MERCURY

MCR

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Quicksilver	Liquid	Silver	Odorless
	Sinks in water.		

Keep people away. AVOID CONTACT WITH LIQUID.
Notify local health and pollution control agencies.

Fire	Not flammable.
Exposure	CALL FOR MEDICAL AID. LIQUID Effects of exposure may be delayed.
Water Pollution	HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Pump; Dredge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed.
2.2 Formula: Hg
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: 2809
2.5 CAS Registry No.: 7439-97-6
2.6 NAERG Guide No.: 172
2.7 Standard Industrial Trade Classification: 52227

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Avoid contact of liquid with skin. For vapor use chemical cartridge (Hopcalite) respirator.
3.2 Symptoms Following Exposure: No immediate symptoms. As poisoning becomes established, slight muscular tremor, loss of appetite, nausea, and diarrhea are observed. Psychic, kidney, and cardiovascular disturbances may occur.
3.3 Treatment of Exposure: Consult a doctor.
3.4 TLV-TWA: 0.025 mg/m^3
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: No immediate toxicity
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Development of mercury poisoning
3.10 Vapor (Gas) Irritant Characteristics: None
3.11 Liquid or Solid Characteristics: None
3.12 Odor Threshold: Odorless
3.13 IDLH Value: Not listed.
3.14 OSHA PEL-TWA: Not listed.
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: 0.1 mg/m^3
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: Not flammable
4.2 Flammable Limits in Air: Not flammable
4.3 Fire Extinguishing Agents: Not pertinent
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: Not pertinent
4.6 Behavior in Fire: Not flammable
4.7 Auto Ignition Temperature: Not flammable
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Not flammable
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: Not pertinent.
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent.
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction
5.2 Reactivity with Common Materials: No reaction
5.3 Stability During Transport: Stable
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent
5.5 Polymerization: Not pertinent
5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

6.1 Aquatic Toxicity: 0.5-1 ppm/48 hr/caragius ardium/TL_m/fresh water
0.29 ppm/48 hr/marine fish/TL_m/salt water
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): None
6.4 Food Chain Concentration Potential: Mercury concentrates in liver and kidneys of ducks and geese to levels above FDA limit of 0.5 ppm. Muscle tissue usually well below the limit.
6.5 GESAMP Hazard Profile: Not listed

7. SHIPPING INFORMATION

7.1 Grades of Purity: Pure
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open
7.5 IMO Pollution Category: Currently not available
7.6 Ship Type: Currently not available
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Corrosive material
8.2 49 CFR Class: 8
8.3 49 CFR Package Group: III
8.4 Marine Pollutant: Yes
8.5 NFPA Hazard Classification: Not listed
8.6 EPA Reportable Quantity: 1 pound
8.7 EPA Pollution Category: X
8.8 RCRA Waste Number: U155/D009
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Liquid
9.2 Molecular Weight: 200.59
9.3 Boiling Point at 1 atm: 675°F = 357°C = 630°K
9.4 Freezing Point: –38.0°F = –38.9°C = 234.3°K
9.5 Critical Temperature: 2663.6°F = 1462°C = 1735.2°K
9.6 Critical Pressure: 23,300 psia = 1587 atm = 160.8 MN/m^2
9.7 Specific Gravity: 13.55 at 20°C (liquid)
9.8 Liquid Surface Tension: 470 dynes/cm = 0.470 N/m at 20°C
9.9 Liquid Water Interfacial Tension: 375 dynes/cm = 0.375 N/m at 20°C
9.10 Vapor (Gas) Specific Gravity: Not pertinent
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
9.12 Latent Heat of Vaporization: Not pertinent
9.13 Heat of Combustion: Not pertinent
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: Not pertinent
9.16 Heat of Polymerization: Not pertinent
9.17 Heat of Fusion: 2.7 cal/g
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
0	851.399	35	0.033		N	0	1.827
5	851.000	40	0.033		O	5	1.801
10	850.500	45	0.033		T	10	1.777
15	850.099	50	0.033			15	1.754
20	849.699	55	0.033		P	20	1.731
25	849.199	60	0.033		E	25	1.709
30	848.799	65	0.033		R	30	1.688
35	848.399	70	0.033		T	35	1.668
40	847.899	75	0.033		I	40	1.648
45	847.500	80	0.033		N	45	1.629
50	847.099	85	0.033		E	50	1.610
55	846.599	90	0.033		N	55	1.592
60	846.199	95	0.033		T	60	1.575
65	845.799	100	0.033			65	1.558
70	845.299					70	1.541
75	844.899					75	1.525
80	844.500					80	1.510
85	844.000					85	1.495
90	843.599					90	1.480
95	843.199					95	1.466
100	842.699					100	1.452

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I		N		N		N
	N		O		O		O
	S		T		T		T
	O						
	L		P		P		P
	U		E		E		E
	B		R		R		R
	L		T		T		T
	E		I		I		I
			N		N		N
			E		E		E
			N		N		N
			T		T		T