

DODECENE

DOD

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Dodecene (non-linear) Propylene tetramer Tetrapropylene	Watery liquid Colorless Pleasant odor Floats on water.
Call fire department. Avoid contact with liquid. Notify local health and pollution control agencies. Protect water intakes.	
Fire	Combustible. Extinguish with foam, dry chemical or carbon dioxide.
Exposure	CALL FOR MEDICAL AID. LIQUID Irritating to 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. 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: 30; Olefin
2.2 Formula: $C_{12}H_{24}$
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: Not listed
2.5 CAS Registry No.: 6842-15-5
2.6 NAERG Guide No.: Not listed
2.7 Standard Industrial Trade Classification: 51119

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Protective gloves; no respiratory protection needed if ventilation is adequate.
- 3.2 **Symptoms Following Exposure:** No inhalation hazard expected. Aspiration hazard if ingested. Minor skin and eye irritation.
- 3.3 **Treatment of Exposure:** INHALATION: Remove victim to fresh air. INGESTION: do NOT induce vomiting. Do NOT lavage. Give vegetable oil and demulcents; call physician. EYE CONTACT: flush with water for 15 min. SKIN CONTACT: wash with soap and 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 0; LD₅₀ above 15 g/kg
- 3.8 **Toxicity by Inhalation:** Currently not available.
- 3.9 **Chronic Toxicity:** Currently not available
- 3.10 **Vapor (Gas) Irritant Characteristics:** Slight smarting of eyes and respiratory system at high concentrations. The effect is temporary.
- 3.11 **Liquid or Solid Characteristics:** Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of 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:** 134°F O.C. 212°F C.C.
- 4.2 **Flammable Limits in Air:** Currently not available
- 4.3 **Fire Extinguishing Agents:** Water fog, foam, carbon dioxide, dry chemical
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Water may be ineffective.
- 4.5 **Special Hazards of Combustion Products:** Not pertinent
- 4.6 **Behavior in Fire:** Not pertinent
- 4.7 **Auto Ignition Temperature:** 491°F (est.)
- 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:** 85.7 (calc.)
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** 24.0 (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: 0
Damage to living resources: 3
Human Oral hazard: 1
Human Contact hazard: 1
Reduction of amenities: 0

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 98.5-99+% olefin
- 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:**
- | Category | Classification |
|---------------------------|----------------|
| Health Hazard (Blue)..... | 0 |
| Flammability (Red)..... | 2 |
| Instability (Yellow)..... | 0 |
- 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:** 168.31
- 9.3 **Boiling Point at 1 atm:** 365–385°F = 185–196°C = 458–469°K
- 9.4 **Freezing Point:** Not pertinent
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** 0.77 at 20°C (liquid)
- 9.8 **Liquid Surface Tension:** 23.0 dynes/cm = 0.0230 N/m at 20°C
- 9.9 **Liquid Water Interfacial Tension:** Currently not available
- 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:** –19,100 Btu/lb = –10,600 cal/g = –444 X 10³ 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:** 0.01 psia

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
40	48.740	32	0.478	32	1.040	40	1.698
50	48.480	34	0.478	34	1.040	50	1.541
60	48.230	36	0.478	36	1.040	60	1.404
70	47.980	38	0.478	38	1.040	70	1.283
80	47.720	40	0.478	40	1.040	80	1.177
90	47.470	42	0.478	42	1.040	90	1.082
100	47.220	44	0.478	44	1.040	100	0.999
110	46.960	46	0.478	46	1.040	110	0.924
120	46.710	48	0.478	48	1.040	120	0.858
130	46.460	50	0.478	50	1.040	130	0.798
140	46.200	52	0.478	52	1.040	140	0.744
150	45.950	54	0.478	54	1.040	150	0.695
160	45.700	56	0.478	56	1.040	160	0.651
170	45.450	58	0.478	58	1.040	170	0.611
180	45.190	60	0.478	60	1.040	180	0.575
190	44.940	62	0.478	62	1.040	190	0.541
200	44.690	64	0.478	64	1.040	200	0.511
210	44.430	66	0.478	66	1.040	210	0.483
		68	0.478	68	1.040		
		70	0.478	70	1.040		
		72	0.478	72	1.040		
		74	0.478	74	1.040		
		76	0.478	76	1.040		
		78	0.478	78	1.040		
		80	0.478	80	1.040		
		82	0.478	82	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	120	0.022	120	0.00059	0	0.336
	N	130	0.031	130	0.00082	25	0.350
	S	140	0.043	140	0.00113	50	0.365
	O	150	0.060	150	0.00153	75	0.380
	L	160	0.081	160	0.00206	100	0.394
	U	170	0.110	170	0.00273	125	0.408
	B	180	0.147	180	0.00359	150	0.422
	L	190	0.194	190	0.00468	175	0.436
	E	200	0.254	200	0.00604	200	0.450
		210	0.330	210	0.00772	225	0.463
		220	0.425	220	0.00979	250	0.476
		230	0.542	230	0.01232	275	0.489
		240	0.686	240	0.01538	300	0.502
		250	0.863	250	0.01907	325	0.515
		260	1.077	260	0.02347	350	0.528
		270	1.336	270	0.02870	375	0.540
		280	1.645	280	0.03487	400	0.552
		290	2.014	290	0.04212	425	0.564
		300	2.451	300	0.05059	450	0.576
		310	2.965	310	0.06043	475	0.588
		320	3.570	320	0.07180	500	0.599
		330	4.275	330	0.08488	525	0.610
		340	5.093	340	0.09986	550	0.621
		350	6.039	350	0.11700	575	0.632
		360	7.129	360	0.13640	600	0.643
		370	8.377	370	0.15830		