1. IDENTIFICATION
   Product Identifier
   Ethambutol
   Product Number
   E009
   Distributor Name
   TOKU-E Company
   Distributor Address
   715 W Orchard Dr, Suite 3
   Bellingham, WA 98225
   Phone Number
   (360) 734-1789
   Emergency Phone Number (US only)
   1 (800) 535-5053
   Emergency Phone Number (International)
   +1 (352) 323-3500
   Safety Data Sheet Issued by
   TOKU-E USA
   CAS-Number
   [74-55-5]
   Recommended Use
   Antitubercular antibiotic which inhibits cell wall formation in Mycobacterium species
   Restrictions on Use
   Not for human or animal use

2. HAZARD(S) IDENTIFICATION
   OSHA Hazards
   Target Organ Effect, Teratogen
   Eyes
   GHS Classification
   Reproductive toxicity (Category 1B)
   GHIS Label Elements, Including
   Pictograms
   Precautionary statements
   Signal Word: Danger
   Hazard Statements
   H360: May damage fertility or the unborn child
   Precautionary Statements
   P201: Obtain special instructions before use
   P308 + P313: If exposed or concerned, get medical advice/attention

3. COMPOSITION/INFORMATION ON INGREDIENTS
   Synonym(s)
   Diambutol;
   EMB;
   Tributol;
   D,N,N’-Bis[1-hydroxymethyl(propyl)ethylene diamine;
   Formula
   C_{10}H_{24}N_{2}O_{2}
   Molecular Weight
   204.31 g/mol
   CAS-Number
   [74-55-5]
4. FIRST-AID MEASURES

General Advice
Consult a physician. Show this Safety Data Sheet to the medical provider.

If Inhaled
If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a doctor.

In Case of Eye Contact
Rinse thoroughly with plenty of water for at least 15 minutes, consult a doctor.

If Swallowed
Never give anything by mouth to an unconscious person. Consult a doctor. Rinse mouth with water.

5. FIRE-FIGHTING MEASURES

Conditions of Flammability
Not flammable or combustible

Suitable Extinguishing Media
Water spray, alcohol-resistant foam, dry chemical, carbon dioxide

Special Protective Equipment for Firefighters
Wear self-contained breathing apparatus

Hazardous Combustion Products
Formed under fire conditions: Carbon and Nitrogen oxides

6. ACCIDENTAL RELEASE MEASURES

General
Evacuate personnel to safe location

Personal Precautions
Wear respiratory protection. Avoid dust formation and breathing vapors/mist/dust/gas. Ensure adequate ventilation

Environmental Precautions
Prevent spillage, do not let product enter drains

Methods of Containment and Cleanup
Place in suitable, closed containers for licensed disposal. Avoid dust formation

7. HANDLING AND STORAGE

Precautions for Safe Handling
Avoid contact with skin and eyes. Provide exhaust ventilation in areas where dust if formed

Precautions for Safe Storage
Keep container tightly closed and in a dry, well-ventilated place. Store at 2-8°C

Incompatibilities
None known

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Contains no substances with occupational exposure limit values

PPE: Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate, use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole
means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

PPE: Hand Protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices, and wash and dry hands

PPE: Eye Protection
Use a face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)

PPE: Skin and Body Protection
When deemed needed according to the concentration and amount of this product, use a complete body suit

9. PHYSICAL/CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>199-204°C</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>345.3°C</td>
</tr>
<tr>
<td>Flash Point</td>
<td>113.6°C</td>
</tr>
<tr>
<td>Ignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower Explosion Limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper Explosion Limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>7.58 mg/mL</td>
</tr>
<tr>
<td>Solubility in Other Solvents</td>
<td>Soluble in chloroform, methylene chloride</td>
</tr>
<tr>
<td>Partition Coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Optical Rotation</td>
<td>+6.0° to +6.7°</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Stability</td>
<td>Stable under recommended storage conditions</td>
</tr>
<tr>
<td>Possibility of Hazardous Reactions</td>
<td>No data available</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>No data available</td>
</tr>
<tr>
<td>Materials to Avoid</td>
<td>No data available</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Carbon and Nitrogen oxides formed under fire conditions</td>
</tr>
</tbody>
</table>
11. TOXICOLOGICAL INFORMATION

Oral LD$_{50}$ Rat: 6,800 mg/kg
Oral TD$_{10}$ Human (man): 1200 mg/kg
Remarks: Skin and appendages – dermatitis, other (after systemic exposure); Immunological Including Allergic – anaphylaxis

Dermal LD$_{50}$ No data available
Intraperitoneal LD$_{50}$ Mouse: 1,000 mg/kg
Remarks: Peripheral nerve and sensation: local anesthetic. Behavior: tremor, convulsions or effect on seizure threshold

Subcutaneous LD$_{50}$ Mouse: 1,800 mg/kg
Intravenous LD$_{50}$ No data available
Skin Corrosion/Irritation No data available
Serious Eye Damage/ Eye Irritation No data available
Respiratory or Skin Sensitization No data available

Carcinogenicity No component of this product present at levels greater than or equal to 0.1% is identified as a possible or probable carcinogen by IARC, ACGIH, NTP, or OSHA

Reproductive Toxicity No data available
Teratogenicity Presumed human reproductive toxicant
Specific Target Organ Toxicity: Single No data available
Exposure (Globally Harmonized System)
Specific Target Organ Toxicity: Repeated No data available
Exposure (Globally Harmonized System)
Aspiration Hazard No data available
Potential Health Effects See Section 2, Hazard(s) Identification
Signs and Symptoms of Exposure Gastrointestinal disturbance, Dermatitis, Blurred vision

Synergistic Effects No data available
Additional Information RTECS: Not available

12. ECOLOGICAL INFORMATION

Toxicity No data available
Persistence and Degradability No data available
Bioaccumulative Potential No data available
Mobility in Soil No data available
PBT and vPvB Assessment No data available
Treat as if harmful if released into environment

13. DISPOSAL CONSIDERATIONS
Product
Dispose of product through a licensed disposal company
Contaminated Packaging
Dispose of as unused product

14. TRANSPORTATION INFORMATION
DOT (US)
Not Dangerous Goods
IMDG
Not Dangerous Goods
IATA
Not Dangerous Goods

15. REGULATORY INFORMATION
OSHA Hazards
Target Organ Effect, Teratogen
SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313
SARA 311/312 Hazards
Chronic Health Hazard
Massachusetts Right to Know Components
No components are subject to the Massachusetts Right to Know Act
Pennsylvania Right to Know Components
No data available
New Jersey Right to Know Components
No data available
California Prop. 65 Components
This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm
Canada Information
Identifier: [74-55-5]
The substance is not specified on any list. There is no control measure imposed on this substance
EU Information
SDS in accordance with REACH 1907/2006
ECHA Pre-Registered Substance
EC Number [200-810-6]
CAS-Number [74-55-5]
Name: Ethambutol
Envisaged registration deadline: 30/11/2010
See GHS Information under Section 2, Hazard Identification

16. OTHER INFORMATION
Date of last revision: 2016-04-05

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. TOKU-E
Company shall not be held liable for any damage resulting from handling or from contact with the above product. Please see reverse side of invoice or packing slip for additional terms and conditions of sale.