Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Common Name/Trade Name: Mercury

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

Commercial Name(s): Not available.

Synonym: Quick Silver; Colloidal Mercury; Metallic Mercury; Liquid Silver; Hydrargyrum

Chemical Name: Mercury

Chemical Family: Metal.

Chemical Formula: Hg

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

Catalog Number(s): M1215, M1219

CAS#: 7439-97-6

RTECS: OV4550000

TSCA: TSCA 8(b) inventory: Mercury

C1#: Not applicable.

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300
CALL (310) 516-8000

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) Mercury</td>
<td>7439-97-6</td>
<td>0.025</td>
<td>0.1</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients: Mercury

LD50: Not available.
LC50: Not available.

Section 3. Hazards Identification

Potential Acute Health Effects: Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (corrosive, permeator). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
### Mercury

**Potential Chronic Health Effects**
- Hazardous in case of skin contact (permeator).
- **Carcinogenic Effects:** Classified A6 (Not suspected for human.) by ACGIH, 3 (Not classifiable for human.) by IARC.
- **Mutagenic Effects:** Not available.
- **Teratogenic Effects:** Not available.
- **Developmental Toxicity:** Not available.
- The substance may be toxic to blood, kidneys, liver, brain, peripheral nervous system, central nervous system (CNS).
- Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

### Section 4. First Aid Measures

<table>
<thead>
<tr>
<th>Eye Contact</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. Cold water may be used. WARM water MUST be used. Get medical attention immediately.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Contact</td>
<td>In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.</td>
</tr>
<tr>
<td>Serious Skin Contact</td>
<td>Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.</td>
</tr>
<tr>
<td>Serious Inhalation</td>
<td>Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>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.</td>
</tr>
<tr>
<td>Serious Ingestion</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

### Section 5. Fire and Explosion Data

<table>
<thead>
<tr>
<th>Flammability of the Product</th>
<th>Non-flammable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-Ignition Temperature</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flash Points</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Products of Combustion</td>
<td>Not available.</td>
</tr>
<tr>
<td>Fire Hazards in Presence of Various Substances</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Risks of explosion of the product in presence of static discharge. Not available.</td>
<td></td>
</tr>
<tr>
<td>Fire Fighting Media and Instructions</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Special Remarks on Fire Hazards</td>
<td>When thrown into mercury vapor, boron phosphodiode ignites at once. Flame forms with chlorine jet over mercury surface at 200 deg to 300 deg C. Mercury undergoes hazardous reactions in the presence of heat and sparks or ignition.</td>
</tr>
</tbody>
</table>
Special Remarks on Explosion Hazards

A violent exothermic reaction or possible explosion occurs when mercury comes in contact with lithium and rubidium.
CHLORINE DIOXIDE & LIQUID HG, WHEN MIXED, EXPLODE VIOLENTLY.
Mercury and Ammonia can produce an explosive compound.
A mixture of the dry carbonyl and oxygen will explode on vigorous shaking with mercury.
Methyl azides in the presence of mercury was shown to be potentially explosive.

Section 6. Accidental Release Measures

Small Spill
Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill
Corrosive liquid. Poisonous liquid.
Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dikes if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions
Keep locked up. Keep container dry. Do not ingest. Do not breathe gas/fumes/vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibilities such as oxidizing agents, metals.

Storage
Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C (77°F).

Section 8. Exposure Controls/Personal Protection

Engineering Controls
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection

Personal Protection in Case of a Large Spill
Splash goggles. Full suit. Vapor 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
TWA: 0.025 from ACGIH (TLV) [United States] SKIN
TWA: 0.05 CEIL: 0.1 (mg/m³) from OSHA (PEL) [United States] Inhalation
TWA: 0.025 (mg/m³) [United Kingdom (UK)]

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance
Liquid (Heavy liquid)

Molecular Weight
200.59 g/mole

pH (1% soln/water)
Not available.

Boiling Point
356.73°C (674.1°F)

Melting Point
-38.87°C (-38°F)

Critical Temperature
1462°C (2663.6°F)

Specific Gravity
13.55 (Water = 1)

Vapor Pressure
Not available.

Vapor Density
6.93 (Air = 1)

Odor
Odorless.

Taste
Not available.

Color
Silver-white
Section 9. Physical and Chemical Properties

Vapour Pressure: Not available.
Odor Threshold: Not available.
Water/Oil Dist. Coeff.: Not available.
Ionization (in Water): Not available.
Dispersion Properties: Not available.
Solubility: Very slightly soluble in cold water.

Section 10. Stability and Reactivity Data

Stability: The product is stable.
Instability Temperature: Not available.
Conditions of Instability: Incompatible materials
Incompatibility with various substances: Reactive with oxidizing agents, metals.
Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Ground mixtures of sodium carbide and mercury, aluminum, lead, or iron can react vigorously. A violent exothermic reaction or possible explosion occurs when mercury comes in contact with lithium and rubidium. Incompatible with boron diiodophosphide; ethylene oxide; metal oxides; metals (aluminum, potassium, lithium, sodium, rubidium); methyl azide; methylsilane, oxygen; oxidants (bromine, peroxyformic acid, chlorine dioxide, nitric acid, tetracarbononylnickel, nitromethane, silver perchlorate, chlorates, sulfuric acid, nitrates); tetracarbononylnickel, oxygen, acetylic compounds, ammonia, ethylene oxide, methylsilane, calcium.

Special Remarks on Corrosivity: The high mobility and tendency to dispersion exhibited by mercury, and the ease with which it forms alloys (amalgams) with many laboratory and electrical contact metals, can cause severe corrosion problems in laboratories. Special precautions: Mercury can attack copper and copper alloy materials.

Polymerization: Will not occur.

Section 11. Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
Toxicity to Animals: LD50: Not available. LC50: Not available.
Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified A5 (Not suspected for human.) by ACGIH. 3 (Not classifiable for human.) by IARC. May cause damage to the following organs: blood, kidneys, liver, brain, peripheral nervous system, central nervous system (CNS).

Other Toxic Effects on Humans: Very hazardous in case of skin contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (corrosive, permeator).

Special Remarks on Toxicity to Animals: Not available.
Special Remarks on Chronic Effects on Humans: May affect genetic material. May cause cancer based on animal data. Passes through the placental barrier in animal. May cause adverse reproductive effects (paternal effects: spermato genesis; effects on fertility - fetotoxicity, post-implantation mortality), and birth defects.
### 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 less 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.

### Section 14. Transport Information

**DOT Classification**
Class 8: Corrosive material

**Identification**
Mercury UNNA: 2809 PG: III

**Special Provisions for Transport**
Not available.
Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations
- California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Mercury
- 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: Mercury
- Connecticut hazardous material survey: Mercury
- Illinois toxic substances disclosure to employees act: Mercury
- Illinois chemical safety act: Mercury
- New York acutely hazardous substances: Mercury
- Rhode Island RTK hazardous substances: Mercury
- Pennsylvania RTK: Mercury
- Minnesota: Mercury
- Massachusetts RTK: Mercury
- New Jersey: Mercury
- New Jersey spill list: Mercury
- Louisiana spill reporting: Mercury
- California Director's List of Hazardous Substances: Mercury
- TSCA 8(b) inventory: Mercury
- SARA 313 toxic chemical notification and release reporting: Mercury
- CERCLA: Hazardous substances: Mercury, 1 lb. (0.4556 kg)

California Proposition 65 Warnings
- 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: Mercury

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

Other Classifications
- WHMIS (Canada)
  - CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC).
  - CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
  - CLASS E: Corrosive liquid.

  DSCL (EEC)
  - R23- Toxic by inhalation.
  - R33- Danger of cumulative effects.
  - R38- Irritating to skin.
  - R41- Risk of serious damage to eyes.
  - R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
  - S2- Keep out of the reach of children.
  - S7- Keep container tightly closed.
  - S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  - S39- Wear eye/face protection.
  - S45- If exposed, seek medical advice immediately and have this container or label with you.
  - S60- This material and its container must be disposed of as hazardous waste.
  - S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.

HMIS (U.S.A.)
- Health Hazard 3
- Fire Hazard 0
- Reactivity 0
- Personal Protection 0

WHMIS (Canada)
(Pictograms)
Section 16. Other information

MSDS Code  M3670

References  Not available.
Other Special Considerations  Not available.

Printed 9/12/2006.

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.