

DATE: 09/20/99 ACCT: 888235001  
 INDEX: D92607751 CAT NO: 14985B PO NBR: PERKINS/VC/9-17-99

## \*\*\*\* MATERIAL SAFETY DATA SHEET \*\*\*\*

Mercury  
14020

## \*\*\*\* SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION \*\*\*\*

MSDS Name: Mercury

Catalog Numbers:

S71968, M139 1LB, M139 5LB, M139-1LB, M139-5LB, M1391LB, M1395LB, M140 14LB  
 M140 1LB, M140 5LB, M140-14LB, M140-1LB, M140-5LB, M14014LB, M1401LB,  
 M1405LB, M141 1LB, M141 6LB, M141-1LB, M141-6LB, M1411LB, M1416LB,  
 NC9534278, S40672B, S41542, S41599, S41599B, S41599E, S41599G, S41599J,  
 S41599K, S41599M, S41600P, S41600S, S41600W, S41630A, S41630B, S41630C,  
 S41631, S41631A, S41631B, S41631C, S41645, S45245, S46981, S50443, S71966,  
 S71967, S78777

Synonyms:

Colloidal Mercury; Hydrargyrum; Metallic Mercury; Quick silver;

Liquid silver

Company Identification: Fisher Scientific

1 Reagent Lane

Fairlawn, 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	%	EINECS#
7439-97-6	MERCURY	app. 100	231-106-7

Hazard Symbols: T  
 Risk Phrases: 23 33

## \*\*\*\* SECTION 3 - HAZARDS IDENTIFICATION \*\*\*\*

## EMERGENCY OVERVIEW

Appearance: silver.

Warning! Causes skin irritation. May cause allergic skin reaction.  
 This substance has caused adverse reproductive and fetal effects in  
 animals. May be absorbed through the skin. Causes digestive tract  
 irritation. May cause central nervous system effects. May cause  
 severe eye irritation and possible injury. Causes severe respiratory  
 tract irritation. Inhalation of fumes may cause metal-fume fever.  
 Target Organs: Blood, central nervous system.

Potential Health Effects

Eye:

Contact with eyes may cause severe irritation, and possible eye  
 burns. Vapors may cause eye irritation.

Skin:

May cause skin irritation. 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. Chronic  
 exposure to mercury may cause permanent central nervous system  
 damage, fatigue, weight loss, tremors, personality changes.

Ingestion:

May cause gastrointestinal irritation with nausea, vomiting and  
 diarrhea. May cause effects similar to those for inhalation  
 exposure.

Inhalation:

Causes respiratory tract irritation. 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. May cause severe  
 respiratory tract irritation.

Chronic:

Chronic exposure to mercury may cause permanent central nervous  
 system damage, fatigue, weight loss, tremors, personality changes.

## \*\*\*\* 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  
 immediately.

Skin:

Get medical aid. Immediately flush skin with plenty of soap and  
 water for at least 15 minutes while removing contaminated clothing  
 and shoes.

Ingestion:

Never give anything by mouth to an unconscious person. Get medical  
 aid immediately. Wash mouth out with water.

Inhalation:

DATE: 09/20/99 ACCT: 888235001  
 INDEX: D92607751 CAT NO: 14985B PO NBR: PERKINS/VC/9-17-99

Remove from exposure to fresh air immediately. If not breathing,  
 give artificial respiration. If breathing is difficult, give oxygen.  
 Get medical aid.

Notes to Physician:

Treat symptomatically and

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. Combustion generates toxic fumes.

Extinguishing Media:

Substance is nonflammable; use agent most appropriate to extinguish  
 surrounding fire.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

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

Explosion Limits, Lower: Not available.

Upper: Not available.

## \*\*\*\* SECTION 6 - ACCIDENTAL RELEASE MEASURES \*\*\*\*

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

Spills/Leaks:

Vacuum or sweep up material and place into a suitable disposal  
 container. Wear a self contained breathing apparatus and appropriate  
 Personal protection. (See Exposure Controls, Personal Protection  
 section).

## \*\*\*\* SECTION 7 - HANDLING and STORAGE \*\*\*\*

Handling:

Wash thoroughly after handling. Remove contaminated clothing and  
 wash before reuse. Use with adequate ventilation. 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.

Storage:

Store in a cool, dry, well-ventilated area away from incompatible  
 substances. Keep away from metals.

## \*\*\*\* SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION \*\*\*\*

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne  
 concentrations below the permissible exposure limits.

Chemical Name	Exposure Limits		
	ACGIH	NIOSH	OSHA - Final PELs
MERCURY	Alkyl compounds, as Hg: 0.01 mg/m <sup>3</sup> ; Aryl compounds, as Hg: 0.1 mg/m <sup>3</sup> ; In organic forms including metallic mercury 0.025 mg/m <sup>3</sup> ; 0.03 mg/m <sup>3</sup> STEL; as Hg: skin - potential for cutaneous absorption	0.05 mg/m <sup>3</sup> TWA 10 mg/m <sup>3</sup> IDLH	Aryl and inorganic compounds, vapor: C 1 mg/10m <sup>3</sup> ; organo (alkyl) mercury compound ds: 0.01 mg/m <sup>3</sup> TWA; C 0.04 mg/m <sup>3</sup>

OSHA Vacated PELs:

MERCURY:

vapor, as Hg: 0.05 mg/m<sup>3</sup> TWA

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 gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin

DATE: 09/20/99 ACCT: 888235001  
 INDEX: D92607751 CAT NO: 14985B PO NBR: PERKINS/YC/9-17-99

exposure.

Respirators: Follow the OSHA respirator regulations found in 29CFR 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: Liquid  
 Appearance: silver  
 Odor: odorless  
 pH: Not available.  
 Vapor Pressure: .002 mm Hg @ 25C  
 Vapor Density: Not available.  
 Evaporation Rate: Not available.  
 Viscosity: 15.5mP @25C  
 Boiling Point: 674 deg F  
 Freezing/Melting Point: -38 deg F  
 Decomposition Temperature: Not available.  
 Solubility: Insoluble in water.  
 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, metals.  
 Incompatibilities with Other Materials: Acetylene, ammonia, boron phosphodiiodide, chlorine, chlorine dioxide, methyl azide, sodium carbide, halogens, strong oxidizers.  
 Hazardous Decomposition Products: Mercury/mercury oxides.  
 Hazardous Polymerization: Has not been reported.

\*\*\*\* SECTION 11 - TOXICOLOGICAL INFORMATION \*\*\*\*

RTECS#: CAS# 7439-97-6: OV4550000  
 LD50/LC50: Not available.  
 Carcinogenicity: MERCURY -  
 ACGIH: as Hg: A4-not classifiable as a human carcinogen  
 IARC: Group 3 carcinogen (listed as MERCURY, ARYL AND INORGANIC)  
 Epidemiology: No data available.  
 Teratogenicity: No data available.  
 Reproductive Effects: No data available.  
 Neurotoxicity: No data available.  
 Mutagenicity: No data available.  
 Other Studies: None.

\*\*\*\* SECTION 12 - ECOLOGICAL INFORMATION \*\*\*\*

Ecotoxicity: Marine fish (salt water) TLm=0.29ppm/48H Catfish LC50 = 0.35mg/L/96H  
 Mollusk LC50 = 0.19ppm/96H Tadpole LC50 = 0.051ppm/96H  
 Environmental Fate: Substance has potential to bioconcentrate in aquatic organisms. On soil, substance is expected to volatilize rapidly. In water, substance binds to particulate matter and collects in the sediment.  
 Physical/Chemical: No information available.  
 Other: None.

\*\*\*\* SECTION 13 - DISPOSAL CONSIDERATIONS \*\*\*\*

Dispose of in a manner consistent with federal, state, and local regulations.  
 RCRA P-Series: None listed.  
 RCRA U-Series: CAS# 7439-97-6: waste number U151.

\*\*\*\* SECTION 14 - TRANSPORT INFORMATION \*\*\*\*

US DOT  
 Shipping Name: RQ.MERCURY  
 Hazard Class: 8  
 UN Number: UN2809  
 Packing Group: III  
 IMO

DATE: 09/20/99 ACCT: 888235001  
 INDEX: D92607751 CAT NO: 14985B PO NBR: PERKINS/YC/9-17-99

Shipping Name: MERCURY  
 Hazard Class: 8  
 UN Number: 2809  
 Packing Group: III

IATA  
 Shipping Name: MERCURY  
 Hazard Class: 8  
 UN Number: 2809  
 Packing Group: III

RID/ADR  
 Shipping Name: MERCURY  
 Dangerous Goods Code: 8(11B)  
 UN Number: 2809  
 Canadian TDG  
 No information available.

\*\*\*\* SECTION 15 - REGULATORY INFORMATION \*\*\*\*

US FEDERAL

TSCA  
 CAS# 7439-97-6 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

Section 302 (RQ)  
 CAS# 7439-97-6: final RQ = 1 pound (0.454 kg)  
 Section 302 (TPQ)  
 None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7439-97-6: acute, chronic.

Section 313

This material contains MERCURY (CAS# 7439-97-6, 100%) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 7439-97-6 listed as MERCURY COMPOUNDS is listed as a hazardous air pollutant (HAP).  
 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.  
 CAS# 7439-97-6 is listed as a Priority Pollutant under the Clean Water Act.  
 CAS# 7439-97-6 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

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

STATE

MERCURY can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.  
 WARNING: This product contains 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 23 Toxic by inhalation.  
 R 33 Danger of cumulative effects.

Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
 S 7 Keep container tightly closed.

WGK (Water Danger/Protection)

CAS# 7439-97-6: 3

Canada

CAS# 7439-97-6 is listed on Canada's DSL/NDL List.  
 This product has a WHMIS classification of D2A, E.  
 CAS# 7439-97-6 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 7439-97-6: OEL-ARAB Republic of Egypt:TWA 0.05 mg/m3  
 OEL-AUSTRALIA:TWA 0.1 mg/m3;Skin  
 OEL-BELGIUM:TWA 0.1 mg/m3;Skin  
 OEL-FINLAND:TWA 0.05 mg/m3  
 OEL-FRANCE:TWA 0.05 mg/m3;Skin (vapor)  
 OEL-FRANCE:TWA 0.1 mg/m3;Skin  
 OEL-HUNGARY:TWA 0.02 mg/m3;STEL 0.04 mg/m3  
 OEL-POLAND:TWA 0.05 mg/m3

DATE: 09/20/99

ACCT: 888235001

PAGE: 5

INDEX: D92607751

CAT NO: 14985B

PO NBR: PERKINS/VC/9-17-99

OEL-SWEDEN:TWA 0.05 mg/m3 (vapor)  
OEL-SWITZERLAND:TWA 0.005 ppm (0.05 mg/m3);Skin (vapor)  
OEL-SWITZERLAND:TWA 0.01 mg/m3;Skin  
OEL-TURKEY:TWA 0.1 mg/m3;Skin  
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 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)/m 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)

\*\*\*\* SECTION 16 - ADDITIONAL INFORMATION \*\*\*\*

MSDS Creation Date: 10/05/1995 Revision #11 Date: 12/12/1997

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 way 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.