SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : **MERCURY**

Manufacturer/Supplier Trade name: **MERCURY, Hg, Quick Silver**

Manufacturer/Supplier Article number: **MERCURY 80-006**

Recommended uses of the product and uses restrictions on use: Lighting, dental, batteries, switchces, lab supply. CAS 7439-97-6. Not for Export.

Manufacturer Details:

DFG Mercury Corp
909 Pitner Ave
EVANSTON , ILL 60202
847-869-7800 FAX 847-869-2531

Emergency telephone number:

Chemtrek: Client Number-CCN6611 1 800 424 9300

SECTION 2 : Hazards identification

Classification of the substance or mixture:

Toxic
Acute toxicity (Inhalation), category 2

Health hazard
Reproductive toxicity, category 1B
Specific target organ toxicity following single exposure, category 1

Environmentally Damaging
Acute hazards to the aquatic environment, category 1
Chronic hazards to the aquatic environment, category 1

H330: AcTox. Inhale
H360: Repro. Tox. 1B
H372: STOT RE 1
H400: Aquatic AcTox. 1
H410: Aquatic ChrTox. 1

Signal word: Danger

Hazard statements:

H330: Fatal if inhaled
H360: May damage fertility or the unborn child
H372: Causes damage to organs through prolonged or repeated exposure
H410: Very toxic to aquatic life with long lasting effects

Precautionary statements:

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe vapors, gas
P264 - Wash skin, hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P280 - Wear eye protection, protective clothing, protective gloves, face mask
P284 - [In case of inadequate ventilation] wear respiratory protection

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P308+P313 - IF exposed or concerned: Get medical advice/attention
P310 - Immediately call a POISON CENTER or doctor/physician
P314 - Get medical advice and attention if you feel unwell
P320 - Specific treatment is urgent (see First aid measures on this label)
P391 - Collect spillage
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to comply with applicable local, national and international regulation.

Other Non-GHS Classification:

WHMIS

NFPA/HMIS

NFPA SCALE (0-4)

HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:		
CAS 7439-97-6	Mercury	100 %
		Percentages are by weight

SECTION 4 : First aid measures

Description of first aid measures

After inhalation: Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Loosen clothing and place exposed in a comfortable position. Immediately seek medical attention.

After skin contact: Transport exposed victim to the hospital. Wash hands and exposed skin with soap and plenty of water. Remove contaminated clothing and shoes while rinsing in safety shower.

After eye contact: Protect unexposed eye. Flush exposed eye gently using water for 15-20 minutes. Remove contact lenses while rinsing. Keep eyelids open while rinsing. Immediately seek medical attention. Continue rinsing eyes during transport.

After swallowing: Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Immediately seek medical attention. CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION.

Most important symptoms and effects, both acute and delayed:

Irritation. Shortness of breath. Headache. Nausea. Dizziness.; Mercury is highly toxic, irritating, and causes sensitization and neurological symptoms. The primary health hazard associated with overexposure to this product is the potential for irritation of skin, eyes, or other contaminated tissues. Mercury causes severe,

adverse health effects after chronic exposure to low vapor levels. Supervisors and other responsible personnel must be aware of personality changes, weight loss, or other signs of Mercury over-exposure in employees using this product; these symptoms can develop gradually and are indicative of potentially severe health effects related to Mercury contamination.

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention provide SDS document to physician. 1. As soon as possible, have patient drink milk or slurry of activated charcoal to help precipitate mercury in the stomach. 2. Gastric lavage with tap water, milk, or 2-5% solution of sodium bicarbonate, unless spontaneous vomiting is intense and productive, 3. Administer through the lavage tube 0.5-1.0 oz. of sodium or magnesium sulfate in 6-8 oz. of water (unless spontaneous purging has already begun) and a slurry of activated charcoal. 4. Administer BAL (Dimercaprol; 3 mg/kg or 0.3 mL/10 kg) intramuscularly as a 10% solution in oil. If given within three hours after ingestion, severe renal damage may be prevented. Collect urine before and after BAL therapy for mercury analysis. 5. Demulcents (i.e. milk of magnesia, starch, bismuth subcarbonate) and analgesic drugs may be useful and necessary. 4. FIRST-AID MEASURES (Continued) RECOMMENDATIONS TO PHYSICIANS (continued): 6. Because the BAL-Mercury Complex excreted in bile may be partly resorbed in the bowel, it is probably useful to administer activated charcoal every few hours, starting as soon as vomiting subsides. 7. Treat shock by correcting dehydration and electrolyte imbalances. If renal insufficiency develops, treat for acute renal failure. 8. The maintenance of an adequate nutritional status may be troublesome if gastrointestinal disorders becomes severe or persistent. 9. If toxic signs or symptoms recur after an apparent recovery, another course of chelation therapy is warranted. BAL is still appropriate, but a trial with D-Penicillamine or N-acetyl-D,L-penicillamine may be preferable. Either penicillamine compound is given by mouth, usually on an empty stomach, in a dose of 250 mg (4 times daily for adults; 3 times daily in children; 5-10 days). Penicillamine should be withheld until mercury is cleared out of the bowels. A chelating agent should be used until the urine-mercury level falls below 50micrograms/24 hours. Laboratory Analysis: Determination of beta-2-Microglobulins has been recommended as a useful test for renal function. Electroencephalographic changes may be correlated closely with the clinical state. Analysis of the blood, hair, urine, or feces can be done to determine the level of Mercury exposure. Mercury deposits in the body can be observed in X-Rays.

SECTION 5 : Firefighting measures

Extinguishing media

Suitable extinguishing agents: Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam. Apply cooling water to sides of containers that are exposed to flame until well after fire is out.

For safety reasons unsuitable extinguishing agents: None identified.

Special hazards arising from the substance or mixture:

Thermal decomposition can lead to release of irritating gases and vapors.

Advice for firefighters:

Protective equipment: Wear protective eyewear, gloves, and clothing. Refer to Section 8.

Additional information (precautions): Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

SECTION 6 : Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation. Ensure that air-handling systems are operational.

Environmental precautions:

Should not be released into environment. Prevent from reaching drains, sewer, or waterway. In the event of a release under 1 pound of Mercury, the minimum Personal Protective Equipment should be Level C: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard-hat, and Air-Purifying Respirator with cartridge appropriate for Mercury. Level B, which includes Self-Contained Breathing Apparatus, must be worn if the amount of Mercury released is over 1 pound or when the concentration of

oxygen in atmospheres is less than 19.5% or unknown.

Methods and material for containment and cleaning up:

Soak up with inert absorbent material and dispose of as hazardous waste. If necessary, dike area of release with suitable absorbent materials. Use a commercially available Mercury Spill kit for small spills. For larger releases a Mercury vacuum can be used. Wear protective eyewear, gloves, and clothing. Refer to Section 8.Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13.Keep in suitable closed containers for disposal. Report all Mercury releases promptly. Emergency response efforts must be directed to removal of all traces of this product.

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for safe handling:

Wear respiratory protection. Refer to Section 8.Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8.Follow proper disposal methods. Refer to Section 13. Do not eat, drink, smoke, or use personal products when handling chemical substances. All employees who handle this material should be trained to handle it safely.

Conditions for safe storage, including any incompatibilities:

Store locked up. Open containers slowly on a stable surface. Drums, flask, and bottles of this product must be properly labeled. Store away from direct sunlight. Store away from excessive heat or sources of ignition. Storage areas should be made of fire-resistant materials. If appropriate, post warning signs in storage and use areas.

Inspect all incoming containers before storage to ensure containers are properly labeled and not damaged. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store under inert gas. Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials.

SECTION 8 : Exposure controls/personal protection

Control Parameters:

7439-97-6, Mercury, C 0.1 mg/m3 USA. NIOSH
7439-97-6, Mercury, TWA 0.05 mg/m3 USA. OSHA
7439-97-6, Mercury, Total inorganic mercury 0.04 mg/g In urine ACGIH
7439-97-6, Mercury, Total inorganic mercury 15 µg/l In blood ACGIH
7439-97-6, Mercury, TWA mg/m3 0.025, (skin) A4 (Not Classifiable as a Human Carcinogen) ACGIH

Appropriate Engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Maintain airborne contaminant concentrations below exposure limits listed in Section 2 (Composition and Information on Ingredients).

Respiratory protection: Wear respiratory protection. When necessary use NIOSH approved breathing equipment. In such atmospheres, use of a full-face piece pressure/demand SCBA or a full face piece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998). Up to 0.5 mg/m3: Chemical cartridge respirator with cartridge(s) to protect against mercury compounds (an End-of-Service Life Indicator is required); or Supplied-Air Respirator (SAR).Up to 1.25 mg/m3: SAR operated in a continuous-flow mode; or powered air- purifying respirator with cartridge(s) to protect against mercury compounds (canister) (an End-of-Service Life Indicator is required.). Up to 2.5 mg/m3: Full-face piece chemical cartridge respirator with cartridge(s) to protect against mercury compounds; or gas mask with canister to protect against mercury compounds; or SAR with a tight-fitting face piece operated in a continuous-flow mode; or powered air-purifying respirator with a tight-fitting face piece and cartridge(s) to protect against mercury compounds (canister) (an End-of-Service Life Indicator is required); or full-face piece Self-Contained Breathing Apparatus (SCBA); or full-face piece SAR. Up to 10 mg/m3: Positive pressure SAR. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134) or equivalent U.S. State standards, and Canadian CSA Standard Z94.4-93. Oxygen levels below 19.5% are considered IDLH by OSHA.

Protection of skin: Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing. Wear neoprene gloves for routine industrial use. Use triple gloves for spill response, as stated in Section 6 (Accidental Release Measures) of this MSDS. Use body protection appropriate for task (lab coat, coveralls, or Tyvek suit).

Eye protection: Tightly fitting goggles with an 8-inch minimum face shield are appropriate eye protection. Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

General hygienic measures: Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Before re-wearing wash contaminated clothing. As with all chemicals, avoid getting Mercury ON YOU or IN YOU.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	Silver-white liquid	**Explosion limit lower**: **Explosion limit upper**:	Not Determined Not Determined
Odor:	Odorless	**Vapor pressure**:	< 0.01 hPa at 20 °C
Odor threshold:	Not Determined	**Vapor density**:	6.93 - (Air = 1.0)
pH-value:	Not Determined	**Relative density**:	13.55 g/cm3 at 25 °C
Melting/Freezing point:	-38.87 °C	**Solubilities**:	Soluble in water: 0.00006 g/l at 25 °C
Boiling point/Boiling range:	356.6 °C	**Partition coefficient (n-octanol/water)**:	Not Determined

Flash point (closed cup):	Not Determined	**Auto/Self-ignition temperature**:	Not Determined
Evaporation rate:	Not Determined	**Decomposition temperature**:	Not Determined
Flammability (solid,gaseous):	Not Determined	**Viscosity**:	a. Kinematic: Not Determined b. Dynamic: Not Determined
Density: Not Determined **Shelf-life::**1 year			

SECTION 10 : Stability and reactivity

Reactivity: Nonreactive under normal conditions. Mercury can react with many metals (i.e. calcium, lithium, potassium, sodium, rubidium, aluminum) to form amalgams.
Chemical stability: Stable under normal conditions.
Possible hazardous reactions: None under normal processing.
Conditions to avoid: Incompatible materials. Excessive heat or sources of ignition.
Incompatible materials: acetylene and acetylene derivatives, amines, ammonia, 3-bromopropyne, boron diiodophosphide, methyl azide, sodium carbide, heated sulfuric acid, methylsilane/oxygen mixtures; nitric acid/alcohol mixtures, tetracarbonylnickel/oxygen mixtures, alkyne/silver perchlorate mixtures, halogens (i.e. chlorine, bromine) and strong oxidizers (i.e. chlorine dioxide, perchlorates). Mercury can attack copper and copper alloys.
Hazardous decomposition products: Toxic vapors of mercury and mercury oxides.

SECTION 11 : Toxicological information

Acute Toxicity:		
Inhalation:	7439-97-6	LC50 Inhalation - rat - male - 2 h - < 27 mg/m3
Chronic Toxicity: No additional information.		
Corrosion Irritation: No additional information.		
Sensitization:		No additional information.
Single Target Organ (STOT):		7439-97-6 Causes damage to organs through prolonged or repeated exposure.
Numerical Measures:		No additional information.
Carcinogenicity:		No additional information.
Mutagenicity:		No additional information.

Reproductive Toxicity:	This product is reported to cause reproductive effects in humans. Impotence has been reported in over-exposed males. Women occupationally exposed have reported menstrual disturbances, reduced ovulation, and spontaneous abortions. Mercury is excreted in breast milk. Mercury has also been reported to produce adverse reproductive effects in test animals. Women of child-bearing potential, whose blood Pb exceeds 10 g/dl, are at risk of delivering a child with a blood Pb over the current Center for Disease Control Guideline of 10 g/dl. If the blood Pb of such children remains elevated, they may be at increased risk of cognitive deficits. The blood Pb of these children should be closely monitored and appropriate steps should be taken to minimize the child's exposure to environmental lead.

SECTION 12 : Ecological information

Ecotoxicity

LD50 Fish: 0,5 mg/l (Exposure time: 96 h - Species: Cyprinus carpio)

EC50 Daphnia: 5,0 µg/l (Exposure time: 96 h - Species: water flea)

LC50 Fish: 0,16 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])

Persistence and degradability:

May cause long-term adverse effects in the environment.

Bioaccumulative potential:

7439-97-6 Carassius auratus (goldfish) - 1,789 d - 0.25 µg/l. 7439-97-6 Bioconcentration factor (BCF): 155,986

Mobility in soil:

Other adverse effects:

SECTION 13 : Disposal considerations

Waste disposal recommendations:

Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed together with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

SECTION 14 : Transport information

UN-Number

2809

UN proper shipping name

Mercury

Transport hazard class(es)

Class:
8 - Corrosive substances
(6.1) Toxic substances

Packing group: III

Environmental hazard:
Transport in bulk:
Special precautions for user: Mercury Export Ban Act of 2008 prohibits the export of Mercury.

SECTION 15 : Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Acute, Chronic

SARA Section 313 (Specific toxic chemical listings):

7439-97-6 Mercury

RCRA (hazardous waste code):

Mercury Code: U151

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

7439-97-6 Mercury 1 lb.

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

Chemicals known to cause developmental toxicity:

Mercury and mercury compounds

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

7439-97-6 Mercury

Canadian NPRI Ingredient Disclosure list (limit 1%):

None of the ingredients is listed

SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:

Abbreviations and acronyms:

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