MATERIAL SAFETY DATA SHEET
BROMHEXINE HYDROCHLORIDE MSDS

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Bromhexine Hydrochloride
Catalog Code: 1000013
CAS #: 611-75-6

Synonym: Toluene-alpha, 2-diamine, 3,5-dibromo-N(sup alpha)-cyclohexyl-N(sup alpha)-methyl, monohydrochloride; 2-amino-3,5-dibromo-benzyl(cyclohexyl)methylamine hydrochloride.

Chemical formula: C₁₄H₂₀Br₂N₂.HCl

Contact Information:
PADM Laboratories Pvt. Limited,
#453/A, 12th Cross, 4th Phase,
Peenya Industrial Area,
Bangalore-560058
Karnataka, India.
Phone: 080-28368182

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>Bromhexine Hydrochloride</td>
<td>611-75-6</td>
<td>100</td>
</tr>
</tbody>
</table>

SECTION 3: HAZARDS IDENTIFICATION

Potential acute health effects: Hazardous in case of eye contact (irritant), of inhalation.

Potential chronic health effects:
Carcinogenic effects: Not available

Mutagenic effects: Not available

Teratogenic effects: Not available

Developmental toxicity: Not available

The substance may be toxic to eyes, central nervous system (CNS), ears, nose/sinuses, throat. 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. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious skin contact: Not available.

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. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious ingestion: Not available

SECTION 5: FIRE AND EXPLOSION DATA

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

Auto-Ignition Temperature: Not available.

Flash point: Not available

Flammable limits: Not available

Products of Combustion: These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...), and halogenated compounds.
**Fire Hazards in presence of various substances:** Not available.

**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.

**Special remarks on Fire Hazards:** 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.

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.

SECTION 7: HANDLING AND STORAGE

**Precautions:** Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Avoid contact with eyes. 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.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

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.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits: Not available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Solid.
Odor: Not available.
Taste: Not available.
Molecular Weight: 412.64 g/mole
Color: Not available.
pH (1% soln/water): Not available.
Boiling Point: Not available.
Melting Point: Not available.
Critical Temperature: Not available.
Specific Gravity: Not available.
Vapor Pressure: Not applicable.
Vapor Density: Not available.
Volatility: Not available.
Odor Threshold: Not available.
Water/Oil Dist. Coeff: Not available.
Ionicity (in water): Not available.
Dispersion properties: Not available.
Solubility: Not available.

SECTION 10: STABILITY AND REACTIVITY DATA

Stability: The product is stable
Instability Temperature: Not available.
Conditions of Instability: Not available.
Incompatibility with various substances: Not available.
**Corrosivity:** Not available.

**Special Remarks on Corrosivity:** Not available.

**Special Remarks on Reactivity:** Not available.

**Polymerization:** Will not occur.

---

### SECTION 11: TOXICOLOGICAL INFORMATION

**Route of Entry:** Eye contact. Inhalation.

**Toxicity to Animals:** Acute oral toxicity (LD50): 3000 mg/kg [Mouse].

**Chronic Effects on Humans:** May cause damage to the following organs: eyes, central nervous system (CNS), ears, nose/sinuses, throat.

**Other Toxic Effects on Humans:** Hazardous in case of inhalation.

**Special Remarks on Toxicity to Animals:** Not available

**Special Remarks on chronic Effects on Humans:** Not available

**Special Remarks on other Toxic Effects on Humans:** Not available

---

### SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the products of Biodegradation:** The products of degradation are more toxic than the product itself.

**Special Remarks on the products of Biodegradation:** Not available.

---

### SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal:**
SECTION 14: TRANSPORT INFORMATION

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special provision for Transports: Not applicable.

SECTION 15: OTHER REGULATORY INFORMATION

Federal and state Regulations: No products were found.

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC): R36- Irritating to eyes.

HMIS (U.S.A):

Health Hazard: 2
Reactivity: 0
Personal protection: J

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

Health: 1
Flammability: 1
Reactivity: 0
Specific hazard:

Protective Equipment: Not applicable. Lab coat. Not applicable. Splash goggles.
References: Not available

Other Special Considerations: Not available

DISCLAIMER:

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 purpose. In no event shall PADM Laboratories Pvt. Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, consequential or exemplary damages, howsoever arising, even if PADM Laboratories Pvt. Ltd. has been advised of the possibility of such damages.