1. IDENTIFICATION OF SUBSTANCE

Name: STARCH-ZINC OXIDE-WHITE PETROLATUM 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: Starch-zinc oxide-white petrolatum mixture

Synonym(s): Isopropyl myristate: tetradecanoic acid, isopropyl; White wax: beeswax

Components (CAS#, Hazardous Chemical, Percent):

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1314-13-2</td>
<td>Zinc oxide ointment</td>
<td>7%</td>
</tr>
<tr>
<td>N/A</td>
<td>Starch</td>
<td>35%</td>
</tr>
<tr>
<td>110-27-0</td>
<td>Isopropyl myristate</td>
<td>10%</td>
</tr>
<tr>
<td>8012-89-3</td>
<td>White wax</td>
<td>3%</td>
</tr>
<tr>
<td>1338-43-8</td>
<td>Span 80</td>
<td>1%</td>
</tr>
<tr>
<td>8009-03-8</td>
<td>White petrolatum</td>
<td>44%</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION

Hazard Description:
Zinc oxide is a poison by intraperitoneal route and an irritant. Isopropyl myristate is a skin irritant. Petrolatum and white wax are combustible. (Hazard description based on concentrated constituents; this product is compounded mixture.)

NFPA Ratings (scale 0-4):

Health: 1
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.
### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Agents:**

Use foam, CO$_2$, 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>Starch</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Isopropyl myristate</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>White wax</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Span 80</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>White petrolatum</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 disposable surgical gloves 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: White; odorless
pH: N/A
Melting Point (°C): N/A
Flashpoint (°C): 185 (petrolatum)
Autoignition Temperature (°C): N/A
Explosion Properties: N/A
Vapor Density (air = 1): N/A
Vapor Pressure (mm Hg): N/A
Specific Gravity (water = 1): 0.84
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 (ZnO).

11. TOXICOLOGICAL INFORMATION

**Acute Toxicity:** Zinc oxide ointment 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. Isopropyl myristate is a skin irritant. White wax is a mild allergen.

**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.

**Chronic Toxicity:** This product is not considered a carcinogen by NTP, IARC, or OSHA. Zinc oxide is an experimental teratogen and isopropyl myristate is an experimental tumorigen.

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 and isopropyl myristate 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.