Material Safety Data Sheet

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Section 1-Product information

Product name	**Thimerosal**

Section 2-Composition / information on ingredients

Substance/Preparation	Substance
Synonyms	((o-Carboxyphenyl)thio)ethylmercury sodium salt; Elicide; Ethyl(2-mercaptobenzoato-S)mercury sodium salt; o-(Ethylmercurithio)benzoic acid sodium salt; Ethylmercurithiosalicylic acid sodium salt; Ethylmerkurithiosalicilan sodny (Czech); Ethyl (sodium o-mercaptobenzoato)mercury; Mercurate(1-), ethyl(2-mercaptobenzoate(2-)-O,S)-, sodium salt; Mercurothiolate; Mercury, ethyl(2-mercaptobenzoate-S)-, sodium sal; Merfamin; Merthiolate; Merthiolate sodium; Mertorgan; Merzonin; Merzonin sodium; SET; Sodium ethylmercuric thiosalicylate; Sodium o-(ethylmercurithio)benzoate; Sodium ethylmercurithiosalicylate; Sodium merthiolate; Thimerosal; Thimerosalate; Thiomersal; Thiomersalate; Ethylmercurithiosalicylic acid sodium salt
CAS No.	54-64-8
Molecular Formula	$C_9H_9HgO_2S.Na$

Section 3- Hazards identification

Emergency Overview	
Caution	Highly Toxic (USA) Very Toxic (EU). Dangerous for the environment. Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Calif. Prop. 65 developmental hazard. Target organ(s): Nerves. Kidneys. Possible sensitizer.
HMIS Rating	
Health	3
Flammability	1
Reactivity	1
NFPA Rating	
Health	3
Flammability	1
Reactivity	1

Section 4- First-aid measures

Oral Exposure	If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.
Inhalation Exposure	If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.
Dermal Exposure	In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.
Eye Exposure	In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a

physician.

Section 5- Fire-fighting measures

Explosion Data	Dust Potential: This material, like most materials in powder form, is capable of creating a dust explosion.
Flash Point	482 °F, 250 °C Method: closed cup
Autoignition Temp	Not available
Flammability	Not available
Extinguishing Media	Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.
Firefighting	Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6- Accidental release measures

Procedure to be followed in case of leak or spill	Evacuate area
Procedure(s) of personal precaution(s)	Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.
Methods for cleaning up	Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7-Handling and storage

Handling	User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.
Storage	Suitable: Keep tightly closed.

Section 8-Exposure controls/personal protection

Engineering controls	Safety shower and eye bath. Use only in a chemical fume hood.
Personal protective equipment	Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Hand: Compatible chemical-resistant gloves. Eye: Chemical safety goggles.
General hygiene measures	Wash contaminated clothing before reuse. Wash thoroughly after handling.

Section 9- Physical and chemical properties

Physical state	Solid
Color	Slightly beige
MP/MP Range	234°C
BP/BP Range	Not available
Molecular Weight	404.81 AMU
Solubility	Solvent: 0.1 g/ml MeOH Clear
pH	6.7-8.2
SG/Density	0.5 g/cm^3
Bulk Density	500 kg/l

Section 10- Stability and reactivity

Stability	Stable: Stable. Conditions of Instability: May discolor on exposure to light. Materials to Avoid: Strong oxidizing agents, Strong acids,

	Strong bases.
Hazardous Decomposition Products	Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Mercury/mercury oxides., Sulfur oxides
Hazardous Polymerization	Hazardous Polymerization: Will not occur

Section 11- Toxicological information

Route Of Exposure	Skin Contact: May cause skin irritation. Skin Absorption: May be fatal if absorbed through skin. Eye Contact: May cause eye irritation. Inhalation: May be fatal if inhaled. Material may be irritating to mucous membranes and upper respiratory tract. Ingestion: May be fatal if swallowed.
Sensitization	Sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.
Target Organ(S) or System(S)	Nerves. Kidneys.
Signs And Symptoms of Exposure	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Toxicity Data	Oral Rat 98 mg/kg LD50 Intraaural Child 60 MG/KG LDLO Remarks: Gastrointestinal: Nausea or vomiting. Behavioral: Ataxia. Nutritional and Gross Metabolic: Changes in: Metabolic acidosis. Oral Rat 75 mg/kg LD50 Subcutaneous Rat 98 MG/KG LD50 Oral Mouse 91 mg/kg LD50 Intraperitoneal Mouse 54 MG/KG LD50 Subcutaneous Mouse 66 MG/KG LD50 Intravenous Mouse 45 MG/KG LD50 Remarks: Kidney, Ureter, Bladder: Changes in tubules (including acute renal failure, acute tubular necrosis).
Irritation Data	Eyes Rabbit 0.008 mg Remarks: Mild irritation effect
Chronic Exposure - Carcinogen	Species: Rat Route of Application: Subcutaneous Dose: 104 MG/KG Exposure Time: 1Y

	Frequency: I Result: Tumorigenic Effects: Uterine tumors Tumorigenic: Neoplastic by RTECS criteria. Tumorigenic: Tumors at site or application.
Chronic Exposure - Teratogen	Species: Rat Dose: 1300 MG/KG Route of Application: Intraperitoneal Exposure Time: (6-18D PREG) Result: Effects on Embryo or Fetus: Fetal death. Species: Rabbit Dose: 112 MG/KG Route of Application: Ocular Exposure Time: (6-18D PREG) Result: Effects on Embryo or Fetus: Fetal death. Species: Rabbit Dose: 65 UG/KG Route of Application: Ocular Exposure Time: (6-18D PREG) Result: Effects on Embryo or Fetus: Fetal death.
Chronic Exposure - Mutagen	Species: Human Dose: 9 MG/L Cell Type: lymphocyte Mutation test: SLN Species: Mouse Route: Intraperitoneal Dose: 45 MG/KG Mutation test: Micronucleus test Species: Mouse Route: Intraperitoneal Dose: 45 MG/KG Mutation test: SLN Species: Hamster Dose: 125 UG/L Cell Type: lung Mutation test: Micronucleus test Species: Hamster Dose: 900 UG/L Cell Type: Embryo Mutation test: Other mutation test systems Species: Hamster Dose: 450 UG/L Cell Type: Embryo Mutation test: SLN Species: Hamster Dose: 125 UG/L Cell Type: lung Mutation test: SLN
Chronic Exposure - Reproductive Hazard	Species: Rat Dose: 130 MG/KG Route of Application: Intraperitoneal Exposure Time: (6-18D PREG) Result: Effects on Fertility: Abortion. Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Section 12- Ecological information

No data available.

Section 13- Disposal considerations

Appropriate Method of Disposal of Substance Or Preparation	Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator

	equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14- Transport information

DOT	Proper Shipping Name: Mercury compounds, solid, n.o.s. UN#: 2025 Class: 6.1 Packing Group: Packing Group III Hazard Label: Toxic Substance PIH: Not PIH
IATA	Proper Shipping Name: Mercury compound, solid, n.o.s. IATA UN Number: 2025 Hazard Class: 6.1 Packing Group: III

Section 15- Regulatory information

EU Directives Classification	Symbol of Danger: T+-N Indication of Danger: Very toxic. Dangerous for the environment. R: 26/27/28-33-50/53 Risk Statements: Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment. S: 13-28-36-45-60-61 Safety Statements: Keep away from food, drink, and animal feedingstuffs. After contact with skin, wash immediately with plenty of soap-suds. Wear suitable protective clothing. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.
Us Classification And Label Text	Indication of Danger: Highly Toxic (USA) Very Toxic (EU). Dangerous for the environment. Risk Statements: Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment. Safety Statements: Keep away from food, drink, and animal feedingstuffs. After contact with skin, wash immediately with plenty of water. Wear suitable protective clothing. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets. US Statements: Calif. Prop. 65 developmental hazard. Target organ(s): Nerves. Kidneys. Possible sensitizer.
United States Regulatory Information	Sara Listed: Yes Notes: This product is subject to SARA section 313 reporting requirements - mercury compounds. Tsca Inventory Item: Yes
United States - State Regulatory Information	
California Prop - 65	California Prop - 65: This product is or contains chemical(s) known to the state of California to cause developmental toxicity.
Canada Regulatory Information	WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR. DSL: Yes NDSL: No

Section 16- Other information

GenScript corporation MSDS is believed to be correct but only used as a guide for experienced personnel, GenScript shall not be held liable for any damage resulting from the handling or from contact with the above product.