Material Safety Data Sheet
Butylated hydroxyanisole MSDS

Section 1: Chemical Product and Company Identification

Product Name: Butylated hydroxyanisole (BHA)
Catalog Codes: 10370
CAS#: 25013-16-5
RTECS: SL1945000
TSCA: TSCA 8(b) inventory: Butylated hydroxyanisole
CI#: Not available.
Synonym: Butylated hydroxyanisole; (1,1-Dimethylethyl)-4-methoxyphenol; 2(3)-tert-Butyl-4-hydroxyanisole; Butylhydroxyanisole; Embanox; Protex, Tenox BHA; tert-Butyl-4-hydroxyanisole; tert-Butyl-4-methoxyphenol; tert-Butylhydroxyanisole
Chemical Name: Phenol, (1,1-dimethylethyl)-4-methoxy-
Chemical Formula: C11H16O2

Contact Information:
Finar Limited
184-186/P, Chacharwadi Vasna, Sarkhej-Bavla Highway,
Ta.: Sanand, Dist.: Ahmedabad,
Email: info@finarchemicals.com
Web: www.finarchemicals.com

Section 2: Composition and Information on Ingredients

Composition:

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>BHA</td>
<td>25013-16-5</td>
<td>100</td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients: BHA: ORAL (LD50): Acute: 2000 mg/kg [Rat]. 1100 mg/kg [Mouse]. 2100 mg/kg [Rabbit].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant). Slightly hazardous in case of ingestion.

Potential Chronic Health Effects:
Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Classified 2B (Possible for human.) by IARC. Classified 2 (Some evidence.) by NTP. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, liver, upper respiratory tract, skin. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures
Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin Contact:
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

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

Serious Inhalation: Not available.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

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Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: CLOSED CUP: 156°C (312.8°F).

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances: Slightly flammable to flammable in presence of open flames and sparks, of heat.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

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Section 6: Accidental Release Measures

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

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Section 7: Handling and Storage
Precautions:
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.

Storage:
Keep container tightly closed. Keep container in a cool, well-ventilated area. Sensitive to light. Store in light-resistant containers.

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Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:
Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

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Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Waxy solid.)
Odor: Characteristic. (Slight.)
Taste: Not available.
Molecular Weight: 180.25 g/mole
Color: White to yellowish.
pH (1% soln/water): Not applicable.
Boiling Point: 264°C (507.2°F) - 270 C @ 733 mm Hg
Melting Point: 48°C (118.4°F) - 55 C.
Critical Temperature: Not available.
Specific Gravity: Not available.
Vapor Pressure: Not applicable.
Vapor Density: 6.2 (Air = 1)
Volatility: Not available.
Odor Threshold: Not available.
Water/Oil Dist. Coeff.: Not available.
Ionicty (in Water): Not available.
Dispersion Properties: See solubility in water, diethyl ether.
Solubility:
Soluble in diethyl ether. Insoluble in cold water, hot water. Soluble in 50% alcohol or higher, petroleum ether, propylene glycol, fats, oils, chloroform. Solubility in Alcohol: 4 g/4 ml alcohol. Solubility in Chloroform: 1 g/2 ml chloroform. Solubility in Ether: 1 g/1.2 ml Ether.

Section 10: Stability and Reactivity Data

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Instability Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Conditions of Instability</td>
<td>Excess heat, incompatible materials, light, dust generation</td>
</tr>
<tr>
<td>Incompatibility with various substances</td>
<td>Reactive with oxidizing agents.</td>
</tr>
<tr>
<td>Corrosivity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Special Remarks on Reactivity</td>
<td>Sensitive to light. Degrades after prolonged exposure to sunlight.</td>
</tr>
<tr>
<td>Special Remarks on Corrosivity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Polymerization</td>
<td>Will not occur.</td>
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</tbody>
</table>

Section 11: Toxicological Information

<table>
<thead>
<tr>
<th>Route of Entry</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Routes of Entry</td>
<td>Inhalation. Ingestion.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Toxicity to Animals</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity (LD50): 1100 mg/kg [Mouse].</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Chronic Effects on Humans</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARCINOGENIC EFFECTS:</td>
<td></td>
</tr>
<tr>
<td>Classified 2B (Possible for human.) by IARC.</td>
<td></td>
</tr>
<tr>
<td>Classified 2 (Some evidence.) by NTP.</td>
<td></td>
</tr>
<tr>
<td>MUTAGENIC EFFECTS:</td>
<td></td>
</tr>
<tr>
<td>Mutagenic for bacteria and/or yeast. May cause damage to the following organs: blood, liver, upper respiratory tract, skin.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Toxic Effects on Humans</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous in case of skin contact (irritant), of inhalation (lung irritant). Slightly hazardous in case of ingestion.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Special Remarks on Toxicity to Animals</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Special Remarks on Chronic Effects on Humans</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>May affect genetic material (mutagenic). May cause adverse reproductive effects based on animal test data. May cause cancer.</td>
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</table>

<table>
<thead>
<tr>
<th>Special Remarks on other Toxic Effects on Humans</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Potential Health Effects: Skin: Causes skin irritation. It may cause depigmentation. Eyes: Causes eye irritation. May cause chemical conjunctivitis. Inhalation: Causes severe respiratory tract irritation. Ingestion: May be harmful if swallowed. May cause gastrointestinal tract irritation with nausea, vomiting, diarrhea. It may affect behavior/central nervous system (ataxia, altered sleep time), respiration (respiratory stimulation) Chronic Potential Health Effects: Skin: Prolonged or repeated skin contact may cause contact dermatitis, an allergic reaction. Ingestion: Prolonged or repeated ingestion may affect the blood (hemolysis with or without anemia), metabolism (weight loss), respiratory system, liver, thyroid, adrenal gland.</td>
<td></td>
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</tbody>
</table>

Section 12: Ecological Information

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>BOD5 and COD</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Products of Biodegradation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxicity of the Products of Biodegradation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The products of degradation are less toxic than the product itself.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Special Remarks on the Products of Biodegradation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td></td>
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</table>
Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).
Identification: Not applicable.
Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations:
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: BHA California prop. 65 (no significant risk level): BHA: 4 mg/day (value) California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: BHA Minnesota: BHA Massachusetts RTK: BHA Massachusetts spill list: BHA California Director's List of Hazardous Substances: BHA TSCA 8(b) inventory: BHA

Other Regulations:

Other Classifications:
WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
DSCL (EEC):
R22- Harmful if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. R40- Limited Evidence of Carcinogenic Effect S36/37- Wear suitable protective clothing and gloves. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):

- Health Hazard: 2
- Fire Hazard: 1
- Reactivity: 0
- Personal Protection: E

National Fire Protection Association (U.S.A.):

- Health: 2
- Flammability: 1
- Reactivity: 0

Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Finar Limited be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Finar Limited has been advised of the possibility of such damages.