Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Synonym</th>
<th>Chemical Family</th>
<th>Chemical Formula</th>
<th>Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perphenazine</td>
<td>2-Chloro-10-3-(1-(2_Hydroxyethyl)-4-Piperazinyl) Propyl Phenothiazine; Ethaperazine; Etaperazine; Fentazin; 4-(3-(2-Chlorophenothizin-10-yl) Propyl)-1-Piperazineethanol</td>
<td>Not available.</td>
<td>C21-H26-CI-N3-O-S</td>
<td>SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248</td>
</tr>
</tbody>
</table>

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

Commercial Name(s): Not available.

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>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Perphenazine</td>
<td>58-39-9</td>
<td></td>
<td></td>
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<td>100</td>
</tr>
</tbody>
</table>

Exposure Limits

Toxicological Data on Ingredients

Perphenazine:
ORAL (LD50): Acute: 318 mg/kg [Rat]. 120 mg/kg [Mouse].

Section 3. Hazards Identification

Potential Acute Health Effects: Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion. Slightly hazardous in case of skin contact (sensitizer).

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Development toxin [POSSIBLE]. The substance may be toxic to liver, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

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

CALL (310) 516-8000

Continued on Next Page
### 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. Cold water may be used. WARM water MUST be used. Get medical attention. |
| **Skin Contact** | In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention. |
| **Serious Skin Contact** | Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention. |
| **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. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband. |
| **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** | CLOSED CUP: Higher than 93.3°C (200°F). |
| **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 locked up. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk. Evaporate the residue under a fume hood. 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. Avoid contact with skin and eyes.

Storage

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
Splash goggles. 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
Odorless.

Molecular Weight
403.97 g/mole

Taste
Bitter.

pH (1% soln/water)
5 [Acidic.]

Color
White to yellowish.

Boiling Point
216°C (420.8°F)

Melting Point
97°C (206.6°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.
The product is more soluble in oil; log(oil/water) = 4.2

Ionicity (in Water)
Not available.

Dispersion Properties
See solubility in water, acetone.

Solubility
Soluble in acetone. Very slightly soluble in cold water, diethyl ether.

Section 10. Stability and Reactivity Data

Stability
The product is stable.

Instability Temperature
Not available.

Conditions of Instability
Excess heat, light, incompatible materials

Incompatibility with various substances
Not available.

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

**Routes of Entry**
Inhalation. Ingestion.

**Toxicity to Animals**
Acute oral toxicity (LD50): 120 mg/kg [Mouse].

**Chronic Effects on Humans**
- **MUTAGENIC EFFECTS**: Mutagenic for mammalian somatic cells.
- **DEVELOPMENTAL TOXICITY**: Classified Reproductive system/toxin/female, Development toxin [POSSIBLE].
  - May cause damage to the following organs: liver, central nervous system (CNS).

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

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

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

**Special Remarks on Other Toxic Effects on Humans**
- **Acute Potential Health Effects:**
  - Skin: May cause skin irritation and allergic skin reaction. Photosensitizer. May be absorbed through skin and affect behavior (convulsions, seizures, general depressed activity)
  - Eyes: May cause eye irritation.
  - Ingestion: May be harmful if swallowed. May cause digestive tract irritation including diarrhea and hypermotility. May affect behavior (Central nervous system), Peripheral Nervous System, Peripheral nerve and sensation, liver, metabolism, urinary system
  - Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

### 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 as toxic as 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
No products were found.

California Proposition 65
Warnings

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

Other Classifications

<table>
<thead>
<tr>
<th>Classification</th>
<th>WHMIS (Canada)</th>
<th>Other Classifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHMIS (Canada)</td>
<td>Not controlled under WHMIS (Canada).</td>
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</tr>
<tr>
<td>DSCL (EEC)</td>
<td>R22- Harmful if swallowed. R36/38- Irritating to eyes and skin. R40- Possible risks of irreversible effects. R62- Possible risk of impaired fertility. R63- Possible risk of harm to the unborn child.</td>
<td></td>
</tr>
<tr>
<td>National Fire Protection Association (U.S.A.)</td>
<td>S2- Keep out of the reach of children. S36/37- Wear suitable protective clothing and gloves. S46- If swallowed, seek medical advice immediately and show this container or label.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>2</th>
<th>National Fire Protection Association (U.S.A.)</th>
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<tbody>
<tr>
<td>Fire Hazard</td>
<td>1</td>
<td>Health 2</td>
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<tr>
<td>Reactivity</td>
<td>0</td>
<td>Flammability 0</td>
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<td>Personal Protection</td>
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<table>
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<th>HMIS (U.S.A.)</th>
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<tr>
<td>Reactivity</td>
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<td>Specific hazard</td>
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WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

Continued on Next Page
## Section 16. Other Information

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