

Material Safety Data Sheet

Thimerosal

ACC# 91405

Section 1 - Chemical Product and Company Identification

MSDS Name: Thimerosal

Catalog Numbers: BP254210, BP2542100, BP254225, BP2542250, BP2542500

Synonyms: Thimerosal; Merthiolate Sodium; Ethyl(2-Mercaptobenzoato-S)mercury Sodium Salt; Sodium Ethylmercuric Thiosalicylate.,

Company Identification:

Fisher Scientific

1 Reagent Lane

Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
54-64-8	Sodium o-(ethylmercurithio)benzoate	ca 100	200-210-4

Hazard Symbols: T

Risk Phrases: 25 33 36/37/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white to light cream crystalline powder. Light sensitive. **Warning!** Harmful if swallowed. Causes eye and skin irritation. May cause digestive tract irritation. Causes respiratory tract irritation. Irritant. May cause adverse reproductive effects based upon animal studies. May cause central nervous system effects. Toxic. Danger of cumulative effects.

Target Organs: Kidneys, central nervous system, spleen, bone.

Potential Health Effects

Eye: Causes eye irritation. May cause chemical conjunctivitis.

Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause erythema (redness) and edema (fluid buildup) with crusting and scaling.

Ingestion: Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. Mercaptans may cause nausea and headache. Exposure to high concentrations of mercaptans can produce unconsciousness with cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), cold extremities and rapid pulse. May cause central nervous system effects and/or neurological effects. Human fatalities have been reported from acute poisoning.

Inhalation: Causes respiratory tract irritation. May cause kidney damage. May cause allergic respiratory tract irritation. Exposure to high concentrations of mercaptans can produce unconsciousness with cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), cold extremities and rapid pulse. Mercaptans may cause nausea and headache. Can produce delayed pulmonary edema. Acute exposure to high concentrations of mercury vapors may cause severe respiratory tract irritation. May cause central, peripheral, and autonomic nervous system effects.

Chronic: Effects may be delayed. Chronic exposure to mercury may cause permanent central nervous system damage, fatigue, weight loss, tremors, personality changes. Chronic ingestion may cause accumulation of mercury in body tissues. Chronic ingestion may result in salicylism which is characterized by nausea, vomiting, gastrointestinal ulcers, and hemorrhagic strokes. Adverse reproductive effects have been reported in animals. Chronic exposure to mercury vapors may produce weakness, fatigue, anorexia, loss of weight and gastrointestinal disturbances which is collectively referred to as asthenic-vegetative syndrome or micromercurialism. Chronic exposure to mercury compounds may produce immunologic glomerular disease.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: Treat symptomatically and supportively. The concentration of mercury in whole blood is a reasonable measure of the body-burden of mercury and thus is used for monitoring purposes.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or

combustion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.

Extinguishing Media: Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use water spray, fog or regular foam. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: > 250 deg C (> 482.00 deg F)

Autoignition Temperature: Not applicable.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Minimize dust generation and accumulation. Avoid breathing dust, vapor, mist, or gas. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation. Store protected from light. Wash clothing before reuse.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from metals. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium o-(ethylmercurithio)benzoate	none listed	none listed	none listed

OSHA Vacated PELs: Sodium o-(ethylmercurithio)benzoate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder

Appearance: white to light cream

Odor: characteristic odor

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate:Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point:232-233C

Decomposition Temperature:> 233 deg C

Solubility: Soluble.

Specific Gravity/Density:Not available.

Molecular Formula:C9H9HgNaO2S

Molecular Weight:404.82

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Incompatible materials, light, dust generation, excess heat, strong oxidants.

Incompatibilities with Other Materials: Strong acids, strong bases, strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, oxides of sulfur, carbon dioxide, hydrogen sulfide, mercury/mercury oxides, sodium oxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:**CAS#** 54-64-8: OV8400000**LD50/LC50:**

CAS# 54-64-8:

Draize test, rabbit, eye: 8 ug Mild;

Oral, mouse: LD50 = 91 mg/kg;

Oral, rat: LD50 = 75 mg/kg;

Carcinogenicity:

CAS# 54-64-8:

ACGIH: A4 - Not Classifiable as a Human Carcinogen (listed as Mercury).**IARC:** IARC Group 3 - not classifiable (listed as Mercury).**Epidemiology:** Experimental reproductive, and teratogenic effects have been reported.**Teratogenicity:** Teratogenic effects have occurred in experimental animals.**Reproductive Effects:** Reproductive effects have occurred in experimental animals.**Neurotoxicity:** No information available.**Mutagenicity:** Mutagenic effects have occurred in experimental animals.**Other Studies:** The hazards associated with mercury compounds may be seen in this product. See actual entry in RTECS for complete information.**Section 12 - Ecological Information**

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.**RCRA U-Series:** None listed.**Section 14 - Transport Information**

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	MERCURY COMPOUNDS, SOLID, N.O.S.				TOXIC SOLID ORGANIC NOS (THIMEROSAL)
Hazard Class:	6.1				6.1
UN Number:	UN2025				UN2811
Packing Group:	II				II

Section 15 - Regulatory Information**US FEDERAL****TSCA**

CAS# 54-64-8 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA**CERCLA Hazardous Substances and corresponding RQs**

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 54-64-8: acute, chronic.

Section 313

This chemical is not at a high enough concentration to be reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 54-64-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

WARNING: This product contains Sodium o-(ethylmercurithio)benzoate, listed as 'Mercury', a chemical known to the state of California to cause birth defects or other reproductive harm. California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T

Risk Phrases:

R 25 Toxic if swallowed.

R 33 Danger of cumulative effects.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 13 Keep away from food, drink and animal feeding stuffs.

S 2 Keep out of reach of children.

S 36 Wear suitable protective clothing.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 28A After contact with skin, wash immediately with plenty of water.

WGK (Water Danger/Protection)

CAS# 54-64-8: 3

Canada - DSL/NDSL

CAS# 54-64-8 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, D2A, D2B.

Canadian Ingredient Disclosure List

CAS# 54-64-8 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 54-64-8: OEL-AUSTRALIA:TWA 0.05 mg(Hg)/m³;Skin JANUARY 1993 OEL-BELGIUM:TWA 0.05 mg(Hg)/m³;Skin JANUARY 1993 OEL-CZECHOSLOVAKIA:TWA 0.05 mg(Hg)/m³;STEL 0.15 mg(Hg)/m³ OEL-DENMARK:TWA 0.05 mg(Hg)/m³ JANUARY 1993 OEL-FINLAND:TWA 0.05 mg(Hg)/m³ JANUARY 1993 OEL-FRANCE:TWA 0.05 mg(Hg)/m³ JANUARY 1993 OEL-GERMANY:TWA 0.01 ppm (0.1 mg(Hg)/m³) JANUARY 1993 OEL-HUNGARY:TWA 0.02 mg(Hg)/m³;STEL 0.04 mg(Hg)/m³ JANUARY 1993 OEL-JAPAN:TWA 0.05 mg(Hg)/m³ JANUARY 1993 OEL-THE NETHERLANDS:TWA 0.05 mg(Hg)/m³;STEL 0.15 mg(Hg)/m³ OEL-THE PHILIPPINES:TWA 0.05 mg(Hg)/m³ JANUARY 1993 OEL-POLAND:TWA 0.01 mg(Hg)/m³ JANUARY 1993 OEL-RUSSIA:TWA 0.05 mg(Hg)/m³;STEL 0.01 mg(Hg)/m³ JANUARY 1993 OEL-SWEDEN:TWA 0.05 mg(Hg)/m³ JANUARY 1993 OEL-THAILAND:STEL 0.05 mg(Hg)/m³ JANUARY 1993 OEL-UNITED KINGDOM:TWA 0.05 mg(Hg)/m³;STEL 0.15 mg(Hg)/m³ OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV OEL-AUSTRALIA:TWA 0.05 mg(Hg)/m³;Skin JANUARY 1993 OEL-BELGIUM:TWA 0.05 mg(Hg)/m³;Skin JANUARY 1993 OEL-CZECHOSLOVAKIA:TWA 0.05 mg(Hg)/m³;STEL 0.15 mg(Hg)/m³ OEL-DENMARK:TWA 0.05 mg(Hg)/m³ JANUARY 1993 OEL-FINLAND:TWA 0.05 mg(Hg)/m³ JANUARY

Section 16 - Additional Information

MSDS Creation Date: 2/02/2000

Revision #2 Date: 8/02/2000

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