

MSDS# 14020

Section 1 - Chemical Product and Company Identification

MSDS Name: Mercury

Catalog Numbers: 13-410, 13-411, 13-480, 13-481, 13-482, 13-485, 13501, M139-1LB, M139-5LB, M140-14LB, M140-1LB, M140-5LB, M141-1LB, M141-6LB

Synonyms: Colloidal mercury; Hydrargyrum; Metallic mercury; Quick silver; Liquid silver.

Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#: 7439-97-6
Chemical Name: Mercury
%: 100
EINECS#: 231-106-7

Hazard Symbols:

T+ N



Risk Phrases:

61 26 48/23 50/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Corrosive. This substance has caused adverse reproductive and fetal effects in animals. May be absorbed through intact skin. May cause central nervous system effects. May cause liver and kidney damage. Inhalation of fumes may cause metal-fume fever. Possible sensitizer. Toxic if inhaled. Causes irritation and possible burns by all routes of exposure. Target Organs: Blood, kidneys, central nervous system, liver, brain.

Potential Health Effects

Eye: Exposure to mercury or mercury compounds can cause discoloration on the front surface of the lens, which does not interfere with vision. Causes eye irritation and possible burns. Contact with mercury or mercury compounds can cause ulceration of the conjunctiva and cornea.

Skin: May be absorbed through the skin in harmful amounts. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Causes skin irritation and possible burns. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.

Ingestion: May cause severe and permanent damage to the digestive tract. May cause perforation of the digestive tract. May cause effects similar to those for inhalation exposure. May cause systemic effects.

Inhalation: Causes chemical burns to the respiratory tract. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. May cause central nervous system effects including vertigo, anxiety, depression, muscle incoordination, and emotional instability. Aspiration may lead to pulmonary edema. May cause systemic effects. May cause respiratory sensitization.

May cause liver and kidney damage. May cause reproductive and fetal effects. Effects may be delayed. Chronic

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. Prolonged or repeated exposure may cause inflammation of the mouth and gums, excessive salivation, and loosening of the teeth.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

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

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. Wash mouth out with water.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: The concentration of mercury in whole blood is a reasonable measure of the body-burden of mercury and thus is used for monitoring purposes. Treat symptomatically and supportively. Persons with kidney disease, chronic respiratory disease, liver disease, or skin disease may be at increased risk from exposure to this substance.

Antidote: The use of d-Penicillamine as a chelating agent should be determined by qualified medical personnel. The use of Dimercaprol or BAL (British Anti-Lewisite) as a chelating agent should be determined by qualified medical personnel.

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. Water runoff can cause environmental damage. Dike and collect water used to fight fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 3; flammability: 0; instability: 0;

Section 6 - Accidental Release Measures

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

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Keep container tightly closed. Do not get on skin or in eyes. Do not ingest or inhale. Use only in a chemical fume hood. Discard contaminated shoes. Do not breathe vapor.

Storage: Keep container closed when not in use. 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 azides.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Mercury	0.025 mg/m ³ ; Skin - potential significant contribution to	0.05 mg/m ³ TWA (vapor) 10 mg/m ³ IDLH	0.1 mg/m ³ Ceiling

	overall exposure		
	by the cutaneous		
	route		

OSHA Vacated PELs: Mercury: 0.05 mg/m3 TWA (vapor)

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

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: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: silver

Odor: odorless

pH: Not available

Vapor Pressure: 0.002 mm Hg @ 25C

Vapor Density: 7.0

Evaporation Rate: Not available

Viscosity: 15.5 mP @ 25 deg C

Boiling Point: 356.72 deg C (674.10°F)

Freezing/Melting Point: -38.87 deg C (-37.97°F)

Decomposition Temperature: Not available

Solubility in water: Insoluble

Specific Gravity/Density: 13.59 (water=1)

Molecular Formula: Hg

Molecular Weight: 200.59

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: High temperatures, incompatible materials.

Incompatibilities with Other Materials: Metals, aluminum, ammonia, chlorates, copper, copper alloys, ethylene oxide, halogens, iron, nitrates, sulfur, sulfuric acid, oxygen, acetylene, lithium, rubidium, sodium carbide, lead, nitromethane, peroxyformic acid, calcium, chlorine dioxide, metal oxides, azides, 3-bromopropyne, methylsilane + oxygen, tetracarbonylnickel + oxygen, boron diiodophosphide.

Hazardous

Decomposition Products: Mercury/mercury oxides.

Hazardous

Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 7439-97-6: OV4550000

LD50/LC50: RTECS: Not available. Other:

Carcinogenicity: Mercury - IARC: Group 3 (not classifiable)

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Fish: Rainbow trout: LC50 = 0.16-0.90 mg/L; 96 Hr; Unspecified
Fish: Bluegill/Sunfish: LC50 = 0.16-0.90 mg/L; 96 Hr; Unspecified
Fish: Channel catfish: LC50 = 0.35 mg/L; 96 Hr; Unspecified
Water flea Daphnia: EC50 = 0.01 mg/L; 48 Hr; Unspecified

Other: Harmful to aquatic life in very low concentrations.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: MERCURY

Hazard Class: 8

UN Number: UN2809

Packing Group: III

Canada TDG

Shipping Name: MERCURY

Hazard Class: 8

UN Number: UN2809

Packing Group: III

USA RQ: CAS# 7439-97-6: 1 lb final RQ; 0.454 kg final RQ

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T+ N

Risk Phrases:

R 61 May cause harm to the unborn child.

R 26 Very toxic by inhalation.

R 48/23 Toxic : danger of serious damage to health by prolonged exposure through inhalation.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 53 Avoid exposure - obtain special instructions before use.

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

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 7439-97-6: 3

Canada

CAS# 7439-97-6 is listed on Canada's DSL List

Canadian WHMIS Classifications: D2A, E

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 7439-97-6 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

CAS# 7439-97-6 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 6/15/1999

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.
