## 1. Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name:</th>
<th>6PPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distributed By:</td>
<td>HB Chemical</td>
</tr>
<tr>
<td></td>
<td>1665 Enterprise Parkway</td>
</tr>
<tr>
<td></td>
<td>Twinsburg Oh 44087</td>
</tr>
<tr>
<td></td>
<td>Phone - 330-920-8023</td>
</tr>
<tr>
<td>MSDS Prepared By (w Suppliers Input):</td>
<td>HB Chemical</td>
</tr>
<tr>
<td>Chemical Name / Family:</td>
<td>Antioxidant</td>
</tr>
<tr>
<td>CAS No.</td>
<td>793-24-8</td>
</tr>
<tr>
<td>Product Use:</td>
<td>Antioxidant for tire, belt, insulated wire.</td>
</tr>
<tr>
<td>OSHA Status</td>
<td>Not Hazardous</td>
</tr>
</tbody>
</table>

For emergency health, safety, and environmental information, calls 330-920-8023
For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300

## 2. Hazard(s) Identification

**Warning:** May produce an allergic reaction.

**Signs and Symptoms of Exposure:**
- May cause skin irritation and or dermatitis.
- May cause eye irritation
- Harmful if swallowed.

**Potential health effects:** Acute toxicity

**Eye Contact:**
- May cause eye irritation. Symptoms include swelling and redness.

**Skin Contact:**
- May be harmful in contact with skin. Repeated or prolonged skin contact may cause allergic reaction with susceptible persons.

**Ingestion:** Harmful if swallowed.

**Inhalation:** May be harmful if inhaled.

**Chronic effects:** repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.

**Main symptoms:** Pain, redness swelling of skin or eyes.

**Aggravated Medical Conditions:** Allergies. Skin disorders. Respiratory disorders.

Environmental hazard: Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment. See section 12 for additional Ecological information.

### 3. Composition / Information on Ingredients

Chemical Name: N-1,3-dimethylbutyl-N’-phenyl-p-phenylenediamine

CAS #: 793-24-8

Weight %: 98.5-100

### 4. First Aid Measures

**General advise:** When symptoms persist or in all cases of doubt seek medical advice. If unconscious place in recovery position and get medical attention immediately. Show this SDS to the doctor in attendance.

**Inhalation:** Remove to fresh air. If not breathing five artificial respiration. If breathing is difficult, give oxygen. Call a physician. Keep victim warm and quiet. Loosen tight clothing such as a collar, tie, belt or waistband. Maintain an open airway. Persons who have inhaled vapors or smoke fumes have to be put under medical observation for least 48 hours due to the delayed appearance of poisoning.

**Eyes:** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if symptoms occur.

**Skin:** Wash off immediately with soap and plenty of water. Remove contaminated clothing and shows. In the case of ski irritation or allergic reactions see a physician. Wash contaminated clothing before reuse. Thoroughly clean shoes before reuse.

**Ingestion:** If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep victim warm and quiet. Loosen tight clothing such as a collar, tie, belt or waistband. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Never give anything by mouth to an unconscious person. DO NOT induce vomiting unless directed to do so by a physician. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Maintain an open airway. If not breathing, give oxygen. Call a physician immediately.
Notes to physician: Treat symptomatically. Persons who have inhaled vapors or smoke fumes have to be put under medical observation for at least 48 hours, due to delayed appearance of poisoning.

5. Fire-Fighting Measures

Flammable properties: Not flammable.

Flash point/method: 202 °C / 396 °F / Closed cup

Suitable Extinguishing Media: Water Spray. Foam. Dry powder. Carbon dioxide (CO₂)

Special Fire Fighting Procedures: As in any fire, wear self-contained breathing apparatus and full protective gear.

Explosion Data: Sensitivity to Mechanical impact; None.
Sensitivity to static discharge; None.

Specific hazards arising from the chemical: Thermal decomposition can lead to release of irritating gases and vapors. In the event of the fire and/or explosion do not breath fumes. May cause sensitization by inhalation and skin contact.

6. Accidental Release Measures

Personal precautions: No action shall be taken involving any personal risk or without suitable training. Do not touch or walk through spilled material. Avoid contact with skin, eye and clothing. Wear personal protective equipment.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Clean up spill immediately. Prevent product and washing from entering drains, sewers or surface water due to high toxicity to aquatic organisms. Local authorities should be advised if significant spillages cannot be contained.

Methods for containment: Prevent further leakage or spillage if safe to do so.

Methods for cleaning up: Wear impervious personal protective equipment to protect eyes, skin and clothing. If material is in the liquid state, absorb liquid with inert material. Scoop, sweep or shovel solids and place in a closed container for proper disposal. Isolate spill and stop leak where safe. Do NOT spread spilled product with waters. Spilled material may stain and discolor surfaces. Reclaim or dispose of in accordance with local, state, and federal regulations.
7. Handling and Storage:

Advice on safe handling: Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

Technical measures/Storage Conditions: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Keep away from contact with oxidizing materials. Keep in properly labeled containers. Use appropriate containment to avoid environmental contamination. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store in accordance with local regulations.

8. Exposure Controls / Personal Protection

Exposure Guidelines:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-1,3-dimethylbutyl-2-N-phenyl-p-phenylene diamine</td>
<td>3 mg/m³ (1)</td>
<td>5 mg/m³ (1)</td>
<td>Not available</td>
</tr>
<tr>
<td></td>
<td>10 mg/m³ (3)</td>
<td>15 mg/m³ (3)</td>
<td></td>
</tr>
</tbody>
</table>

Engineering measures: Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Apply technical measures to comply with the occupational exposure limits. If this product contains ingredients with exposure limits, personal, workplace atmosphere of biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Protective Gloves: Impervious gloves

Eye Protection: Safety glasses with side-shields.

Skin and Body Protection: Lightweight protective clothing.

Hygiene measures: When using do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.
### 9. Physical and Chemical Properties

**Physical Form:** Solid

**Appearance & Odor:** Pastilles, purple, brown/Aromatic

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/freezing point</td>
<td>49 °C / 121 °F</td>
<td>1013 hPa</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>163 - 165 °C / 325 °F</td>
<td>1.33 hPa</td>
</tr>
<tr>
<td>Flash point</td>
<td>202 °C / 396 °F</td>
<td>Closed cup</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.0</td>
<td>60 °C</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not flammable</td>
<td></td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>0.0000066 hPa</td>
<td>25 °C</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
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</tr>
<tr>
<td>Water solubility</td>
<td>1 mg/l</td>
<td>50 °C</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>4.68</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt; 200 °C</td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
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<td></td>
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<tr>
<td>Viscosity, dynamic</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Not oxidizing</td>
<td></td>
</tr>
</tbody>
</table>

#### 9.2 Other Information

**Molecular weight:** 268.44  
**Density:** 986 - 1,000 kg/m³

### 10. Stability and Reactivity

**Stability:** Stable under recommended storage and handling conditions (see section 7)

**Incompatibility (Materials to Avoid):** Strong oxidizing agents

**Conditions to Avoid:** Temperatures, above 200°C / 392°F

**Hazardous decomposing products:** None known based on information supplied.

**Hazardous Polymerization:** Hazardous polymerization does not occur
11. Toxicological Information

Acute toxicity:

Product Information: LD50 dermal: See table below

Inhalation: May be harmful if inhaled.

Eyes: May cause irritation.

Skin: May be harmful in contact with skin. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Ingestion: Harmful if swallowed.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>LD50 Oral (mg/kg, Rat)</th>
<th>LD50 Dermal (mg/kg, Rabbit)</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,1,3-dimethylbutyl-N-phenyl-p-phenylenediamine</td>
<td>893</td>
<td>&gt;7940</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Chronic Toxicity: Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.

Carcinogenicity: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP. Oral carcinogenicity test (rat): not carcinogenic

Sensitization: Skin sensitizer: Guinea pig.

Germ cell mutagenicity: Not mutagenic (in vitro, in vivo).

Reproductive toxicity: Did not affect reproductive performance or post-natal development in animal studies.

Teratogenicity: No evidence of teratogenicity in animal studies.

Target organ effects: Skin

12. Ecological Information

Acute aquatic toxicity:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Toxicity to algae (mg/l)</th>
<th>Toxicity to fish (mg/l)</th>
<th>Toxicity to daphnia and other aquatic invertebrates (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,1,3-dimethylbutyl-N-phenyl-p-phenylenediamine</td>
<td>0.23</td>
<td>0.028</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,1,3-dimethylbutyl-N-phenyl-p-phenylenediamine</td>
<td>4.68</td>
</tr>
</tbody>
</table>
13. Disposal Considerations

Waste disposal methods: This material as supplied, is not a hazardous waste according to Federal regulation (40CFR 261). Dispose of in accordance with federal, state and local regulations.

Contaminated packaging: Empty remaining contents. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT Not regulated
Note Not listed as a hazardous material per 49 CFR 172.101

IMDG
- UN/ID no: UN3077
- Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID, N.O.S. (N-1,3-dimethylbutyl-N-phenyl-p-phenylenediamine)
- Hazard Class: 9
- Packing group: III
- EmS No.: F-A, S-F
- Special Provisions: Marine pollutant
- yes

IATA
- UN/ID no: UN3077
- Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (N-1,3-dimethylbutyl-N-phenyl-p-phenylenediamine)
- Hazard Class: 9
- Packing group: III
- Special Provisions: none
- Note: Subject to ICAO/IATA Environmentally Hazardous Substance marking requirement (IATA 7.1.6.3)

TDG
- See DOT

15. Regulatory Information

U.S. Federal Regulations

SARA 313
Section 313 of Title 30 of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories
- Acute Health Hazard: yes
- Chronic Health Hazard: no
- Fire Hazard: no
- Sudden release of pressure hazard: no
- Reactive Hazard: no

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)
16. Other Information

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health hazard 2</td>
<td>Health hazard 2</td>
</tr>
<tr>
<td>Flammability 1</td>
<td>Flammability 1</td>
</tr>
<tr>
<td>Stability 0</td>
<td>Physical hazard 0</td>
</tr>
</tbody>
</table>

The above information has been compiled from what we believe to be credible sources. To our knowledge the information is accurate and reliable, however, it is not guaranteed. Any recommendations issued by HB Chemical personnel or literature is derived from experience and by no means should be taken as fact or construed as a recommendation to violate of any law, regulation or patent. It is the users responsibility to determine the suitability of any HB supplied material in their application. The individual conditions of each customer are well outside of our control and we cannot be held liable for its functionality and use. Please contact our office should you need specific information beyond what is supplied above. As with all Chemical usage safety precautions beyond the stated are highly recommended.