MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BiCAT® 8210
PRODUCT NUMBER: 1426
CHEMICAL NAME: Bismuth 2-ethylhexanoate mixture
DATE PREPARED: 04-Jan-12

MANUFACTURER:
The Shepherd Chemical Company
4900 Beech Street
Cincinnati, Ohio 45212
(513)-731-1110 (voice), (513)-731-1532 (fax)

EMERGENCY TELEPHONE NO. 1-800-424-9300 CHEMTREC

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CHEMICAL INGREDIENT</th>
<th>C.A.S. NUMBER</th>
<th>% BY WEIGHT</th>
<th>% METAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bismuth 2-ethylhexanoate</td>
<td>67874-71-9</td>
<td>89 max.</td>
<td>28 Bi</td>
</tr>
<tr>
<td>2-Ethylhexanoic Acid</td>
<td>149-57-5</td>
<td>18 max.</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 3 - HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE: Brown liquid
ODOR: Fatty acid odor

WARNING! CAUSES IRRITATION. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. AVOID BREATHING VAPORS OR MIST. WASH THOROUGHLY AFTER HANDLING.

POTENTIAL HEALTH EFFECTS, TARGET ORGAN EFFECTS (ACUTE AND CHRONIC)

This product causes eye and skin irritation and may cause upper respiratory tract irritation. If absorbed, bismuth compounds may affect the kidneys.

CARCINOGENICITY: Not applicable

SECTION 4 - FIRST AID MEASURES

If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician. If swallowed, do not induce vomiting. Keep person warm. Call a physician immediately. Never give anything by mouth to an unconscious person. In case of contact, immediately flush skin and eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician.

SECTION 5 - FIRE FIGHTING MEASURES

FLASHPOINT/METHOD: > 256°F (PMcc)
FLAMMABLE LIMITS: LEL: N/A UEL: N/A
EXTINGUISHING MEDIA: CO2, Foam, Dry Chemical or Water Spray.
SPECIAL FIREFIGHTING PROCEDURES: Use Self-Contained Breathing-Apparatus.
FIRE AND EXPLOSION HAZARD:
Mild when exposed to extreme heat or flame.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

Remove ignition sources. Ventilate area of spill. Do not allow to enter confined spaces such as sewers. Absorb in vermiculite, dry sand, earth or similar material.

**SECTION 7- HANDLING AND STORAGE**

Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Wash thoroughly after handling. Store in closed containers away from extreme heat, flame or strong oxidizing agents.

**SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

**RESPIRATORY PROTECTION:** Use NIOSH/MSHA approved respirators if OSHA PEL is exceeded.

**SKIN PROTECTION:** Use impervious glove and body-covering clothing.

**EYE PROTECTION:** Use side-shielded safety glasses or goggles.

**ENGINEERING CONTROLS:** Provide general and/or local exhaust ventilation.

**EXPOSURE GUIDELINES:**

<table>
<thead>
<tr>
<th>CHEMICAL INGREDIENT</th>
<th>OSHA PEL (mg/M3)</th>
<th>ACGIH TLV (mg/M3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethylhexanoic Acid</td>
<td>N/A</td>
<td>5</td>
</tr>
<tr>
<td>Bismuth 2-ethylhexanoate</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** Brown liquid

**ODOR:** Fatty acid odor

**BOILING POINT:** >227 °F (2-ethyl.)

**VAPOR PRESSURE (mm HG):** <0.01 (2-ethyl.)

**VAPOR DENSITY (Air = 1):** 5.0 (2-ethyl.)

**SOLUBILITY IN WATER:** Negligible

**SPECIFIC GRAVITY / DENSITY:** 1.30

**FREEZING POINT:** -181 °F (2-ethyl.)

**pH:** N/A

**EVAPORATION RATE:** <0.01 (2-ethyl.)

**SECTION 10 - STABILITY AND REACTIVITY**

**STABILITY:** This product is stable. Hazardous polymerization will not occur.

**INCOMPATIBILITY:** Strong oxidizing agents.

**HAZARDOUS DECOMPOSITION BY PRODUCTS:**

Thermal decomposition may produce carbon monoxide.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

None found for this product.

**SECTION 12 - ECOLOGICAL INFORMATION**

Not available

**SECTION 13 - DISPOSAL CONSIDERATION**

Liquid incineration or dispose of contaminated absorbent/stabilizing agent in an approved landfill. Observe local, state and federal regulations.

**SECTION 14 - TRANSPORT INFORMATION**
This product is not regulated for transportation.  
(Chemical, n.o.i.)

SECTION 15 - REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD:  
Hazardous due to target organ effects (See Section 3)

CERCLA/SUPERFUND:  
N/A

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):  
Section 311/312 Hazard Categories: Acute Health Hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA):  
All components of this product are on the TSCA Inventory unless otherwise noted in Section 2.

INTERNATIONAL REGULATIONS:  
Registered in Australia (AICS), Canada (DSL), China (IECSC), Europe (EINECS), Japan (ENCS), New Zealand (ERMA) and Philippines (PICCS).  UK Classification - Irritant.  Risk Phrases: R36/37/38 Irritating to eyes, respiratory system and skin.  Safety Phrases: S24/25/26/37/45 Avoid contact with eyes and skin.  In case of contact with skin and eyes, rinse immediately with plenty of water and seek medical advice.  Wear suitable gloves.  In case of accident or if you feel unwell, seek medical advice immediately.

SECTION 16 - OTHER INFORMATION

REFERENCES:  
Material Safety Data Sheet, 2-Ethylhexanoic acid, Vendor

HMIS RATING:  
Health - 2  
Flammability - 1  
Reactivity - 0  
Personal Protection - B

DISCLAIMER:  
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