### Section 1. Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>Common Name/Trade Name</th>
<th>Clioquinol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248</td>
</tr>
<tr>
<td>Commercial Name(s)</td>
<td>Bactol, Barquinol, Chloriodoquin</td>
</tr>
<tr>
<td>Synonym</td>
<td>5-Chloro-7-iodo-8-quinolinol; Iodochloroxyquin</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Clioquinol</td>
</tr>
<tr>
<td>Chemical Family</td>
<td>Not available.</td>
</tr>
<tr>
<td>Chemical Formula</td>
<td>C9-H5-I-N-O-Cl</td>
</tr>
<tr>
<td>Supplier</td>
<td>SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248</td>
</tr>
</tbody>
</table>

| Catalog Number(s)      | CL109, CL108 |
| CAS#                   | 130-26-7     |
| RTECS                  | VC5075000    |
| TSCA                   | TS C A 8(b) inventory: Clioquinol |
| CI#                    | Not available. |

#### Toxicological Data on Ingredients

<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>Clioquinol</td>
<td>130-26-7</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

**Clioquinol:**
- **ORAL (LD50):** Acute: >5000 mg/kg [Rat]. 69 mg/kg [Mouse]. 400 mg/kg [Cat].

### Section 2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>TWA (mg/m³)</th>
<th>STEL (mg/m³)</th>
<th>CEIL (mg/m³)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Clioquinol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

### Section 3. Hazards Identification

**Potential Acute Health Effects:** Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.

**Potential Chronic Health Effects:**
- **CARCINOGENIC EFFECTS:** Not available.
- **MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells.
- **TERATOGENIC EFFECTS:** Not available.
- **DEVELOPMENTAL TOXICITY:** Not available.
- The substance is toxic to the nervous system.
- The substance may be toxic to eyes.
- Repeated or prolonged exposure to the substance can produce target organs damage.

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*Continued on Next Page*
### Section 4. First Aid Measures

<table>
<thead>
<tr>
<th><strong>Eye Contact</strong></th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skin Contact</strong></td>
<td>Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.</td>
</tr>
<tr>
<td><strong>Serious Skin Contact</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.</td>
</tr>
<tr>
<td><strong>Serious Inhalation</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Serious Ingestion</strong></td>
<td>Not available.</td>
</tr>
</tbody>
</table>

### 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...), halogenated compounds. |
| **Fire Hazards in Presence of Various Substances** | Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks. |
| **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** | Not available. |
| **Special Remarks on Explosion Hazards** | Not available. |

### 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. |

*Continued on Next Page*
### 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. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids.

**Storage**
Keep container tightly closed. Keep container in a cool, well-ventilated area. Sensitive to light. Store in light-resistant containers. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids.

### 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.)

**Odor**
Characteristic. (Slight.)

**Molecular Weight**
305.5 g/mole

**Taste**
Not available.

**pH (1% soln/water)**
Not applicable.

**Color**
Beige.

**Boiling Point**
Decomposition temperature: 178.5°C (353.3°F)

**Melting Point**
178.5°C (353.3°F)

**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**
Insoluble in cold water, hot water. Practically insoluble in alcohol, chloroform.

### Section 10. Stability and Reactivity Data

<table>
<thead>
<tr>
<th><strong>Stability</strong></th>
<th>The product is stable.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instability Temperature</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Conditions of Instability</strong></td>
<td>Excess heat, incompatible materials, light</td>
</tr>
<tr>
<td><strong>Incompatibility with various substances</strong></td>
<td>Reactive with oxidizing agents, acids.</td>
</tr>
<tr>
<td><strong>Corrosivity</strong></td>
<td>Non-corrosive in presence of glass.</td>
</tr>
</tbody>
</table>

*Continued on Next Page*
**Section 11. Toxicological Information**

**Routes of Entry**
Inhalation. Ingestion.

**Toxicity to Animals**
Acute oral toxicity (LD50): 69 mg/kg [Mouse].

**Chronic Effects on Humans**
**MUTAGENIC EFFECTS**: Mutagenic for mammalian somatic cells. Causes damage to the following organs: the nervous system. May cause damage to the following organs: eyes.

**Other Toxic Effects on Humans**
Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.

**Special Remarks on Toxicity to Animals**
Not available.

**Special Remarks on Chronic Effects on Humans**
May cause adverse reproductive effects (maternal effects, effects on newborn, fetotoxicity), and birth defects based on animal data. May affect genetic material.

**Special Remarks on other Toxic Effects on Humans**
Acute Potential Health Effects:  
Skin: May cause skin irritation. It is absorbed through the skin. Eyes: Dust may cause eye irritation. Inhalation: Dust may cause respiratory tract irritation. Ingestion: May cause gastrointestinal tract irritation. May affect the brain, behavior/Central Nervous system (ataxia, impairment of deep sensation, convulsions, weakness in lower limbs, psychic symptoms, and other cerebral symptoms), eyes (optic nerve neuropathy, visual field changes), liver, urinary system (renal failure, tubular necrosis), blood, respiration (dyspnea, pulmonary edema), spinal cord, skeleton (musculoskeletal changes), metabolism.  
May cause adverse reproductive effects (maternal effects, effects on newborn, fetotoxicity), and birth defects based on animal data. May affect genetic material.

**Section 12. Ecological Information**

**Ecotoxicity**
Not available.

**BOD5 and COD**
Not available.

**Products of Biodegradation**
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation**
The products of degradation are more toxic than the product itself.

**Special Remarks on the Products of Biodegradation**
Not available.

**Section 13. Disposal Considerations**

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

Continued on Next Page
### 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**
TSCA 8(b) inventory: Clioquinol

**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.

**Other Regulations**
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**Other Classifications**

<table>
<thead>
<tr>
<th></th>
<th>WHMIS (Canada)</th>
<th>DSCL (EEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not controlled under WHMIS (Canada).</td>
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</tbody>
</table>

**HMIS (U.S.A.)**

<table>
<thead>
<tr>
<th></th>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
<td>1</td>
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<td>E</td>
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</table>

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

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Specific hazard</th>
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</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
<td>0</td>
<td>1</td>
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</tr>
</tbody>
</table>

**WHMIS (Canada) (Pictograms)**

**DSCL (Europe) (Pictograms)**

**TDG (Canada) (Pictograms)**

**ADR (Europe) (Pictograms)**

Continued on Next Page
Proper Equipment

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

Section 16. Other Information

<table>
<thead>
<tr>
<th>MSDS Code</th>
<th>C4415</th>
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</thead>
<tbody>
<tr>
<td>References</td>
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</tr>
<tr>
<td>Other Special Considerations</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

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.