Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Common Name/Trade Name: Thimerosal

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

Commercial Name(s): Not available.

Synonym:
Ethylmercurithiosalicylic acid sodium salt; Ethyl (sodium o-mercaptobenzoato)mercury; Ethyl(2-mercaptobenzoato-S)-mercury sodium salt; Sodium O-(Ethylmercurithio)benzoate (Os); Mercurate(1-), ethyl[2(mercapto-kappa.S)benzoato(2)-kappa.O]-((o-Carboxyphenyl)thio)ethylmercury sodium salt; Merthiolate; Merthiolate sodium; Merzonin, Merzonin sodium; Sodium ethylmercuric thiosalicylate; Sodium o-(ethylmercurithio)benzoate; o-[(Ethylmercurithio)benzoic acid sodium salt; Thimerosal; Thimerosal

Chemical Name: Mercury, ((o-carboxyphenyl)thio)ethyl-, sodium salt

Chemical Family: Not available.

Chemical Formula: C9H9HgNaO2S

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

Catalog Number(s): XX888, T1034, T1043, YY948, TH125

CAS#: 54-64-8

RTECS: OV8400000

TSCA: TSCA 8(b) inventory: Thimerosal

CI#: Not available.

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

CALL (310) 516-8000

Section 2. Composition and Information on Ingredients

Name: Thimerosal

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>Thimerosal</td>
<td>54-64-8</td>
<td>0.1</td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients

Thimerosal:

ORAL (LD50):
Acute: 75 mg/kg [Rat]. 91 mg/kg [Mouse].

Section 3. Hazards Identification

Potential Acute Health Effects: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation (lung irritant). Slightly hazardous in case of skin contact (permeator). Severe over-exposure can result in death.
### Thimerosal

**Potential Chronic Health Effects**
- Slightly hazardous in case of skin contact (sensitizer).
- **CARCINOGENIC EFFECTS:** Not available.
- **MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells.
- **TERATOGENIC EFFECTS:** Not available.
- **DEVELOPMENTAL TOXICITY:** Not available.
  - The substance is toxic to kidneys, central nervous system (CNS).
  - The substance may be toxic to liver, spleen.
  - Repeated or prolonged exposure to the substance can produce target organs damage. 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. Get medical attention if irritation occurs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Contact</td>
<td>In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.</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.</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. Seek medical attention.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>If swallowed, 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 immediately.</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>May be combustible at high temperature.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto-Ignition Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash Points</td>
<td>CLOSED CUP: &gt;250°C (482°F).</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>Not available.</td>
</tr>
<tr>
<td>Products of Combustion</td>
<td>These products are carbon oxides (CO, CO2). Some metallic oxides.</td>
</tr>
<tr>
<td>Explosion Hazards in Presence of Various Substances</td>
<td>Slightly explosive in presence of open flames and sparks. Non-explosive in presence of shocks.</td>
</tr>
<tr>
<td>Fire Fighting Media and Instructions</td>
<td>SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.</td>
</tr>
<tr>
<td>Special Remarks on Fire Hazards</td>
<td>As with most organic solids, fire is possible at elevated temperatures</td>
</tr>
<tr>
<td>Special Remarks on Explosion Hazards</td>
<td>Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.</td>
</tr>
</tbody>
</table>
### Section 6. Accidental Release Measures

**Small Spill**
Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill**
Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. 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 away from heat. Keep away from sources of ignition. Do not ingest. Do not breathe dust. Avoid contact with skin. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. 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. Sensitive to light. Store in light-resistant containers.

### 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**
- TWA: 0.1 from ACGIH (TLV) [United States]
- TWA: 0.1 (mg/m³) from OSHA (PEL) [United States]
- TWA: 0.05 CEIL: 0.1 (mg/m³) from NIOSH [United States]

Consult local authorities for acceptable exposure limits.

### Section 9. Physical and Chemical Properties

**Physical state and appearance**
Solid. (crystalline powder.)

**Molecular Weight**
404.82 g/mole

**pH (1% soln/water)**
6.7 [Neutral.]

**Boiling Point**
Not available

**Melting Point**
Decomposition temperature: 232°C (449.6°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.**
Not available.

**Ionicity (in Water)**
Not available.

**Dispersion Properties**
See solubility in water.

**Solubility**
- Easily soluble in cold water, hot water.
- Insoluble in diethyl ether.
- 1 gram dissolves in about 1 ml of water.
- 1 gram dissolves in about 8 ml of alcohol.
- Practically insoluble in benzene
**Thimerosal**

### Section 10. Stability and Reactivity Data

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

<table>
<thead>
<tr>
<th>Special Remarks on Reactivity</th>
<th>Light sensitive.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Remarks on Corrosivity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Polymerization</td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

### Section 11. Toxicological Information

**Routes of Entry**
Absorbed through skin. Inhalation. Ingestion.

**Toxicity to Animals**
Acute oral toxicity (LD50): 75 mg/kg [Rat].

**Chronic Effects on Humans**
**MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. Causes damage to the following organs: kidneys, central nervous system (CNS). May cause damage to the following organs: liver, spleen.

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

<table>
<thead>
<tr>
<th>Special Remarks on Toxicity to Animals</th>
<th>Not available.</th>
</tr>
</thead>
</table>

**Special Remarks on Chronic Effects on Humans**
May cause adverse reproductive effects and developmental defects (female fertility - post implantation mortality, fetotoxicity). May affect genetic material

**Special Remarks on other Toxic Effects on Humans**
Acute Potential Health Effects:
Skin: Causes skin irritation. It may be absorbed through the skin and cause systemic effects. Eyes: Causes eye irritation. May cause chemical conjunctivitis.
Inhalation: Causes respiratory tract irritation. Exposures to high concentrations may produce unconsciousness with cyanosis (a bluish discoloration of the skin due to deficient oxygenation of the blood) and cold extremities and may also affect the cardiovascular system (rapid pulse). Acute exposure to high concentrations may also affect behavior/central nervous system, peripheral nervous system and autonomic nervous system, and cause nausea and headaches. It may also affect the kidneys (nephrosis, renal failure, proteinuria, tubular necrosis). Ingestion: Harmful if swallowed. May cause gastrointestinal tract irritation with abdominal pain, nausea, vomiting, diarrhea, headache. Exposure to high concentrations may affect respiration (apnea), and cardiovascular system which may produce unconsciousness with cyanosis, cold extremities and rapid pulse. May also cause central nervous system (neurological) effects (see chronic ingestion), and may affect the urinary system (kidneys - acute renal failure with glycosuria, proteinuria), and liver (hepatic enzyme disturbances). Chronic Potential Health Effects:
Skin: Prolonged or repeated skin contact may cause skin sensitization, an allergic reaction (allergic skin reaction)
Ingestion/Inhalation: Chronic exposure may cause accumulation of mercury in body tissues and may result in "asethetic vegetative syndrome" or "(micro)mercurialism." Central nervous system/nervous system effects, gastrointestinal and renal effects primarily occur with chronic exposure. Gastrointestinal effects may include abdominal pain, nausea, vomiting, diarrhea, gingivitis, stomatitis, increased salivation. Central nervous system/nervous system effects may include depression, excitability/irritability, nervousness, weakness, fatigue, ataxia, incoordination, fatigue, sleepiness, tremor, jerky gait, limb spasms, personality/mental changes, headaches, weakening of memory, decline in intellectual capacity, motor or sensory disturbances, speech problems, numbness and tingling in extremities. Liver and kidney effects may include hepatic enzyme disturbances, and Bleeding of gums/gingivitis, loosening of teeth, swelling of the nasal membranes, vision problems, hearing problems as well as metabolic effects (anorexia, weight loss, metabolic acidosis, hypokalemia) and effects on the brain may also occur. Prolonged or repeated inhalation may cause allergic reaction.
Medical Conditions Aggravated by Exposure: Hypersensitivity to material.
### Section 12. Ecological Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecotoxicity</td>
<td>Not available.</td>
</tr>
<tr>
<td>BOD5 and COD</td>
<td>Not available.</td>
</tr>
<tr>
<td>Products of Biodegradation</td>
<td>Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.</td>
</tr>
<tr>
<td>Toxicity of the Products of Biodegradation</td>
<td>The products of degradation are less toxic than the product itself.</td>
</tr>
<tr>
<td>Special Remarks on the Products of Biodegradation</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**

CLASS 6.1: Poisonous material.

**Identification**

UNNA: 2025 : Mercury compound, solid, n.o.s. (Thimerosal)  PG: III

**Special Provisions for Transport**

Not available.

**DOT (Pictograms)**

![DOT Pictogram](image)

### 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:

- Thimerosal (listed as Mercury and Mercury compounds)
- TSCA 8(b) inventory: Thimerosal
- SARA 313 toxic chemical notification and release reporting: Thimerosal (listed as Mercury and Mercury compounds)
- CERCLA: Hazardous substances.: Thimerosal (listed as Mercury and Mercury compounds): 1 lbs. (0.4536 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: Thimerosal (listed as Mercury and Mercury compounds)

**Other Regulations**


EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 200-210-4).

Canada: Listed on Canadian Domestic Substance List (DSL).

China: Listed on National Inventory.

Japan: Not listed on National Inventory (ENCS).

Korea: Listed on National Inventory (KECI).

Philippines: Listed on National Inventory (PICCS).

Australia: Listed on AICS.
Thimerosal

Other Classifications

WHMIS (Canada) CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
   CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC) R26/27/28- Very toxic by inhalation, in contact with skin and if swallowed.
   R33- Danger of cumulative effects.
   R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S13- Keep away from food, drink and animal feedingstuffs.
S28- After contact with skin, wash immediately with plenty of water.
S36- Wear suitable protective clothing.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
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.)

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective 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>T3380</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other Special Considerations</td>
<td>Thimerosal is a Mercury compound. It is on the Prop. 65 list as a Mercury compound. Under Prop. 65, Mercury and Mercury compounds are listed as &quot;Chemicals known to the State of California to Cause Reproductive Toxicity.&quot;</td>
</tr>
<tr>
<td>CALL (310)</td>
<td>516-8000</td>
</tr>
</tbody>
</table>

## 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.