MATERIAL SAFETY DATA SHEET

Common Name---------------- Thimerosal
CAS Number----------------- 54-64-8
Revision Number------------- 0

Emergency Telephone-------- (317) 261-2000
CHEMTREC Telephone-------- 1-800-424-9300
For additional information
call------------------------ Industrial Health and Safety
                        (317) 261-2286
Preparation Date------------ November 15, 1985

Section 1 - Material Identification . . . . .

Common Name---------------- Thimerosal
CAS Number----------------- 54-64-8

Synonyms------------------- Ethyl Mercurethiosalicylic acid (sodium salt);
                          MERTHIOLATE®

Molecular Formula---------- C₉H₅HgNaO₂S
Chemical Family------------ Organomercurial Salt

Section 2 - Physical Data . . . . . .

Appearance---------------- Light cream-colored crystalline powder
Melting Point--------------- Starts to decompose at about 230°C
Odor----------------------- Slight characteristic odor
Solubility in Water-------- Freely soluble in water
Vapor Pressure------------- Not applicable
Specific Gravity------------ Not applicable
Boiling Point-------------- Not applicable
Vapor Density------------- Not applicable
Evaporation Rate----------- Not applicable

Section 3 - Fire and Explosion Data . . . . .

Flash Point---------------- Not applicable
Method--------------------- Not applicable
Flammable Limits
LEL----------------------- Not applicable
UEL----------------------- Not applicable
Extinguishing Media-------- Water, carbon dioxide, dry chemical, foam or Halon extinguisher.

Unusual Fire and Explosion Hazards---------------- As a finely divided material, may explode if suspended in air in heavy concentration, and subjected to a source of ignition.
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Section 4 - Health Hazard

Animal Toxicity:

Single Exposure: Oral LD$_{50}$: Mice 47-49 mg/kg; Rats 60-81 mg/kg.
Intravenous LD$_{50}$: Mice 47-55 mg/kg;
Rats 60-81 mg/kg.
Subcutaneous LD$_{50}$: Mice 66 mg/kg; Rats 98 mg/kg.
Dermal Irritation Toxicity: Data not available.
Ocular Irritation: Ocular irritant in rabbits 
and rodents.
Inhalation Toxicity: Data not available.
Physical Signs of Toxicity: Single IV or oral 
administration to rats or mice resulted 
in hypoactivity and a decrease in body 
weight gain.

Repeat Exposure: See Effects of Exposure (Human) below.

Carcinogenicity: Not listed as carcinogenic by IARC, NCI/NTP, 
OSHA, or ACGIH.

Effects of Exposure (Human): Thimerosal contains mercury (48%). In 
humans, mercury poisoning can occur with excessive exposure. In 
addition, topical hypersensitivity reactions may be seen.

Thimerosal can cause a severe delayed chemical burn on contact 
with skin or mucous membranes. Inhalation of dust can cause severe 
irritation to the mucous membranes of the respiratory tract.

Medical Condition Aggravated by Exposure: Hypersensitivity to mercury. 
In humans, mercury poisoning can occur with excessive exposure. 
In addition, topical hypersensitivity reactions may be seen.

Permissible Exposure Limit (OSHA PEL): For mercury, eight-hour 
time-weighted average not to exceed 0.1 mg (of aryl mercury) 
per cubic meter (of air).
Threshold Limit Value (TLV): For mercury, eight-hour time-weighted 
average not to exceed 0.1 mg (of aryl mercury) per cubic meter 
(of air).
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CAS Number------------------ 54-64-8
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Section 5 - Emergency and First Aid Procedures

This material is corrosive. It will produce severe delayed chemical burn on contact with skin or mucous membranes.

Eyes: Wash with running water for 15 minutes. Call physician.

Skin: Wash with soap and large amounts of running water. If symptoms develop, call physician.

Inhalation: Inhalation of thimerosal dust will produce severe irritation to the mucous membranes of the respiratory tract. Remove to well ventilated area. Administer artificial respiration if necessary and call physician.

Ingestion: Contact physician immediately. If physician unavailable, induce vomiting.

Section 6 - Reactivity Data

Stability: Stable to heat at warm ambient temperatures (i.e., up to 50°C); however, excessive light and heat exposure can cause loss of potency.

Incompatibility: Strong oxidizing agents (e.g., peroxides, permanganates, nitric acid, etc.) may produce violent reaction with this compound.

Hazardous Decomposition: May emit toxic sulfur dioxide and/or mercury fumes when heated to decomposition.

Hazardous Polymerization: Will not occur.

Section 7 - Spill, Leak and Disposal Procedures

Spills (Steps to be taken when material is released or spilled): If material spills occur, use either wet clean-up methods, ensuring that no airborne dusts or aerosols are formed, or appropriate vacuum cleaners having high efficiency particulate (HEPA) filters. Use impermeable gloves, goggles and NIOSH approved dust/mist respirator.

Waste Disposal Method: Avoid contamination of water sources. Dispose of any waste residues according to prescribed state and local guidelines, e.g., secure chemical landfill disposal.
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Section 8 - Shipping Information

DOT: Non-regulated

ICAO: PSN--Poisonous Solid, N.O.S. (Thimerosal)
HC--6.1
UN No.--UN2811

IMO: PSN--Poisonous Solid, N.O.S. (Thimerosal)
HC--6.1
UN No.--UN2811

Other Information: Packaging Group--III
Reportable Quantity--NA

Section 9 - Handling Precautions

Respiratory Protection: NIOSH approved dust/mist respirator or a laboratory fumehood.

Ventilation: Good general room ventilation.

Protective Gloves: Impermeable gloves.

Eye Protection: Goggles.

Other Protective Equipment: Use clothing to protect exposed skin.

Other Handling Precautions: Wear full protective clothing, including self-contained breathing apparatus (SCBA) when fighting fires.

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All information contained herein is offered in good faith and with the belief that it is accurate. As of the date of issuance, we are providing all information relevant to the foreseeable handling of the material. However, in the event of an adverse incident associated with this product, this Safety Data Sheet is not, and is not intended to be, a substitute for consultation with appropriately trained personnel. Nor is this Safety Data Sheet intended to be a substitute for the package insert which accompanies each container of the finished product.

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Page 4 of 5
Glossary of Material Safety Data Sheet Terms

ACGIH = American Conference of Governmental Industrial Hygienists
CAS Number = Chemical Abstract Service Registry Number
CHEMTREC = Chemical Transportation Emergency Center
CWA = Clean Water Act
DOT = Department of Transportation
EPA = Environmental Protection Agency
HC = Hazard Class
HEPA = High Efficiency Particulate Air (Filter)
ICAO = International Civil Aviation Organization
IMO = International Maritime Organization
IARC = The International Agency for Research on Cancer

LC\textsubscript{50} = Lethal Concentration Required to Kill 50% of a Population of Test Animals
LD\textsubscript{50} = Lethal Dose Required to Kill 50% of a Population of Test Animals
LEL = Lower Explosion Limit
MSDS = Material Safety Data Sheet
NA = Not Applicable
NCI/NTP = National Cancer Institute/National Toxicology Program
NIOSH = National Institute for Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
PEL = Permissible Exposure Limit
PSN = Proper Shipping Name
RCRA = Resource Conservation and Recovery Act
TLV = Threshold Limit Value
TSCA = Toxic Substances Control Act
UEL = Upper Explosion Limit
UN = United Nations