

GC/Waldom Electronics
1801 Morgan Street
Rockford, IL 61102
Product Information: (815) 968-9661

Product Name: Mercury Switch
MSDS Number: 266
Revision Date: 3/12/01
Supersedes Date: 10/10/86

MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Type: Switch
Product Name: Mercury Switch
Part Number(s): 35-760
Emergency Contact: Chemtrec
Phone (24 hours): (800) 424-9300

Section 1 - Identification of Product

CERCLA Rating (scale 0-3)		NERA Rating (scale 0-4)	
Health	3	Health	3
Fire	0	Fire	0
Reactivity	0	Reactivity	0
Persistence	0		

Section 2 - Hazardous Ingredients

Hazardous Components (chemical and common name(s)):	CAS#	OSHA PEL	ACGIH TLV	OTHER EXPOSURE LIMITS	%
Mercury (Metallic Mercury) (Quicksilver)	7439-97-6	0.1MG / M ³	0.05 MG / M ³	TWA	100
Chemical Formula: Hg				NIOSH 0.05mg/m ³	
Other Commonly Used Names: Colloidal Mercury; Quick Silver.					

Section 3 - Physical Data

Boiling Point:	674° F (356.7° C)
Specific Gravity (H ₂ O=1):	13.6
Vapor Pressure (mm Hg)	0.0012mmHg @ 68°F (20° C)
Vapor Density (Air=1)	7.0
Solubility in Water:	Insoluble
Reactivity in Water:	N/A
Appearance and Odor:	Silver-white, heavy mobile, liquid metal. Melting point -38° F.

Section 4 - Fire & Explosion Hazard Data

Flash Point:	N/A
Method Used:	N/A
Flammable Limits in Air % by volume:	LEL-Lower: N/A UEL-Upper: N/A
Auto-ignition Temperature:	N/A
Extinguisher Media:	
Small Fires:	Dry chemical, carbon dioxide, water spray or foam (1984 Emergency Response Guidebook, DOT P 5800.3)
Special Fire Fighting Procedures:	For larger fires, use water spray, fog or alcohol foam (1984 Emergency

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Response Guidebook, DOT P 5800.3). Fire fighting: Move containers from fire area if possible. Cool containers exposed to flames with water from side until well after fire is out. Use agents suitable for type of fire. Slight fire and explosion hazard when exposed to heat or flame.

Unusual Fire and Explosion Hazards: Use water in flooding amounts as a fog. Avoid breathing corrosive and poisonous vapors. Keep upwind.

Fire Hazards: Mercury may burn, but does not readily ignite. Poisonous gas is produced in fire. If employees are expected to fight fires, they must be trained and equipped as stated in OSHA 1910.156.

Warning: Poisonous gas is produced in fire corrosive.

Section 5 - Health Hazard Data

Elemental Hg. Liquid and vapor, is toxic due to its liquid solubility, lack of charge, and membrane permeability. Inhaled vapors (80%) diffuse rapidly through alveolar membranes into the blood and are systemically transported to the body tissues, including the brain. Exposure to high conc. (1/2 mg/m³) of vapors for brief periods can cause pneumonitis, chest pains, dyspnea, coughing. Later, stomatitis, gingivitis, and salivation occur. Hg can be absorbed slowly through the skin. Chronic symptoms involve the CNS with tremors and various neuropsychiatric disturbances. The TLV would be exceeded if the contents of a small Hg clinical thermometer were dispersed in a closed 100' x 100' x 15' room. GI uptake of Hg is low (5%).

Routes of Entry:

Eye Contact:

Acute Exposure:

Chronic Exposure:

Ingestion:

Acute Exposure:

Inhalation:

Acute Exposure:

Chronic Exposure:

Irritant.

Contact may cause irritation. Solutions are corrosive and may cause corneal injury or burns.

Mercury may be deposited in the lens of the eye, causing visual disturbances. Neurotoxic/Nephrotoxic.

When ingested, necrosis begins immediately in the mouth, throat, esophagus and stomach. Within a few minutes, violent pain, profuse vomiting, and severe purging may occur. Patient may die within a few minutes from fluid/electrolyte losses and peripheral vascular collapse, but death (from uremia) is usually delayed 5 to 12 days.

Irritant/Sensitizer/Neurotoxin. 28MG/M3 immediately dangerous to life or health.

Inhalation of a high concentration of mercury vapor may cause almost immediate dyspnea, cough, fever, nausea and vomiting, diarrhea, stomatitis, salivation and metallic taste. Symptoms may resolve or may progress to necrotizing bronchiolitis, pneumonitis, pulmonary edema, and pneumothorax. This syndrome is often fatal in children. Acidosis and renal damage with renal failure may occur. Inhaling volatile organic mercurials in high concentrations causes metallic taste, dizziness, clumsiness, slurred speech, diarrheas, and sometimes, fatal convulsions.

Inhalation of mercury vapor, dust, over a long period causes mercurialism. Findings extremely variable and include tremors, salivation, stomatitis, loosening of teeth, blue lines on gums, pain and numbness in extremities, nephritis, diarrhea, anxiety, headache, weight loss, anorexia, mental depression, insomnia, irritability and instability, hallucinations and evidence of mental deterioration.

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First Aid:
Eye: Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting upper and lower lids.
Skin: Quickly remove contaminated clothing. Immediately wash contaminated skin with large amounts of water.
Breathing: Remove the person from exposure. Begin rescue breathing if breathing has stopped and CPR if heart action has stopped. Transfer promptly to a medical facility. Medical observation is recommended for 24 to 48 hours after breathing overexposure, as pulmonary edema may be delayed.
Ingestion: Gastric lavage with 5% solution of sodium formaldehyde sulfoxylate, followed by 2% NaHCO₃, and finally leave 250 cc of the sodium formaldehyde sulfoxylate in the stomach. Seek medical assistance for further treatment observation and support.
Skin: Irritant/Sensitizer/Neurotoxin/Nephrotoxin.
Acute Exposure: May cause redness and irritation. Sensitization Dermatitis may occur in previously exposed workers. Substance may be absorbed through intact skin causing anuria.

Section 6 - Reactivity Data

Stability: Unstable _____ Stable _____
Conditions to Avoid: Does not ignite readily. Flammable, poisonous gases may accumulate in tanks and hopper cars. May ignite combustibles (wood, paper, oil)
Incompatibility (materials to avoid): Violent reaction: Acetylenic Compounds; Ammonia; Boron; Diphosphorus; Ethylene Oxide; Metals (Aluminum; Potassium; Lithium; Sodium; Rubidium); Methyl Azide; Methylsilane; Oxygen; Oxidants (Bromine; Peroxyformic Acid; Chlorine Dioxide; Nitric Acid; Tetracarbonylnickel; Nitromethane; Silver Perchlorate.
Hazardous Decomposition Products: Thermal decomposition products include toxic mercury vapors and oxygen.
Hazardous Polymerization: May Occur _____ Will Not Occur _____
Conditions to Avoid: None known.

Section 7 - Spill or Leak Procedures

Mercury evaporates very slowly. Spilled Hg forms many tiny globules that will evaporate faster than a single pool and develop a significant concentration of vapors in an unventilated area. Such vapors can be poisonous, especially if breathed over a long period of time. Heated Hg evolves high levels of toxic vapors.

Spills and Emergencies:

If Mercury is spilled or leaked, take the following steps:

Restrict persons not wearing protective equipment from area of spill or leak until clean-up is complete.

Spills should be collected with special Mercury vapor suppressants or special vacuums. Kits specific for clean-up of Mercury spill are available.

It may be necessary to contain and dispose of Mercury as a Hazardous Waste. Contact the NJ Department of Environmental Protection (DEP) or your regional office of the federal Environmental Protection Agency (EPA) for specific recommendations.

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For Large Spills and Fires:
Immediately call your local fire department. You can also request emergency information from the following:
DEP HOTLINE: (609) 292-7172
CHEMTREC: (800) 424-9300

DO NOT TOUCH SPILLED MATERIAL. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. FOR SMALL SPILLS, TAKE UP WITH SAND OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR LATER DISPOSAL. A MERCURY SPILL KIT MAY ALSO BE USED FOR SMALL SPILLS IN THE WORKPLACE. FOR LARGER SPILLS, DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. KEEP UNNECESSARY PEOPLE AWAY. ISOLATE HAZARD AREA AND DENY ENTRY.

Section 8 - Special Protection Information

Provide adequate exhaust ventilation to meet TLV requirements in the workplace. Operations requiring an Hg surface should reduce the temperature of Hg to limit vaporization and minimize vapor exposure by using a local exhaust.

Self contained breathing apparatus can be used up to 5 mg/m^3 with a full face-piece above 1 mg/m^3 . Positive pressure-type air supplied breathing equipment has been recommended above 5 mg/m^3 .

Avoid eye contact by use of chemical safety glasses. Wear rubber gloves and protective clothing appropriate for the work situation. Separate work and street clothing. Store work clothing in special lockers. Showers to be taken before changing to street clothes.

Provide preplacement and periodic medical exams for those regularly exposed to Hg, with emphasis directed to CNS, skin, lungs, liver, kidneys and G.I. tract.

Section 9 - Special Precautions

Handling and Storage:

Prior to working with Mercury you should be trained on its proper handling and storage. Mercury must be stored to avoid contact with Chlorine Dioxide, Nitric Acid, Nitrates, Ethylene Oxide, Chlorine and Methylazide since violent reactions occur. Store tightly closed containers in a cool, well-ventilated area away from Acetylene, Ammonia and Nickel. Mercury may initiate fires of other combustible materials.

Section 10-Regulatory Information

DOT Number:	UN 2809
NFPA Flammability:	No citation
NFPA Reactivity:	No citation

Disclaimer

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