1. **IDENTIFICATION OF SUBSTANCE**

**Name:** PERU BALSAM - ZINC OXIDE COMPOUND OINTMENT  
**Manufacturer:** Department of Pharmacy  
Duke University Medical Center  
Box 3089  
Durham, NC 27710  
919-684-5125

**Information Department:** Occupational and Environmental Safety Office  
Duke University Medical Center  
Box 3914  
Durham, NC 27710  
919-684-5996

**Emergency Information:** Regional Poison Control Center  
800-848-6946

2. **COMPOSITION/INFORMATION ON INGREDIENTS**

**Chemical Characterization/Description:** Peru balsam-zinc oxide mixture

**Synonym(s):** Zinc oxide: zinc oxide ointment; Peru balsam: Peruvian balsam

**Components (CAS#, Hazardous Chemical, Percent):**

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Component Description</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>8001-79-4</td>
<td>Castor oil</td>
<td>3%</td>
</tr>
<tr>
<td>8007-00-9</td>
<td>Peru balsam</td>
<td>3%</td>
</tr>
<tr>
<td>1338-43-8</td>
<td>Span 80</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>8007-00-9</td>
<td>Vitamin A &amp; D ointment w/ petrolatum, lanoline, paraffin, and fragrance</td>
<td>47%</td>
</tr>
<tr>
<td>Multiple</td>
<td>Zinc oxide ointment w/ mineral oil, petrolatum, and white wax</td>
<td>47%</td>
</tr>
</tbody>
</table>

3. **HAZARDS IDENTIFICATION**

**Hazard Description:**
Zinc oxide is a poison by intraperitoneal route and an irritant. Castor oil is moderately toxic by ingestion and an allergen. Peru balsam is a skin irritant. Product should be considered combustible. (Hazard description based on concentrated constituents; this product is compounded mixture.)

**NFPA Ratings (scale 0-4):**

- **Health:** 2
- **Fire:** 1
- **Reactivity:** 0
4. **FIRST AID MEASURES**

**Inhalation:**

Remove victim to fresh air. Give oxygen or artificial respiration if necessary.

**Skin Contact:**

IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. Seek medical attention if warranted.

**Eye Contact:**

First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

**Ingestion:**

**DO NOT INDUCE VOMITING.**

If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. IMMEDIATELY transport the victim to a hospital.

If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open, and lay the victim on his/her side with the head lower than the body. Transport the victim IMMEDIATELY to a hospital.
TRADE NAME: PERU BALSAM-ZINC OXIDE COMPOUND OINTMENT

5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Agents:**

Use foam, CO₂, or dry chemical to fight fire. Consider appropriate extinguishing media for surrounding fire. Product may be combustible when heated.

**Protective Equipment:**

Self-contained breathing apparatus and protective equipment for fire fighting.

6. ACCIDENTAL RELEASE MEASURES

**Personnel Precautions:**

Wear gloves (disposable surgical) and eye protection (chemical splash goggles).

**Environmental Precautions:**

None necessary under normal conditions of use.

**Measures for Cleaning/Collection:**

Use absorbent paper to pick up all spill material. Seal the absorbent paper, as well as contaminated clothing, in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution.

7. HANDLING AND STORAGE

**Handling:**

Wear PPE when handling this material. Wash hands after handling.

**Storage:**

Store in a cool, dry, well-ventilated location.
8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls:
None necessary under conditions of normal use.

Control Parameters:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Limit</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc oxide (fume)</td>
<td>5 mg/m³</td>
<td>ACGIH TLV-TWA</td>
</tr>
<tr>
<td></td>
<td>10 mg/m³</td>
<td>ACGIH TLV-STEL</td>
</tr>
<tr>
<td>Vitamin A &amp; D ointment</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Castor oil</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Peru balsam</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Span 80</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Personal Protective Equipment:

Respiratory Protection
None necessary under conditions of normal use.

Skin Protection
Wear gloves (disposable surgical) when using this chemical. If this chemical comes into contact with your gloves, or if a tear/puncture develops, remove gloves at once and wash hands.

Eye Protection
Splash-proof safety goggles should be worn while handling this chemical.

9. PHYSICAL AND CHEMICAL

**Physical State:** Solid (ointment)  **Color and Odor:** Brownish gray; odorless

**pH:** N/A  **Melting Point (°C):** N/A

**Flashpoint (°C):** N/A  **Autoignition Temperature (°C):** N/A

**Explosion Properties:** N/A  **Specific Gravity (water = 1):** N/A

**Vapor Pressure (mm Hg):** N/A  **Vapor Density (air = 1):** N/A

**Solubility:** Insoluble in water.
10. **STABILITY AND REACTIVITY**

**General:** This product is considered stable.

**Materials to Avoid:** Heat, flame, and oxidants.

**Hazardous Decomposition Products:** When heated to decomposition, product may emit acrid smoke and irritating fumes.

11. **TOXICOLOGICAL INFORMATION**

**Acute Toxicity:** Zinc oxide ointment, mineral oil, and petrolatum are skin irritants and have a laxative effect by ingestion. Skin exposure to 300 µg/3 days (intermittent) of zinc oxide ointment resulted in a “mild” rating in humans. Castor oil is moderately toxic by ingestion and an allergen. Peru balsam is a skin irritant.

**Signs/Symptoms of Overexposure:** Skin and eye irritation; laxative effect. Zinc oxide fume causes metal fume fever with chills, fever, tightness of chest, cough, dypsnea, and other pulmonary changes. Other symptoms include lipid granuloma, lipid pneumonia, dermatitis, oil acne and melanosis. Ingestion of mineral oil prevents absorption of Vitamin A from intestinal contents and may interfere with water absorption.

**Chronic Toxicity:** According to “Dangerous Properties of Industrial Materials (Sax, 7th Ed.),” mineral oil is a human carcinogen by inhalation that produces gastrointestinal tumors. It is also a human teratogen by inhalation causing testicular tumors in the fetus. Mineral oils are listed as a known human carcinogen by NTP and IARC. IARC classifies highly refined mineral oils as Group 3 (unclassifiable as to carcinogenicity to humans) and untreated or mildly treated oils as Group 1 (carcinogenic to humans). Zinc oxide is an experimental teratogen.
12. **ECOLOGICAL EFFECTS**

None anticipated under normal conditions of use.

13. **DISPOSAL CONSIDERATIONS**

Dispose of all waste and contaminated materials associated with this chemical as specified by existing local, state and federal regulations concerning hazardous waste disposal. Contact the Occupational and Environmental Safety Office for specific guidance.

14. **TRANSPORT INFORMATION**

**Proper Shipping Name (DOT):** Not regulated under this mode of transportation.

15. **REGULATORY INFORMATION**

Zinc compounds, peru balsam, mineral oil, and castor oil are reported in the EPA TSCA Inventory.

16. **OTHER INFORMATION**

This information is based on our present knowledge; however this shall not constitute a guarantee for any specific product features. No toxicity data are available on this specific formulation; this health hazard assessment is based on information that is available for its components.