

# 4-NITROPHENOL

NPH

CAUTIONARY RESPONSE INFORMATION				4. FIRE HAZARDS	7. SHIPPING INFORMATION										
Common Synonyms 4-Hydroxynitrobenzene p-Nitrophenol PNP	Solid	Yellow to brown	Sweet odor	<p><b>4.1 Flash Point:</b> Not pertinent (combustible solid)</p> <p><b>4.2 Flammable Limits in Air:</b> Not pertinent</p> <p><b>4.3 Fire Extinguishing Agents:</b> Water, foam, dry chemical, carbon dioxide</p> <p><b>4.4 Fire Extinguishing Agents Not to Be Used:</b> Currently not available</p> <p><b>4.5 Special Hazards of Combustion Products:</b> Toxic oxides of nitrogen and fumes of unburned material may form in fires.</p> <p><b>4.6 Behavior in Fire:</b> Decomposes violently at 279°C and will burn even in absence of air.</p> <p><b>4.7 Auto Ignition Temperature:</b> Currently not available</p> <p><b>4.8 Electrical Hazards:</b> Not pertinent</p> <p><b>4.9 Burning Rate:</b> Not pertinent</p> <p><b>4.10 Adiabatic Flame Temperature:</b> Currently not available</p> <p><b>4.11 Stoichiometric Air to Fuel Ratio:</b> 32.1 (calc.)</p> <p><b>4.12 Flame Temperature:</b> Currently not available</p> <p><b>4.13 Combustion Molar Ratio (Reactant to Product):</b> 9.5 (calc.)</p> <p><b>4.14 Minimum Oxygen Concentration for Combustion (MOCC):</b> Not listed</p>	<p><b>7.1 Grades of Purity:</b> Technical; Pure</p> <p><b>7.2 Storage Temperature:</b> Ambient</p> <p><b>7.3 Inert Atmosphere:</b> No requirement</p> <p><b>7.4 Venting:</b> Open</p> <p><b>7.5 IMO Pollution Category:</b> Currently not available</p> <p><b>7.6 Ship Type:</b> Currently not available</p> <p><b>7.7 Barge Hull Type:</b> Currently not available</p>										
<p>Keep people away. Avoid contact with solid, dust and vapor.</p> <p>Shut off ignition sources and call fire department.</p> <p>Notify local health and pollution control agencies.</p> <p>Protect water intakes.</p>				<p><b>8. HAZARD CLASSIFICATIONS</b></p> <p><b>8.1 49 CFR Category:</b> Keep Away From Food</p> <p><b>8.2 49 CFR Class:</b> 6.1</p> <p><b>8.3 49 CFR Package Group:</b> III</p> <p><b>8.4 Marine Pollutant:</b> No</p> <p><b>8.5 NFPA Hazard Classification:</b></p> <table> <tr> <td>Category</td> <td>Classification</td> </tr> <tr> <td>Health Hazard (Blue).....</td> <td>3</td> </tr> <tr> <td>Flammability (Red).....</td> <td>1</td> </tr> <tr> <td>Instability (Yellow).....</td> <td>0</td> </tr> </table> <p><b>8.6 EPA Reportable Quantity:</b> 100 pounds</p> <p><b>8.7 EPA Pollution Category:</b> B</p> <p><b>8.8 RCRA Waste Number:</b> U170</p> <p><b>8.9 EPA FWCNA List:</b> Yes</p>		Category	Classification	Health Hazard (Blue).....	3	Flammability (Red).....	1	Instability (Yellow).....	0		
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<p><b>Fire</b></p> <p>Combustible.</p> <p>POISONOUS GASES MAY BE PRODUCED IN FIRE.</p> <p>Wear goggles and self-contained breathing apparatus.</p> <p>Extinguish with water, dry chemicals, foam, or carbon dioxide.</p> <p><b>Exposure</b></p> <p>CALL FOR MEDICAL AID.</p> <p>DUST</p> <p>Irritating to eyes, nose and throat.</p> <p>If inhaled will cause headache or loss of consciousness.</p> <p>If in eyes, hold eyelids open and flush with plenty of water.</p> <p>If breathing has stopped, give artificial respiration.</p> <p>If breathing is difficult, give oxygen.</p> <p>SOLID</p> <p>Irritating to skin and eyes.</p> <p>If swallowed will cause headache, nausea, or loss of consciousness.</p> <p>Remove contaminated clothing and shoes.</p> <p>Flush affected areas with plenty of water.</p> <p>IF IN EYES, hold eyelids open and flush with plenty of water.</p> <p>IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.</p> <p>IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.</p> <p><b>Water Pollution</b></p> <p>Effect of low concentration on aquatic life is unknown.</p> <p>May be dangerous if it enters water intakes.</p> <p>Notify local health and wildlife officials.</p> <p>Notify operators of nearby water intakes.</p>				<p><b>9. PHYSICAL &amp; CHEMICAL PROPERTIES</b></p> <p><b>9.1 Physical State at 15° C and 1 atm:</b> Solid</p> <p><b>9.2 Molecular Weight:</b> 139.1</p> <p><b>9.3 Boiling Point at 1 atm:</b> Not pertinent (decomposes)</p> <p><b>9.4 Freezing Point:</b> 235°F = 113°C = 386°K</p> <p><b>9.5 Critical Temperature:</b> Not pertinent</p> <p><b>9.6 Critical Pressure:</b> Not pertinent</p> <p><b>9.7 Specific Gravity:</b> 1.48 at 20°C (solid)</p> <p><b>9.8 Liquid Surface Tension:</b> Not pertinent</p> <p><b>9.9 Liquid Water Interfacial Tension:</b> Not pertinent</p> <p><b>9.10 Vapor (Gas) Specific Gravity:</b> Not pertinent</p> <p><b>9.11 Ratio of Specific Heats of Vapor (Gas):</b> Not pertinent</p> <p><b>9.12 Latent Heat of Vaporization:</b> Not pertinent</p> <p><b>9.13 Heat of Combustion:</b> -8,870 Btu/lb = -4,930 cal/g = -206 x 10<sup>3</sup> J/kg</p> <p><b>9.14 Heat of Decomposition:</b> Not pertinent</p> <p><b>9.15 Heat of Solution:</b> Not pertinent</p> <p><b>9.16 Heat of Polymerization:</b> Not pertinent</p> <p><b>9.17 Heat of Fusion:</b> 41.70 cal/g</p> <p><b>9.18 Limiting Value:</b> Data not available</p> <p><b>9.19 Reid Vapor Pressure:</b> Currently not available</p>											
<p><b>1. CORRECTIVE RESPONSE ACTIONS</b></p> <p>Stop discharge</p> <p>Collection Systems: Dredge</p> <p><b>2. CHEMICAL DESIGNATIONS</b></p> <p>2.1 CG Compatibility Group: Not listed.</p> <p>2.2 Formula: 1,4-HOC<sub>6</sub>HNO<sub>2</sub></p> <p>2.3 IMO/UN Designation: 6.1/1663</p> <p>2.4 DOT ID No.: 1663</p> <p>2.5 CAS Registry No.: 100-02-7</p> <p>2.6 NAERG Guide No.: 153</p> <p>2.7 Standard Industrial Trade Classification: 51243</p> <p><b>3. HEALTH HAZARDS</b></p> <p>3.1 Personal Protective Equipment: Butyl rubber gloves; side-shield safety glasses; dust mask or self-contained breathing apparatus.</p> <p>3.2 Symptoms Following Exposure: Inhalation or ingestion causes headache, drowsiness, nausea, and blue color in lips, ears, and fingernails (cyanosis). Contact with eyes or skin causes irritation; can be absorbed through skin to give same symptoms as for inhalation.</p> <p>3.3 Treatment of Exposure: INHALATION or INGESTION: remove victim to fresh air; give artificial respiration; call a doctor if symptoms persist. EYES: flush with water for at least 15 minutes; get medical attention. SKIN: flush with water and wash well with soap and 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 3; LD<sub>50</sub> = 50-500 mg/kg</p> <p>3.8 Toxicity by Inhalation: Currently not available.</p> <p>3.9 Chronic Toxicity: Currently not available</p> <p>3.10 Vapor (Gas) Irritant Characteristics: Currently not available</p> <p>3.11 Liquid or Solid Characteristics: Currently not available</p> <p>3.12 Odor Threshold: Odorless</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 AERG: Not listed</p>				<p><b>6. WATER POLLUTION</b></p> <p><b>6.1 Aquatic Toxicity:</b> Currently not available</p> <p><b>6.2 Waterfowl Toxicity:</b> Currently not available</p> <p><b>6.3 Biological Oxygen Demand (BOD):</b> Currently not available</p> <p><b>6.4 Food Chain Concentration Potential:</b> None</p> <p><b>6.5 GESAMP Hazard Profile:</b></p> <table> <tr> <td>Bioaccumulation:</td> <td>0</td> </tr> <tr> <td>Damage to living resources:</td> <td>3</td> </tr> <tr> <td>Human Oral hazard:</td> <td>2</td> </tr> <tr> <td>Human Contact hazard:</td> <td>I</td> </tr> <tr> <td>Reduction of amenities:</td> <td>XX</td> </tr> </table>		Bioaccumulation:	0	Damage to living resources:	3	Human Oral hazard:	2	Human Contact hazard:	I	Reduction of amenities:	XX
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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
NOT PERTINENT			NOT PERTINENT		NOT PERTINENT		NOT PERTINENT

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	1.600		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT