆CHO
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

3. HEALTH HAZARDS

3.1 **Personal Protective Equipment:** Chemical goggles.
3.2 **Symptoms Following Exposure:** High vapor concentrations produce eye irritation. Liquid may irritate eyes.
3.3 **Treatment of Exposure:** Remove from exposure. Wash eyes with water for 15 min.
3.4 **TLV-TWA:** Not listed.
3.5 **TLV-STEL:** Not listed.
3.6 **TLV-Ceiling:** Not listed.
3.7 **Toxicity by Ingestion:** Currently not available
3.8 **Toxicity by Inhalation:** Currently not available.
3.9 **Chronic Toxicity:** Currently not available
3.10 **Vapor (Gas) Irritant Characteristics:** Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.
3.11 **Liquid or Solid Characteristics:** No appreciable hazard. Practically harmless to the skin.
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:** 104°F C.C.
4.2 **Flammable Limits in Air:** Currently not available
4.3 **Fire Extinguishing Agents:** Currently not available
4.4 **Fire Extinguishing Agents Not to Be Used:** Currently not available
4.5 **Special Hazards of Combustion Products:** Not pertinent
4.6 **Behavior in Fire:** Not pertinent
4.7 **Auto Ignition Temperature:** 320°F
4.8 **Electrical Hazards:** Not pertinent
4.9 **Burning Rate:** Currently not available
4.10 **Adiabatic Flame Temperature:** Currently not available
4.11 **Stoichiometric Air to Fuel Ratio:** 54.7 (calc.)
4.12 **Flame Temperature:** Currently not available
4.13 **Combustion Molar Ratio (Reactant to Product):** 16.0 (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:** 128.22
9.3 **Boiling Point at 1 atm:** 307-352°F = 153-178°C = 426-451°K
9.4 **Freezing Point:** -180°F = -118°C = 155°K
9.5 **Critical Temperature:** Not pertinent
9.6 **Critical Pressure:** Not pertinent
9.7 **Specific Gravity:** 0.825 at 20°C (liquid)
9.8 **Liquid Surface Tension:** 26.9 dynes/cm = 0.0269 N/m at 20°C
9.9 **Liquid Water Interfacial Tension:** (est.) 40 dynes/cm = 0.04 N/m at 20°C
9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
9.11 **Ratio of Specific Heats of Vapor (Gas):** (est.) 1.040
9.12 **Latent Heat of Vaporization:** 140 Btu/lb = 77 cal/g = 3.2 X 10⁵ J/kg
9.13 **Heat of Combustion:** (est.) -17,000 Btu/lb = -9600 cal/g = -400 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
50	51.500	50	0.478	50	1.040	68	1.100
52	51.500	52	0.478	52	1.040		
54	51.500	54	0.478	54	1.040		
56	51.500	56	0.478	56	1.040		
58	51.500	58	0.478	58	1.040		
60	51.500	60	0.478	60	1.040		
62	51.500	62	0.478	62	1.040		
64	51.500	64	0.478	64	1.040		
66	51.500	66	0.478	66	1.040		
68	51.500	68	0.478	68	1.040		
70	51.500	70	0.478	70	1.040		
72	51.500	72	0.478	72	1.040		
74	51.500	74	0.478	74	1.040		
76	51.500	76	0.478	76	1.040		
78	51.500	78	0.478	78	1.040		
80	51.500	80	0.478	80	1.040		
82	51.500	82	0.478	82	1.040		
84	51.500	84	0.478	84	1.040		

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	42	0.002	42	0.00004	100	0.422
	N	44	0.002	44	0.00004	120	0.432
	S	46	0.002	46	0.00005	140	0.441
	O	48	0.002	48	0.00005	160	0.451
	L	50	0.002	50	0.00005	180	0.460
	U	52	0.003	52	0.00006	200	0.469
	B	54	0.003	54	0.00006	220	0.478
	L	56	0.003	56	0.00007	240	0.487
	E	58	0.003	58	0.00008	260	0.496
		60	0.004	60	0.00008	280	0.504
		62	0.004	62	0.00009	300	0.513
		64	0.004	64	0.00010	320	0.521
		66	0.005	66	0.00011	340	0.529
		68	0.005	68	0.00011	360	0.537
		70	0.006	70	0.00012	380	0.544
		72	0.006	72	0.00013	400	0.552
		74	0.007	74	0.00015	420	0.559
		76	0.007	76	0.00016	440	0.566
		78	0.008	78	0.00017		
		80	0.008	80	0.00018		
		82	0.009	82	0.00020		
		84	0.010	84	0.00022		