Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

**Common Name/Trade Name**

Pyrithioxin

**Manufacturer**

SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

**Commercial Name(s)**

Biocefalin; Bonifen; Bonol; Dipyridoxolyldisulfide; Encefabol; Epocan; Pyridoxine disulfide; Pyridoxine-5-disulfide; Pyritinol; Vitamin B6 disulfide

**Synonym**

3,3’-(Dithiobis(methylene))bis(5-hydroxy-6-methyl-4-pyridinemethanol); 4-Pyridinemethanol, 3,3’-(dithiomethylene)bis(5-hydroxy-6-methyl-

**Chemical Name**

4-Pyridinemethanol, 3,3’-(dithiobis(methylene))bis(5-hydroxy-6-methyl-

**Chemical Family**

Not available.

**Chemical Formula**

C16-H20-N2-O4-S2

**Supplier**

SPECTRUM LABORATORY PRODUCTS INC.
14422 S. SAN PEDRO STREET
GARDENA, CA 90248

**Catalog Number(s).**

P2193

**CAS#**

1098-97-1

**RTECS**

Not available.

**TSCA**

TSCA 8(b) inventory: No products were found. Not listed on TSCA 8(b) inventory. For research and development purposes only.

**CI#**

Not available.

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000

Section 2. Composition and Information on Ingredients

**Exposure Limits**

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
<th>CEIL (mg/m³)</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Pyrithioxin</td>
<td>1098-97-1</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Toxicological Data on Ingredients**

Not applicable.

Continued on Next Page
### Section 3. Hazards Identification

<table>
<thead>
<tr>
<th>Potential Acute Health Effects</th>
<th>Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.</th>
</tr>
</thead>
</table>
| Potential Chronic Health Effects | CARCINOGENIC EFFECTS: Not available.  
MUTAGENIC EFFECTS: Not available.  
TERATOGENIC EFFECTS: Not available.  
DEVELOPMENTAL TOXICITY: Not available.  
Repeated or prolonged exposure is not known to aggravate medical condition. |

### 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 if irritation occurs. |
| Skin Contact | Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. |
| 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 Points | Not available. |
| Flammable Limits | Not available. |
| Products of Combustion | These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...), sulfur oxides (SO2, SO3...). |
| Fire Hazards in Presence of Various Substances | Slightly flammable to flammable in presence of heat. |
| Explosion Hazards in Presence of Various Substances | 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. |
| Fire Fighting Media and Instructions | SMALL FIRE: Use DRY chemical powder.  
LARGE FIRE: Use water spray, fog or foam. Do not use water jet. |
| Special Remarks on Fire Hazards | As with most organic solids, fire is possible at elevated temperatures. Material in powder form, capable of creating a dust explosion. |
| Special Remarks on Explosion Hazards | Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. |

*Continued on Next Page*
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. Ground all equipment containing material. Do not ingest. Do not breathe dust. 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. Refrigerate

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
Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. 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. (Powdered solid. Crystalline powder.)

Molecular Weight
368.48 g/mole

pH (1% sohn/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.

Odor
Not available.

Taste
Not available.

Color
White.

Continued on Next Page
### Section 10. Stability and Reactivity Data

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stability</strong></td>
<td>The product is stable.</td>
</tr>
<tr>
<td><strong>Instability Temperature</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Conditions of Instability</strong></td>
<td>Excess heat</td>
</tr>
<tr>
<td><strong>Incompatibility with various substances</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Corrosivity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Special Remarks on Reactivity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Special Remarks on Corrosivity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Polymerization</strong></td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

### Section 11. Toxicological Information

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Routes of Entry</strong></td>
<td>Inhalation, Ingestion</td>
</tr>
<tr>
<td><strong>Toxicity to Animals</strong></td>
<td>Acute oral toxicity (LD50): &gt;4000 mg/kg [Rat].</td>
</tr>
<tr>
<td><strong>Chronic Effects on Humans</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Other Toxic Effects on Humans</strong></td>
<td>Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.</td>
</tr>
<tr>
<td><strong>Special Remarks on Toxicity to Animals</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Special Remarks on Chronic Effects on Humans</strong></td>
<td>Not available.</td>
</tr>
</tbody>
</table>
| **Special Remarks on other Toxic Effects on Humans** | Acute Potential Health Effects:  
Skin: May cause skin irritation.  
Eyes: Dust may cause eye irritation.  
Inhalation: Dust may cause respiratory tract irritation.  
Ingestion: Low hazard.  
Chronic Potential Health Effects:  
Ingestion: Prolonged or repeated ingestion of very large amounts may cause a decrease in appetite and weight loss. |

### Section 12. Ecological Information

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ecotoxicity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>BOD5 and COD</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Products of Biodegradation</strong></td>
<td>Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.</td>
</tr>
<tr>
<td><strong>Toxicity of the Products of Biodegradation</strong></td>
<td>The product itself and its products of degradation are not toxic.</td>
</tr>
<tr>
<td><strong>Special Remarks on the Products of Biodegradation</strong></td>
<td>Not available.</td>
</tr>
</tbody>
</table>
Section 13. Disposal Considerations

Waste Disposal
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

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

Identification
Not applicable.

Special Provisions for Transport
Not applicable.

DOT (Pictograms)

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations
No products were found.

California Proposition 65
Warnings
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.
California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 214-150-1).
Canada: Not listed on Canadian Domestic Substance List (DSL) or Canadian Non-Domestic Substance List (NDSL).
China: Not listed on National Inventory.
Japan: Not listed on National Inventory (ENCS).
Korea: Not listed on National Inventory (KECI).
Philippines: Not listed on National Inventory (PICCS).
Australia: Listed on AICS.

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

DSCL (EEC)
This product is not classified according to the EU regulations.

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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>HMIS</th>
<th>NFPA</th>
<th>Specific Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Hazard</td>
<td>2</td>
<td>2</td>
<td>Health</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>1</td>
<td>1</td>
<td>Reactivity</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
<td>0</td>
<td>Specific hazard</td>
</tr>
<tr>
<td>Personal Protection</td>
<td>5</td>
<td>E</td>
<td></td>
</tr>
</tbody>
</table>

Continued on Next Page
<table>
<thead>
<tr>
<th>Protective Equipment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gloves.</td>
<td></td>
</tr>
<tr>
<td>Lab coat.</td>
<td></td>
</tr>
<tr>
<td>Dust respirator.</td>
<td>Be sure to use an approved/certified respirator or equivalent.</td>
</tr>
<tr>
<td>Safety glasses.</td>
<td></td>
</tr>
</tbody>
</table>

**Section 16. Other Information**

<table>
<thead>
<tr>
<th>MSDS Code</th>
<th>P4859</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Special Considerations</td>
<td>Use: Neurotropic agent. For research and development use only</td>
</tr>
</tbody>
</table>

Validated by Sonia Owen on 7/13/2007.

Verified by Sonia Owen.


CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.