

BENZOIC ACID

BZA

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Benzenecarboxylic acid Carboxylbenzene Dracrylic acid	Solid crystals or powder Sinks in water.	White	Faint pleasant odor
<p>Keep people away. Avoid contact with solid and dust. Wear goggles and self-contained breathing apparatus. Stay upwind and use water spray to "knock down" dust. Call fire department. Isolate and remove discharged material. Notify local health and pollution control agencies. Protect water intakes.</p>			
Fire	<p>Combustible. Vapor may explode if ignited in an enclosed area. Dust may form explosive mixture with air. Extinguish with water, dry chemical, chemical foam, or carbon dioxide.</p>		
Exposure	<p>CALL FOR MEDICAL AID. DUST Irritating to nose and throat if inhaled. Move to fresh air.</p> <p>SOLID Irritating to skin and eyes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water.</p>		
Water Pollution	<p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.</p>		

1. CORRECTIVE RESPONSE ACTIONS Stop discharge Contain Collection Systems: Dredge	2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: Not listed. 2.2 Formula: C ₆ H ₅ COOH 2.3 IMO/UN Designation: Not listed 2.4 DOT ID No.: Not listed 2.5 CAS Registry No.: 65-85-0 2.6 NAERG Guide No.: 153 2.7 Standard Industrial Trade Classification: 51129
3. HEALTH HAZARDS	
<p>3.1 Personal Protective Equipment: Bureau of Mines dust respirator; when melted material present, use eye protection and organic respirator for fumes.</p> <p>3.2 Symptoms Following Exposure: Dust may be irritating to nose and eyes. At elevated temperatures, fumes may cause irritation of eyes, respiratory system, and skin.</p> <p>3.3 Treatment of Exposure: Remove patient to fresh air. EYE CONTACT: flush eyes with water.</p> <p>3.4 TLV-TWA: Not listed.</p> <p>3.5 TLV-STEL: Not listed.</p> <p>3.6 TLV-Ceiling: Not listed.</p> <p>3.7 Toxicity by Ingestion: Grade 2; LD₅₀ = 0.5 to 5 g/kg</p> <p>3.8 Toxicity by Inhalation: Currently not available.</p> <p>3.9 Chronic Toxicity: None</p> <p>3.10 Vapor (Gas) Irritant Characteristics: Not pertinent</p> <p>3.11 Liquid or Solid Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of the skin. Dust may irritate nose and eyes.</p> <p>3.12 Odor Threshold: Currently not available</p> <p>3.13 IDLH Value: Not listed.</p> <p>3.14 OSHA PEL-TWA: Not listed.</p> <p>3.15 OSHA PEL-STEL: Not listed.</p> <p>3.16 OSHA PEL-Ceiling: Not listed.</p> <p>3.17 EPA AEGL: Not listed</p>	

4. FIRE HAZARDS

- 4.1 Flash Point: 250°F C.C.
- 4.2 Flammable Limits in Air: Not pertinent
- 4.3 Fire Extinguishing Agents: Dry powder, chemical foam, water fog, carbon dioxide
- 4.4 Fire Extinguishing Agents Not to Be Used: None
- 4.5 Special Hazards of Combustion Products: Not pertinent
- 4.6 Behavior in Fire: Vapor from molten benzoic acid may form explosive mixture with air. Concentrated dust may form explosive mixture.
- 4.7 Auto Ignition Temperature: 1063°F
- 4.8 Electrical Hazards: Not pertinent
- 4.9 Burning Rate: Not pertinent
- 4.10 Adiabatic Flame Temperature: Currently not available
- 4.11 Stoichiometric Air to Fuel Ratio: 35.7 (calc.)
- 4.12 Flame Temperature: Currently not available
- 4.13 Combustion Molar Ratio (Reactant to Product): 10.0 (calc.)
- 4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

- 5.1 Reactivity with Water: Not pertinent
- 5.2 Reactivity with Common Materials: Not pertinent
- 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:
200 ppm/7 hr/goldfish/lethal/fresh water
500 ppm/1 hr/sunfish/lethal/fresh water
- 6.2 Waterfowl Toxicity: Currently not available
- 6.3 Biological Oxygen Demand (BOD): 165%, 5 days
- 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: USP, FCC grade: 99.5%-100.5%
- 7.2 Storage Temperature: Currently not available
- 7.3 Inert Atmosphere: Currently not available
- 7.4 Venting: Currently not available
- 7.5 IMO Pollution Category: Currently not available
- 7.6 Ship Type: Currently not available
- 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).....	2
Flammability (Red).....	1
Instability (Yellow).....	-
- 8.6 EPA Reportable Quantity: 5000 pounds
- 8.7 EPA Pollution Category: D
- 8.8 RCRA Waste Number: Not listed
- 8.9 EPA FWPCA List: Yes

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 Physical State at 15° C and 1 atm: Solid
- 9.2 Molecular Weight: 122.12
- 9.3 Boiling Point at 1 atm: 480.6°F = 249.2°C = 522.4°K
- 9.4 Freezing Point: 252.1°F = 122.3°C = 395.5°K
- 9.5 Critical Temperature: 894.2°F = 479°C = 752.2°K
- 9.6 Critical Pressure: 660 psia = 45 atm = 4.6 MN/m²
- 9.7 Specific Gravity: 1.316 at 28°C (solid)
- 9.8 Liquid Surface Tension: Not pertinent
- 9.9 Liquid Water Interfacial Tension: Not pertinent
- 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: Not pertinent
- 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: 33.89 cal/g
- 9.18 Limiting Value: Currently not available
- 9.19 Reid Vapor Pressure: Currently not available

NOTES

BENZOIC ACID

BZA

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
	N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T

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
77	0.340		N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T