1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Mercury
Product Number : 215457
Brand : Sigma-Aldrich
Company : Sigma-Aldrich
            3050 Spruce Street
            SAINT LOUIS MO 63103
            USA
Telephone : +18003255832
Fax : +18003255052
Emergency Phone #: (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : Hg
Molecular Weight : 200.59 g/mol

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>7439-97-6</td>
<td>231-106-7</td>
<td>080-001-00-0</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Target Organ Effect, Highly toxic by inhalation, Respiratory sensitiser

Target Organs
Kidney

HMIS Classification
Health Hazard: 4
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 0

NFPA Rating
Health Hazard: 4
Fire: 0
Reactivity Hazard: 0

Potential Health Effects

Inhalation May be fatal if inhaled. May cause respiratory tract irritation.

Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes
May cause eye irritation.

Ingestion
May be harmful if swallowed.

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties
Flash point not applicable
Ignition temperature no data available

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods for cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling
Avoid inhalation of vapour or mist. Normal measures for preventive fire protection.

Storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Store under inert gas.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>7439-97-6</td>
<td>TWA</td>
<td>0.05 mg/m³</td>
<td>1989-03-01</td>
<td>USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin contact does contribute to exposure. See Table Z-2.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CEIL</td>
<td>0.001 mg/m³</td>
<td>1993-06-30</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z2 (Z37.8-1971)</td>
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<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>0.03 mg/m³</td>
<td>1994-09-01</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
</tbody>
</table>

Not classifiable as a human carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories. Skin contact does contribute to exposure. Refers to Appendix A -- Carcinogens. 1994-1995 Adoption Substances for which there is a Biological Exposure Index or Indices (see BEI® section)

Personal protective equipment

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**
Handle with gloves.

**Eye protection**
Face shield and safety glasses

**Skin and body protection**
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**

Form liquid

**Safety data**

pH no data available
Melting point -38.87 °C (-37.97 °F) - lit.
Boiling point 356.6 °C (673.9 °F) - lit.
Flash point not applicable
Ignition temperature no data available
Lower explosion limit no data available
Upper explosion limit no data available
Vapour pressure < 0.01 hPa (< 0.01 mmHg) at 20 °C (68 °F)
1 hPa (1 mmHg) at 126 °C (259 °F)
Water solubility no data available
Relative vapour density 6.93
- (Air = 1.0)

10. STABILITY AND REACTIVITY

Storage stability
Stable under recommended storage conditions.

Materials to avoid
Strong oxidizing agents, Ammonia, Azides, Nitrates, Chlorates, Copper

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Mercury/mercury oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
no data available

Irritation and corrosion
no data available

Sensitisation
May cause allergic respiratory reaction.

Chronic exposure
This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Mercury)
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Potential Health Effects

| Inhalation | May be fatal if inhaled. May cause respiratory tract irritation. |
| Skin       | May be harmful if absorbed through skin. May cause skin irritation. |
| Eyes       | May cause eye irritation. |
| Ingestion  | May be harmful if swallowed. |
| Target Organs | Kidney, |

Additional Information
12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Bioaccumulation
Carassius auratus (goldfish) - 1,789 d
Bioconcentration factor (BCF): 155,986

Ecotoxicity effects
Toxicity to fish
LC50 - Labeo rohita - 0.018 mg/l - 96 h

Further information on ecology
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Product
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN-Number: 2809   Class: 8   Packing group: III
Proper shipping name: Mercury
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN-Number: 2809   Class: 8   Packing group: III   EMS-No: F-A, S-B
Proper shipping name: MERCURY
Marine pollutant: No

IATA
UN-Number: 2809   Class: 8   Packing group: III
Proper shipping name: Mercury

15. REGULATORY INFORMATION

OSHA Hazards
Target Organ Effect, Highly toxic by inhalation, Respiratory sensitizer

DSL Status
All components of this product are on the Canadian DSL list.

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

<table>
<thead>
<tr>
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**SARA 311/312 Hazards**
Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

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**Pennsylvania Right To Know Components**

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**New Jersey Right To Know Components**

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**California Prop. 65 Components**

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**WARNING!** This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

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**16. OTHER INFORMATION**

**Further information**
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