TETRAHYDRONAPHTHALENE

THN

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
1,2,3,4-Tetrahydronaphthalene Tetralin Tetramp Tetranap	Watery liquid Floats on water.	Colorless	Moldy, turpentine odor

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. Water may be ineffective on fire. Cool exposed containers with water.
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.
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
Chemical and Physical Treatment:
Absorb
Clean shore line
Salvage waterfowl

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 32; Aromatic Hydrocarbon
2.2 Formula: $C_{10}H_{12}$
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: Not listed
2.5 CAS Registry No.: 119-64-2
2.6 NAERG Guide No.: Not listed
2.7 Standard Industrial Trade Classification: 51129

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Air-supplied mask in closed tanks; goggles or face shield; rubber gloves.
3.2 Symptoms Following Exposure: Liquid may cause nervous disturbance, green coloration of urine, and skin and eye irritation
3.3 Treatment of Exposure: INGESTION: induce vomiting; call a doctor; medical treatment should be aimed at conservation of liver and kidney function. EYES: flush with water for at least 15 min; call a doctor. SKIN: wipe off, 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 2; LD_{50} = 0.5 to 5 g/kg
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Liver and kidney damage from high dose.
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: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of 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: 190°F O.C. 176°F C.C.
4.2 Flammable Limits in Air: 0.8%-5%
4.3 Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide
4.4 Fire Extinguishing Agents Not to Be Used: Avoid water
4.5 Special Hazards of Combustion Products: Not pertinent
4.6 Behavior in Fire: Not pertinent
4.7 Auto Ignition Temperature: 725°F
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: 61.9 (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: 78 ppm/24 hr/brine shrimp/TL_m
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): 0 lb/lb, 5 days
6.4 Food Chain Concentration Potential: None
6.5 GESAMP Hazard Profile:
Bioaccumulation: 0
Damage to living resources: 2
Human Oral hazard: 1
Human Contact hazard: I
Reduction of amenities: X

7. SHIPPING INFORMATION

7.1 Grades of Purity: 90+%
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open (flame arrester)
7.5 IMO Pollution Category: C
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).....	1
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: 132.21
9.3 Boiling Point at 1 atm: 406°F = 208°C = 481°K
9.4 Freezing Point: –23.1°F = 30.6°C = 242.6°K
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 0.974 at 20°C (liquid
9.8 Liquid Surface Tension: 35.5 dynes/cm = 0.0355 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: 138 Btu/lb = 76.5 cal/lb = 3.20 X 10^5 J/kg
9.13 Heat of Combustion: –18,400 Btu/lb = –10,200 cal/g = –429 X 10^5 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: 0.02 psia

NOTES

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9.20 SATURATED LIQUID DENSITY	
Temperature (degrees F)	Pounds per cubic foot
34	61.730
36	61.660
38	61.590
40	61.520
42	61.450
44	61.380
46	61.310
48	61.240
50	61.170
52	61.100
54	61.040
56	60.970
58	60.900
60	60.830
62	60.760
64	60.690
66	60.620
68	60.550
70	60.480
72	60.410
74	60.340
76	60.270
78	60.200
80	60.130
82	60.060
84	60.000

9.21 LIQUID HEAT CAPACITY	
Temperature (degrees F)	British thermal unit per pound-F
34	0.400
36	0.400
38	0.400
40	0.400
42	0.400
44	0.400
46	0.400
48	0.400
50	0.400
52	0.400
54	0.400
56	0.400
58	0.400
60	0.400
62	0.400
64	0.400
66	0.400
68	0.400
70	0.400
72	0.400
74	0.400
76	0.400
78	0.400
80	0.400
82	0.400
84	0.400

9.22 LIQUID THERMAL CONDUCTIVITY	
Temperature (degrees F)	British thermal unit inch per hour-square foot-F
50	0.908
52	0.908
54	0.908
56	0.908
58	0.908
60	0.908
62	0.908
64	0.908
66	0.908
68	0.908
70	0.908
72	0.908
74	0.908
76	0.908
78	0.908
80	0.908
82	0.908
84	0.908

9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Centipoise
55	2.499
60	2.365
65	2.240
70	2.124
75	2.016
80	1.916
85	1.822
90	1.734
95	1.652
100	1.576
105	1.504
110	1.436
115	1.373
120	1.313
125	1.257
130	1.205
135	1.155
140	1.108
145	1.064
150	1.022
155	0.983
160	0.945
165	0.910
170	0.877
175	0.845

9.24 SOLUBILITY IN WATER	
Temperature (degrees F)	Pounds per 100 pounds of water
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9.25 SATURATED VAPOR PRESSURE	
Temperature (degrees F)	Pounds per square inch
80	0.012
100	0.025
120	0.046
140	0.082
160	0.142
180	0.238
200	0.386
220	0.607
240	0.931
260	1.395
280	2.045
300	2.937
320	4.141
340	5.739
360	7.827
380	10.520

9.26 SATURATED VAPOR DENSITY	
Temperature (degrees F)	Pounds per cubic foot
80	0.00029
100	0.00054
120	0.00098
140	0.00169
160	0.00283
180	0.00458
200	0.00720
220	0.01100
240	0.01640
260	0.02388
280	0.03405
300	0.04762
320	0.06541
340	0.08838
360	0.11760
380	0.15430

9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	British thermal unit per pound-F
	N
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	N
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	N
	T