

# P-BENZOQUINONE

BZQ

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> Benzoquinone 1,4-Benzoquinone 1,4-Cyclohexadienedione 2,5-Cyclohexadiene-1,4-dione Quinone	Solid, crystals  Yellow    Sinks and very slowly mixes with water.	Acrid, chlorine-like, irritating, penetrating
<p><b>KEEP PEOPLE AWAY. AVOID CONTACT WITH SOLID AND DUST.</b> Wear positive pressure breathing apparatus and special protective clothing. Shut off ignition sources. Call fire department. Notify local health and pollution control agencies. Protect water intakes.</p>		
<b>Fire</b>	<p>Combustible. Poisonous or irritating gases may be produced in fire. Cylinder may explode in heat of fire. Extinguish small fires: dry chemical, CO<sub>2</sub>, water spray or foam; large fires: water spray, fog or foam. Move container from fire area if you can do it without risk. Fight fire from maximum distance.</p>	
<b>Exposure</b>	<p>CALL FOR MEDICAL AID. DUST Poisonous; may be fatal if inhaled. Irritating to mucous membranes. Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.</p> <p>SOLID Poisonous; may be fatal if swallowed or absorbed through skin. Can cause severe damage to the eyes, skin and mucous membranes. IF IN EYES OR ON SKIN, flush with running water for at least 15 min.; hold eyelids open if necessary. Speed in removing material from skin is of extreme importance. Remove and isolate contaminated clothing and shoes at the site. Effects may be delayed; keep victim under observation. IF SWALLOWED and victim is UNCONSCIOUS, have victim drink large volumes of water and induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.</p>	
<b>Water Pollution</b>	<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  
Collection Systems: Pump; Dredge

### 2. CHEMICAL DESIGNATIONS

- 2.1 **CG Compatibility Group:** Not listed.  
2.2 **Formula:** C<sub>6</sub>H<sub>4</sub>O<sub>2</sub>  
2.3 **IMO/UN Designation:** 6.1/2587  
2.4 **DOT ID No.:** 2587  
2.5 **CAS Registry No.:** 106-51-4  
2.6 **NAERG Guide No.:** 153  
2.7 **Standard Industrial Trade Classification:** 51629

### 3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Wear positive pressure breathing apparatus and special protective clothing.
- 3.2 **Symptoms Following Exposure:** Poisonous; may be fatal if inhaled, swallowed or absorbed through the skin. Contact with solid, vapor or solution can cause severe local damage to the skin and mucous membranes. Symptoms include discoloration, severe irritation, erythema, swelling, papules and vesicles. Necrosis may result from long exposure. The eyes may experience irritation, conjunctivitis, photophobia, lachrymation and burning sensations. The cornea may suffer ulceration and scarring. Chronic eye exposure causes gradual brownish discoloration of the conjunctiva and cornea, small corneal opacities and damage in corneal structure which cause loss of visual acuity.
- 3.3 **Treatment of Exposure:** INHALATION: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Immediately flush with running water for at least 15 min.; hold eyelids open if necessary. Remove and isolate contaminated clothing and shoes at the site. Speed in removing material from skin is of extreme importance. Effects may be delayed; keep victim under observation. INGESTION: If victim is conscious, have victim drink large quantities of water and induce vomiting. If victim is unconscious or having convulsions, do nothing except keep victim warm.
- 3.4 **TLV-TWA:** 0.1 ppm.  
3.5 **TLV-STEL:** Not listed.  
3.6 **TLV-Ceiling:** Not listed.  
3.7 **Toxicity by Ingestion:** Grade 3; LD<sub>50</sub> = 130 mg/kg (rat)  
3.8 **Toxicity by Inhalation:** Currently not available.  
3.9 **Chronic Toxicity:** Causes mutagenic and tumorigenic effects. Indefinite animal carcinogen.  
3.10 **Vapor (Gas) Irritant Characteristics:** Vapors cause severe irritation of eyes and throat and can cause eye and lung injury.  
3.11 **Liquid or Solid Characteristics:** Severe skin irritant and very injurious to the eyes.  
3.12 **Odor Threshold:** 0.1 ppm  
3.13 **IDLH Value:** 100 mg/m<sup>3</sup>  
3.14 **OSHA PEL-TWA:** 0.1 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:** 195°F O.C.  
171°F. O.C.; 77°C C.C.
- 4.2 **Flammable Limits in Air:** Currently not available
- 4.3 **Fire Extinguishing Agents:** Small fires: dry chemical, CO<sub>2</sub>, water spray or foam; large fires: water spray, fog or foam.
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion**  
**Products:** Contain irritating and toxic fumes, including carbon dioxide and carbon monoxide.
- 4.6 **Behavior in Fire:** Cylinder may explode in heat of fire. In powder form, it is capable or producing a dust explosion.
- 4.7 **Auto Ignition Temperature:** 1040°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:** 28.6 (calc.)
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** 8.0 (calc.)
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

### 5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** May react with water.
- 5.2 **Reactivity with Common Materials:** Will attack some forms of plastics, rubber and coatings.
- 5.3 **Stability During Transport:** Stable
- 5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
- 5.5 **Polymerization:** Will not occur.
- 5.6 **Inhibitor of Polymerization:** Not pertinent

### 6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:** 5-10 mg/l/perch/LD<sub>50</sub>
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** Currently not available
- 6.4 **Food Chain Concentration Potential:** Currently not available
- 6.5 **GESAMP Hazard Profile:** Not listed

### 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 98%
- 7.2 **Storage Temperature:** Ambient
- 7.3 **Inert Atmosphere:** Not listed
- 7.4 **Venting:** Not pertinent
- 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:** Poison
- 8.2 **49 CFR Class:** 6.1
- 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).....   | 2              |
| Instability (Yellow)..... | 1              |
- 8.6 **EPA Reportable Quantity:** 10 pounds
- 8.7 **EPA Pollution Category:** A
- 8.8 **RCRA Waste Number:** U197
- 8.9 **EPA FWPCA List:** Not listed

### 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Solid
- 9.2 **Molecular Weight:** 108.10
- 9.3 **Boiling Point at 1 atm:** Not pertinent
- 9.4 **Freezing Point:** 240°F = 115.7°C = 389°K
- 9.5 **Critical Temperature:** Currently not available
- 9.6 **Critical Pressure:** Currently not available
- 9.7 **Specific Gravity:** 1.318 at 20°C
- 9.8 **Liquid Surface Tension:** Not pertinent
- 9.9 **Liquid Water Interfacial Tension:** Not pertinent
- 9.10 **Vapor (Gas) Specific Gravity:** 3.7
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** Data not available
- 9.12 **Latent Heat of Vaporization:** Not pertinent
- 9.13 **Heat of Combustion:** Currently not available
- 9.14 **Heat of Decomposition:** Not pertinent
- 9.15 **Heat of Solution:** -66.50 Btu/lb = -36.92 cal/g = -1.546X10<sup>5</sup> J/kg
- 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:** Not pertinent

### 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
	C U R R E N T L Y  N O T  A V A I L A B L E		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
68	1.500	68	0.002		C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E