



Material Safety Data Sheet

NFPA 	HMS <table border="1"> <tr> <td>Health Hazard</td> <td style="text-align: center;">3</td> </tr> <tr> <td>Fire Hazard</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Reactivity</td> <td style="text-align: center;">0</td> </tr> </table>	Health Hazard	3	Fire Hazard	0	Reactivity	0	Personal Protective Equipment  See Section 15
Health Hazard	3							
Fire Hazard	0							
Reactivity	0							

Section 1. Chemical Product and Company Identification		<i>Page Number: 1</i>
Common Name/ Trade Name	Mercury	Catalog Number(s) M1215, M1219
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	CAS# 7439-97-6
Commercial Name(s)	Not available.	RTECS OV4550000
Synonym	Quick Silver; Colloidal Mercury; Metallic Mercury; Liquid Silver; Hydragryum	TSCA TSCA 8(b) inventory Mercury
Chemical Name	Mercury	CI# Not applicable
Chemical Family	Metal.	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000
Chemical Formula	Hg	
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

Section 2. Composition and Information on Ingredients					
		<i>Exposure Limits</i>			
Name	CAS #	TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	% by Weight
1) Mercury	7439-97-6	0.025		0.1	100
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.

Potential Chronic Health Effects	<p>Hazardous in case of skin contact (permeator). CARCINOGENIC EFFECTS: Classified A5 (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.</p>
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Section 4. First Aid Measures

Eye Contact	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.
Skin Contact	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.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Serious Inhalation	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.
Ingestion	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.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	When thrown into mercury vapor, boron phosphodiiodide 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.

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 azide 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; dike 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 incompatibles 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 Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

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)	Odor	Odorless.
Molecular Weight	200.59 g/mole	Taste	Not available.
pH (1% soln/water)	Not available.	Color	Silver-white
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)		

Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (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, tetracarbonylnickel, nitromethane, silver perchlorate, chlorates, sulfuric acid, nitrates,); tetracarbonylnickel, oxygen, acetylinic 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 (amalgam) 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- spermatogenesis; effects on fertility - fetotoxicity, post-implantation mortality), and birth defects.
Special Remarks on other Toxic Effects on Humans	

Acute Potential Health Effects.

Skin: Causes skin irritation. Mercury is a skin irritant and can be corrosive to skin and mucous membranes.

Eyes: Causes eye irritation. Exposure to vapor may cause conjunctivitis, ulceration of the cornea, discoloration of the front surface of the lens, and possible burns.

Inhalation: Inhalation of high concentrations of vapor or mist can cause respiratory tract irritation and chemical burns to the respiratory tract, corrosive bronchitis, interstitial pneumonia, severe pulmonary irritation, lung lesions, and death from respiratory insufficiency. Mercury vapor or mist can be absorbed by the respiratory tract. Acute mercury intoxication is rare, but can occur after inhalation of large amounts. Vapor inhalation is the most likely route of exposure. It may cause flu-like "fume metal fever" with chills, malaise, respiratory symptoms (chest tightness, difficulty breathing, coughing), fever, chills, gastrointestinal symptoms (dry mouth, nausea, vomiting, diarrhea, abdominal pain, hypermotility, stomatitis, salivation, metallic taste), and gingivitis. It may affect behavior/central nervous system/peripheral nervous system (depression, anxiety, decreased strength, muscle aches/weakness, lethargy, fatigue, headache, insomnia, dizziness, clumsiness or muscle incoordination, short-term memory loss, slurred speech, tremor, irritability, emotional instability, apathy, hallucinations, mania, xenophobia, sensitivity, impaired concentration, convulsions), liver, metabolism(anorexia), cardiovascular system (hypertension, tachycardia), urinary system (kidney damage, renal impairment), and blood(increased white blood cell count, thrombocytopenia, anemia). Acute Mercury poisoning can resemble Pheochromocytoma.

Ingestion: May cause gastrointestinal tract irritation. May cause severe and permanent damage to the digestive tract. May cause perforation of the digestive tract. Mercury can be locally corrosive after ingestion, causing pain, burning, whitening of mucous membranes, abdominal pain, bloody vomitus and diarrhea, thirst, salivation, and metallic taste. May affect behavior/central nervous system, peripheral nervous system with symptoms similar to inhalation. May also affect liver, and kidneys

Chronic Potential Health Effects:

Skin: Prolonged or repeated skin contact may cause dermatitis, and it can be absorbed through the skin and affect behavior (symptoms similar to inhalation and ingestion), and hearing.

Inhalation: Effects may be delayed. It may cause permanent central nervous system damage and peripheral neuropathy (symptoms similar to acute exposure), liver and kidney damage, and may affect the brain.

Ingestion: Prolonged or repeated ingestion may cause accumulation of mercury in body tissues and may cause inflammation of the mouth and gums, salivation and loosening of teeth.

Eyes: Prolonged or repeated eye exposure to mercury vapors may result in Mercurialentis, a brownish discoloration of the lens, band keratopathy, corneal opacity and impaired vision, photophobia, color vision disturbance.

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.
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Section 14. Transport Information

DOT Classification	Class 8: Corrosive material
Identification	: Mercury UNNA: 2809 PG: III
Special Provisions for Transport	Not available.

DOT (Pictograms)



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
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 Connecticut hazardous material survey.: Mercury
 Illinois toxic substances disclosure to employee 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 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: Mercury

Other Regulations

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
 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.																
DSCI (EEC)	<table border="0"> <tr> <td>R23- Toxic by inhalation.</td> <td>S2- Keep out of the reach of children.</td> </tr> <tr> <td>R33- Danger of cumulative effects.</td> <td>S7- Keep container tightly closed.</td> </tr> <tr> <td>R38- Irritating to skin.</td> <td>S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.</td> </tr> <tr> <td>R41- Risk of serious damage to eyes.</td> <td>S39- Wear eye/face protection.</td> </tr> <tr> <td>R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td> <td>S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).</td> </tr> <tr> <td></td> <td>S46- If swallowed, seek medical advice immediately and show this container or label.</td> </tr> <tr> <td></td> <td>S60- This material and its container must be disposed of as hazardous waste.</td> </tr> <tr> <td></td> <td>S61- Avoid release to the environment. Refer to special instructions/Safety data sheets.</td> </tr> </table>	R23- Toxic by inhalation.	S2- Keep out of the reach of children.	R33- Danger of cumulative effects.	S7- Keep container tightly closed.	R38- Irritating to skin.	S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.	R41- Risk of serious damage to eyes.	S39- Wear eye/face protection.	R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.	S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).		S46- If swallowed, seek medical advice immediately and show this container or label.		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.
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HMIS (U.S.A.)

Health Hazard	3
Fire Hazard	0
Reactivity	0
Personal Protection	

National Fire Protection Association (U.S.A.)

Health		Flammability
		Reactivity
		Specific hazard

WHMIS (Canada) (Pictograms)



DSCL (Europe)
(Pictograms)TDG (Canada)
(Pictograms)ADR (Europe)
(Pictograms)

Protective Equipment



Gloves.



Full suit.



Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Face shield.

Section 16. Other Information

MSDS Code M3670

References Not available.

Other Special Considerations Not available.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

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.