

ISOHEXANE

IHA

CAUTIONARY RESPONSE INFORMATION

Common Synonyms 2-Methylpentane	Watery liquid Floats on water. Flammable, irritating vapor is produced.	Gasoline-like odor
Evacuate. Keep people away. Shut off ignition sources and call fire department. Stay upwind and use water spray to "knock down" vapor. Notify local health and pollution control agencies.		
Fire	FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Extinguish with dry chemical, 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 dizziness, headache, difficult breathing or loss of consciousness. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. LIQUID Irritating to skin and eyes. If swallowed, will cause nausea or 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. DO NOT INDUCE VOMITING.	
Water Pollution	Effect of low concentrations on aquatic life is unknown. 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: Burn
Salvage waterfowl

2. CHEMICAL DESIGNATIONS

- 2.1 CG Compatibility Group: 31; Paraffin
- 2.2 Formula: CH3CH(CH3)CH2CH2CH3
- 2.3 IMO/UN Designation: 3.1/1208
- 2.4 DOT ID No.: 1208
- 2.5 CAS Registry No.: 107-83-5
- 2.6 NAERG Guide No.: 128
- 2.7 Standard Industrial Trade Classification: 51114

3. HEALTH HAZARDS

- 3.1 Personal Protective Equipment: Eye protection (as for gasoline).
- 3.2 Symptoms Following Exposure: Inhalation causes irritation of respiratory tract, cough, mild depression, cardiac arrhythmias. Aspiration causes severe lung irritation, coughing, pulmonary edema; excitement followed by depression. Ingestion causes nausea, vomiting, swelling of abdomen, headache, depression.
- 3.3 Treatment of Exposure: INHALATION: maintain respiration, give oxygen if needed. ASPIRATION: enforce bed rest; give oxygen. INGESTION: do NOT induce vomiting; call a doctor. EYES: wash with copious amount of water. SKIN: wipe off, wash with soap and water.
- 3.4 TLV-TWA: 500 ppm.
- 3.5 TLV-STEL: 1,000 ppm.
- 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: None.
- 3.10 Vapor (Gas) Irritant Characteristics: Vapors are nonirritating to the eyes and throat.
- 3.11 Liquid or Solid Characteristics: No appreciable hazard. Practically harmless to the skin.
- 3.12 Odor Threshold: Currently not available
- 3.13IDLH 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: -20°F C.C.
- 4.2 Flammable Limits in Air: 1.2%-7.7%
- 4.3 Fire Extinguishing Agents: Foam, carbon dioxide, or 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: 585°F
- 4.8 Electrical Hazards: Not pertinent
- 4.9 Burning Rate: 8.2 mm/min.
- 4.10 Adiabatic Flame Temperature: Currently not available
- 4.11 Stoichiometric Air to Fuel Ratio: 45.2 (calc.)
- 4.12 Flame Temperature: Currently not available
- 4.13 Combustion Molar Ratio (Reactant to Product): 13.0 (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: (0)
Human Contact hazard: 0
Reduction of amenities: 0
- 6.6 Critical Pressure: 437 psia = 29.7 atm = 3.01 MN/m²
- 6.7 Specific Gravity: 0.653 at 20°C (liquid)
- 6.8 Liquid Surface Tension: 17.38 dynes/cm = 0.01738 N/m at 20°C
- 6.9 Liquid Water Interfacial Tension: (est.) 40 dynes/cm = 0.04 N/m at 20°C
- 6.10 Vapor (Gas) Specific Gravity: 2.9
- 6.11 Ratio of Specific Heats of Vapor (Gas): 1.062
- 6.12 Latent Heat of Vaporization: 139 Btu/lb = 77.1 cal/g = 3.23 X 10⁶ J/kg
- 6.13 Heat of Combustion: -19,147 Btu/lb = -10,637 cal/g = -445.35 X 10⁶ J/kg
- 6.14 Heat of Decomposition: Not pertinent
- 6.15 Heat of Solution: Not pertinent
- 6.16 Heat of Polymerization: Not pertinent
- 6.17 Heat of Fusion: 17.41 cal/g
- 6.18 Limiting Value: Currently not available
- 6.19 Reid Vapor Pressure: 6.0 psia

NOTES

7. SHIPPING INFORMATION

- 7.1 Grades of Purity: Research: 99.95%; pure: 99.0%; technical: 95.0%
- 7.2 Storage Temperature: Ambient
- 7.3 Inert Atmosphere: No requirement
- 7.4 Venting: Open (flame arrester) or pressure-vacuum
- 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: Flammable liquid
- 8.2 49 CFR Class: 3
- 8.3 49 CFR Package Group: II
- 8.4 Marine Pollutant: No
- 8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue)	1
Flammability (Red)	3
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 FWP/CA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 Physical State at 15° C and 1 atm: Liquid
- 9.2 Molecular Weight: 86.18
- 9.3 Boiling Point at 1 atm: 140.5°F = 60.3°C = 333.5°K
- 9.4 Freezing Point: -244.6°F = -153.7°C = 119.5°K
- 9.5 Critical Temperature: 435.7°F = 224.3°C = 497.5°K
- 9.6 Critical Pressure: 437 psia = 29.7 atm = 3.01 MN/m²
- 9.7 Specific Gravity: 0.653 at 20°C (liquid)
- 9.8 Liquid Surface Tension: 17.38 dynes/cm = 0.01738 N/m at 20°C
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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
-30	44.160	0	0.502	64	0.783	-30	0.455
-20	43.810	10	0.506	66	0.780	-20	0.429
-10	43.470	20	0.511	68	0.778	-10	0.406
0	43.120	30	0.515	70	0.776	0	0.385
10	42.770	40	0.519	72	0.773	10	0.366
20	42.430	50	0.524	74	0.771	20	0.349
30	42.080	60	0.528	76	0.768	30	0.333
40	41.730	70	0.533	78	0.766	40	0.319
50	41.390	80	0.537	80	0.764	50	0.305
60	41.040	90	0.542	82	0.761	60	0.293
70	40.690	100	0.546	84	0.759	70	0.282
80	40.350	110	0.551	86	0.756	80	0.271
90	40.000	120	0.555	88	0.754	90	0.261
100	39.650	130	0.559	90	0.752	100	0.252
110	39.310	140	0.564	92	0.749	110	0.244
120	38.960			94	0.747	120	0.236
130	38.610			96	0.744	130	0.228
140	38.270			98	0.742	140	0.222
				100	0.740		
				102	0.737		
				104	0.735		
				106	0.732		
				108	0.730		
				110	0.728		
				112	0.725		
				114	0.723		

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		0	0.487	0	0.00851	0	0.351
N		10	0.674	10	0.01153	25	0.367
S		20	0.918	20	0.01536	50	0.383
O		30	1.230	30	0.02017	75	0.399
L		40	1.626	40	0.02612	100	0.414
U		50	2.120	50	0.03340	125	0.430
B		60	2.732	60	0.04221	150	0.445
L		70	3.481	70	0.05276	175	0.460
E		80	4.388	80	0.06527	200	0.475
		90	5.476	90	0.07998	225	0.489
		100	6.771	100	0.09713	250	0.504
		110	8.300	110	0.11700	275	0.518
		120	10.090	120	0.13970	300	0.532
		130	12.170	130	0.16570	325	0.546
		140	14.580	140	0.19520	350	0.559
		150	17.340	150	0.22830	375	0.573
		160	20.490	160	0.26550	400	0.586
		170	24.070	170	0.30690	425	0.599
		180	28.100	180	0.35270	450	0.612
		190	32.640	190	0.40330	475	0.625
		200	37.710	200	0.45890	500	0.638
		210	43.360	210	0.51980	525	0.650
						550	0.662
						575	0.675
						600	0.686