

NITROETHANE

NTE

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Liquid	Colorless	Fruity Odor
	May float or sink in water.		
	<p>Keep people away. Avoid contact with liquid and vapor. Shut off ignition sources. Call fire department. Stay upwind. Use water spray to "knock down" vapor. Notify local health and pollution control agencies. Protect water intakes.</p>		
Fire	Combustible. POISONOUS GASES MAY BE PRODUCED IN FIRE. Containers may explode in fire. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Wear goggles and self-contained breathing apparatus. Extinguish with dry chemicals, foam or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water.		
Exposure	CALL FOR MEDICAL AID. VAPOR Irritating to eyes, nose and throat. If inhaled will cause coughing or difficult breathing. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. LIQUID Irritating to skin and eyes. If swallowed will cause nausea and vomiting. 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. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.		
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

Dilute and disperse
 Stop discharge
 Collection Systems: Pump; Dredge
 Do not burn

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed.
 2.2 Formula: CH₃CH₂NO₂
 2.3 IMO/UN Designation: Not listed
 2.4 DOT ID No.: 2842
 2.5 CAS Registry No.: 79-24-3
 2.6 NAERG Guide No.: 129
 2.7 Standard Industrial Trade Classification: 51140

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Supplied air or self-contained respirator; goggles or face shield; rubber gloves
- 3.2 **Symptoms Following Exposure:** Inhalation causes moderate irritation of respiratory tract. Ingestion causes irritation of mouth and stomach. Contact with liquid causes irritation of eyes and mild irritation of skin.
- 3.3 **Treatment of Exposure:** INHALATION: in case of pulmonary symptoms, give bed rest and oxygen; obtain medical attention at once. INGESTION: give large amount of water. EYES or SKIN: flush with water.
- 3.4 **TLV-TWA:** 100 ppm
 3.5 **TLV-STEL:** Not listed.
 3.6 **TLV-Ceiling:** Not listed.
- 3.7 **Toxicity by Ingestion:** Grade 2; oral LD₅₀ = 860 mg/kg (mouse)
 3.8 **Toxicity by Inhalation:** Currently not available.
 3.9 **Chronic Toxicity:** Currently not available
- 3.10 **Vapor (Gas) Irritant Characteristics:** Vapors cause moderate irritation such that personnel will find high concentration unpleasant. 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:** 163 ppm
 3.13 **IDLH Value:** 1,000 ppm
 3.14 **OSHA PEL-TWA:** 100 ppm.
 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:** 105°F O.C. 87°F C.C.
 4.2 **Flammable Limits in Air:** 3.4% (LFL)
 4.3 **Fire Extinguishing Agents:** Foam, carbon dioxide, or dry chemical
 4.4 **Fire Extinguishing Agents Not to Be Used:** Water may be ineffective; "alcohol" foam is not effective.
 4.5 **Special Hazards of Combustion Products:** Toxic oxides of nitrogen may form in fire.
 4.6 **Behavior in Fire:** Currently not available
 4.7 **Auto Ignition Temperature:** 778°F
 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:** 15.5 (calc.)
 4.12 **Flame Temperature:** Currently not available
 4.13 **Combustion Molar Ratio (Reactant to Product):** 5.5 (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:** May attack some forms of plastics
 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: (1)
 Human Oral hazard: 1
 Human Contact hazard: 1
 Reduction of amenities: X

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Commercial, 92.5+%
 7.2 **Storage Temperature:** Ambient
 7.3 **Inert Atmosphere:** No requirement
 7.4 **Venting:** Open (flame arrester)
 7.5 **IMO Pollution Category:** D
 7.6 **Ship Type:** 3
 7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Flammable liquid
 8.2 **49 CFR Class:** 3
 8.3 **49 CFR Package Group:** III
 8.4 **Marine Pollutant:** No
 8.5 **NFPA Hazard Classification:**
- | Category | Classification |
|---------------------------|----------------|
| Health Hazard (Blue)..... | 1 |
| Flammability (Red)..... | 3 |
| Instability (Yellow)..... | 3 |
- 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:** 75.07
 9.3 **Boiling Point at 1 atm:** 237°F = 114°C = 387°K
 9.4 **Freezing Point:** -130°F = -90°C = 183°K
 9.5 **Critical Temperature:** Currently not available
 9.6 **Critical Pressure:** Currently not available
 9.7 **Specific Gravity:** 1.05 at 20°C (liquid)
 9.8 **Liquid Surface Tension:** 31.3 dynes/cm = 0.0313 N/m at 20°C
 9.9 **Liquid Water Interfacial Tension:** Not pertinent
 9.10 **Vapor (Gas) Specific Gravity:** 2.6
 9.11 **Ratio of Specific Heats of Vapor (Gas):** (est.) 1.115 at 20°C
 9.12 **Latent Heat of Vaporization:** 211 Btu/lb = 117 cal/g = 4.90 X 10⁵ J/kg
 9.13 **Heat of Combustion:** -7,720 Btu/lb = -4,290 cal/g = -179 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
34	66.719	76	0.439	90	1.178	60	0.745
36	66.650			95	1.169	70	0.697
38	66.580			100	1.159	80	0.654
40	66.509			105	1.149	90	0.615
42	66.440			110	1.140	100	0.580
44	66.379			115	1.130	110	0.547
46	66.309			120	1.121	120	0.518
48	66.240			125	1.111	130	0.491
50	66.169			130	1.101	140	0.466
52	66.099			135	1.092	150	0.443
54	66.030			140	1.082	160	0.422
56	65.959			145	1.072	170	0.403
58	65.889			150	1.063	180	0.385
60	65.820			155	1.053	190	0.369
62	65.750			160	1.043	200	0.353
64	65.679			165	1.034	210	0.339
66	65.610					220	0.325
68	65.540					230	0.313
70	65.469						
72	65.400						
74	65.339						
76	65.270						
78	65.200						
80	65.129						
82	65.059						
84	64.990						

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
68	4.500	60	0.227	60	0.00305	0	0.231
		70	0.309	70	0.00408	20	0.239
		80	0.417	80	0.00540	40	0.246
		90	0.555	90	0.00707	60	0.253
		100	0.733	100	0.00916	80	0.260
		110	0.957	110	0.01175	100	0.267
		120	1.239	120	0.01495	120	0.274
		130	1.590	130	0.01886	140	0.281
		140	2.023	140	0.02360	160	0.288
		150	2.554	150	0.02930	180	0.295
		160	3.201	160	0.03612	200	0.301
		170	3.982	170	0.04422	220	0.308
		180	4.920	180	0.05379	240	0.314
		190	6.039	190	0.06501	260	0.320
		200	7.367	200	0.07810	280	0.326
		210	8.935	210	0.09330	300	0.332
		220	10.770	220	0.11090	320	0.338
		230	12.920	230	0.13100	340	0.344
						360	0.350
						380	0.356
						400	0.361
						420	0.367
						440	0.372
						460	0.378
						480	0.383
						500	0.388