CUMENE

CUM

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
Cumol Isopropylbenzene	Watery liquid Floats on water.	Colorless	Gasoline-like odor

Keep people away.
Call fire department.
Avoid contact with liquid.
Notify local health and pollution control agencies.

Fire

Combustible.
Extinguish with water, dry chemical, foam or carbon dioxide.
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 pollution control 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: 32; Aromatic Hydrocarbon
2.2 Formula: $C_6H_5CH(CH_3)_2$
2.3 IMO/UN Designation: 3.3/1918
2.4 DOT ID No.: 1918
2.5 CAS Registry No.: 98-82-8
2.6 NAERG Guide No.: 131
2.7 Standard Industrial Trade Classification: 51127

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: As necessary to avoid skin exposure. If concentration in air is greater than 50 ppm, use self-contained breathing apparatus.
3.2 Symptoms Following Exposure: Narcotic action with long-lasting effects; depressant to central nervous system.
3.3 Treatment of Exposure: INHALATION: move patient immediately to fresh air; administer artificial respiration or oxygen if necessary; seek medical attention. SKIN OR EYES: wash exposed skin surfaces thoroughly; flush eyes thoroughly with water for 15 min.
3.4 TLV-TWA: 50 ppm
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 3; LD_{50} = 50 to 500 mg/kg
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: None reported
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: 1.2 ppm
3.13 IDLH Value: 900 ppm
3.14 OSHA PEL-TWA: 50 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: 96°F C.C.
4.2 Flammable Limits in Air: 0.9%-6.5%
4.3 Fire Extinguishing Agents: Foam, water, carbon dioxide or dry chemical
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: Not pertinent
4.6 Behavior in Fire: Not pertinent
4.7 Auto Ignition Temperature: 797°F
4.8 Electrical Hazards: Currently not available
4.9 Burning Rate: 5.0 mm/min.
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: 57.1 (calc.)
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): 15.0 (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: 110 ppm/24 hr/Brine Shrimp/TL_m
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): 40% of theoretical in 5 days, fresh water
6.4 Food Chain Concentration Potential: Currently not available
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: Research grade; pure grade; technical grade
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open (flame arrester)
7.5 IMO Pollution Category: A
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: Yes
8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue).....	3
Flammability (Red).....	2
Instability (Yellow).....	1

8.6 EPA Reportable Quantity: 5000 pounds
8.7 EPA Pollution Category: D
8.8 RCRA Waste Number: U055
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: 120.19
9.3 Boiling Point at 1 atm: 306.3°F = 152.4°C = 425.6°K
9.4 Freezing Point: –140.9°F = –96.1°C = 177.1°K
9.5 Critical Temperature: 676.2°F = 357.9°C = 631.1°K
9.6 Critical Pressure: 465.5 psia = 31.67 atm = 3.208 MN/m^2
9.7 Specific Gravity: 0.866 at 15°C (liquid)
9.8 Liquid Surface Tension: 28.2 dynes/cm = 0.0282 N/m at 20°C
9.9 Liquid Water Interfacial Tension: 54.6 dynes/cm = 0.0546 N/m at 22.7°
9.10 Vapor (Gas) Specific Gravity: 4.1
9.11 Ratio of Specific Heats of Vapor (Gas): 1.059
9.12 Latent Heat of Vaporization: 134 Btu/lb = 74.6 cal/g = 3.12 X 10^5 J/kg
9.13 Heat of Combustion: –17,710 Btu/lb = –9840 cal/g = –412.0 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: 0.5 psia

NOTES

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9.20 SATURATED LIQUID DENSITY	
Temperature (degrees F)	Pounds per cubic foot
40	54.620
50	54.310
60	54.010
70	53.700
80	53.390
90	53.080
100	52.770
110	52.460
120	52.150
130	51.840
140	51.540
150	51.230
160	50.920
170	50.610
180	50.300
190	49.990
200	49.680
210	49.380

9.21 LIQUID HEAT CAPACITY	
Temperature (degrees F)	British thermal unit per pound-F
20	0.397
30	0.399
40	0.402
50	0.405
60	0.408
70	0.411
80	0.413
90	0.416
100	0.419
110	0.422
120	0.424
130	0.427
140	0.430
150	0.433
160	0.436
170	0.438

9.22 LIQUID THERMAL CONDUCTIVITY	
Temperature (degrees F)	British thermal unit inch per hour-square foot-F
30	0.894
40	0.886
50	0.878
60	0.871
70	0.863
80	0.856
90	0.848
100	0.840
110	0.833
120	0.825
130	0.818
140	0.810
150	0.803
160	0.795
170	0.787
180	0.780
190	0.772
200	0.765

9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Centipoise
0	1.484
5	1.408
10	1.337
15	1.272
20	1.210
25	1.153
30	1.100
35	1.050
40	1.003
45	0.959
50	0.918
55	0.880
60	0.843
65	0.809
70	0.777
75	0.747
80	0.718
85	0.691

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
20	0.095
30	0.119
40	0.149
50	0.183
60	0.224
70	0.272
80	0.328
90	0.393
100	0.468
110	0.553
120	0.650
130	0.760
140	0.884
150	1.024
160	1.179
170	1.352

9.26 SATURATED VAPOR DENSITY	
Temperature (degrees F)	Pounds per cubic foot
20	0.00222
30	0.00273
40	0.00333
50	0.00403
60	0.00483
70	0.00576
80	0.00681
90	0.00801
100	0.00936
110	0.01087
120	0.01256
130	0.01444
140	0.01651
150	0.01880
160	0.02131
170	0.02405

9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	British thermal unit per pound-F
0	0.256
25	0.271
50	0.286
75	0.300
100	0.315
125	0.329
150	0.342
175	0.356
200	0.369
225	0.382
250	0.394
275	0.407
300	0.419
325	0.431
350	0.442
375	0.454
400	0.465
425	0.476
450	0.486
475	0.496
500	0.506
525	0.516
550	0.526
575	0.535
600	0.544