P-NITROPHENOL

1. Product Identification

**Synonyms:** 4-Nitrophenol; p-Nitrophenol practical; 4-Hydroxynitrobenzene  
**CAS No.:** 100-02-7  
**Molecular Weight:** 139.11  
**Chemical Formula:** C6H5NO3  
**Product Codes:**  
J.T. Baker: S229  
Mallinckrodt: 1886

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No</th>
<th>Percent</th>
<th>Hazardous</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-Nitrophenol</td>
<td>100-02-7</td>
<td>90 - 100%</td>
<td>Yes</td>
</tr>
</tbody>
</table>

3. Hazards Identification

**Emergency Overview**

WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. ABSORPTION INTO THE BODY LEADS TO FORMATION OF METHEMOGLOBIN.

**SAF-T-DATA(tm) Ratings** (Provided here for your convenience)

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Rating:</td>
<td>2 - Moderate (Poison)</td>
</tr>
<tr>
<td>Flammability Rating:</td>
<td>1 - Slight</td>
</tr>
<tr>
<td>Reactivity Rating:</td>
<td>1 - Slight</td>
</tr>
<tr>
<td>Contact Rating:</td>
<td>3 - Severe</td>
</tr>
<tr>
<td>Lab Protective Equip:</td>
<td>GOGGLES &amp; SHIELD; LAB COAT &amp; APRON; VENT HOOD; PROPER GLOVES</td>
</tr>
<tr>
<td>Storage Color Code:</td>
<td>Blue (Health)</td>
</tr>
</tbody>
</table>

All non-emergency questions should be directed to Customer Service (1-800-956-1537) for assistance.
4. First Aid Measures

**Inhalation:**
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**
Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:**
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

**Fire:**
Not considered to be a fire hazard.

**Explosion:**
Not considered to be an explosion hazard. Sealed containers may rupture when heated.

**Fire Extinguishing Media:**
Dry chemical, alcohol foam or carbon dioxide. Do not allow water runoff to enter sewers or waterways.

**Special Information:**
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of
reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**
None established.

**Ventilation System:**
A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**Personal Respirators (NIOSH Approved):**
For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:**
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Eye Protection:**
Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

**Appearance:**
Colorless to slightly yellow crystals.

**Odor:**
Odorless.

**Solubility:**
Slightly soluble in cold water.

**Density:**
1.270

**pH:**
No information found.

**% Volatiles by volume @ 21C (70F):**
0

**Boiling Point:**
279C (534F)

**Melting Point:**
113 - 114C (235 - 237F) Sublimes.

**Vapor Density (Air=1):**
No information found.
Vapor Pressure (mm Hg):
2.2 @ 146C (295F)
Evaporation Rate (BuAc=1):
< 1

10. Stability and Reactivity

**Stability:**
Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**
Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

**Hazardous Polymerization:**
Will not occur.

**Incompatibilities:**
Strong oxidizers, strong bases, acid chlorides and acid anhydrides.

**Conditions to Avoid:**
Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Oral rat LD50: 202 mg/Kg. Investigated as a tumorigen and mutagen.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>NTP Carcinogen -</th>
<th>IARC Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-Nitrophenol (100-02-7)</td>
<td>Known No</td>
<td>Anticipated No</td>
</tr>
</tbody>
</table>

12. Ecological Information

**Environmental Fate:**
When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to have a half-life of less than 1 day. When released into water, this material is expected to readily biodegrade. When released into the water, this material is expected to have a half-life between 1 and 10 days. This material is not expected to significantly bioaccumulate. When released into the air, this material may be moderately degraded by photolysis.

**Environmental Toxicity:**
96 Hr LC50 fathead minnow: 37.3 mg/L (flow-through)

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

**Domestic (Land, D.O.T.)**

**Proper Shipping Name:** NITROPHENOLS
**Hazard Class:** 6.1
15. Regulatory Information

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\textbf{Chemical Inventory Status - Part 1}\n\begin{tabular}{lcccc}
\textbf{Ingredient} & \textbf{TSCA} & \textbf{EC} & \textbf{Japan} & \textbf{Australia} \\
p-Nitrophenol (100-02-7) & Yes & Yes & Yes & Yes
\end{tabular}
---
\textbf{Chemical Inventory Status - Part 2}\n\begin{tabular}{lcccc}
\textbf{Ingredient} & \textbf{Korea} & \textbf{DSL} & \textbf{NDSL} & \textbf{Phil.} \\
p-Nitrophenol (100-02-7) & Yes & Yes & No & Yes
\end{tabular}
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\textbf{Federal, State & International Regulations - Part 1}\n\begin{tabular}{lcccc}
\textbf{Ingredient} & \textbf{RQ} & \textbf{TPQ} & \textbf{List} & \textbf{Chemical Catg.} \\
p-Nitrophenol (100-02-7) & No & No & Yes & No
\end{tabular}
---
\textbf{Federal, State & International Regulations - Part 2}\n\begin{tabular}{lcccc}
\textbf{Ingredient} & \textbf{CERCLA} & \textbf{261.33} & \textbf{8(d)} & \\
p-Nitrophenol (100-02-7) & 100 & U170 & Yes
\end{tabular}
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\textbf{Chemical Weapons Convention}: No \hspace{1cm} \textbf{TSCA 12(b)}: No \hspace{1cm} \textbf{CDTA}: Yes
\textbf{SARA 311/312}: Acute: Yes \hspace{1cm} Chronic: Yes \hspace{1cm} Fire: No \hspace{1cm} Pressure: No
\textbf{Reactivity}: No \hspace{1cm} (Pure / Solid)

\textbf{Australian Hazchem Code}: 2X
\textbf{Poison Schedule}: None allocated.
\textbf{WHMIS}: This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.
16. Other Information

**NFPA Ratings:** Health: 3 Flammability: 1 Reactivity: 2

**Label Hazard Warning:**
WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. ABSORPTION INTO THE BODY LEADS TO FORMATION OF METHEMOGLOBIN.

**Label Precautions:**
Avoid breathing dust.
Avoid contact with eyes, skin and clothing.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.

**Label First Aid:**
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.

**Product Use:**
Laboratory Reagent.

**Revision Information:**
No Changes.

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Prepared by: Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)