Handling Mercury

Toxic by inhalation
Danger of cumulative effects
(Small amounts may not be dangerous, however mercury can collect up in your system over time, to a large amount and cause metal fume fever or mercurial poisoning).

- Lamps after pumping all contain small amounts of mercury.
- If a lamp pops whilst pumping or sealing, avoid breathing in any vapours, which may be dispersed if the lamp is hot.
- If a lamp is broken after pumping; dispose of lamp and clean-up materials as chemical waste (lamp waste).
- Do not touch the mercury, or broken quartz without latex gloves.
- Scrap lamp waste is dealt with as 'special waste' and disposed of via a registered waste disposal authority (Phoenix Metals).
- IMPORTANT: Mercury must be treated as special waste and not be washed away or allowed into the watercourses.
- Empty Mercury bottles for disposal should also be disposed of as special waste.
- All quartz, stems, legs or capillaries, which have been used on mercury dosed lamps, is to be disposed of as 'special waste', not thrown in the bin.
- Do not throw regular rubbish in scrap lamp bins.

What to do if mercury is spilt or lamps broken after pumping:

- Wear gloves when handling mercury spills and broken quartz. For larger quantities, facemasks and goggles should also be worn.
- Contain spill with damp sand or use Mercury Spill kits, where available.
- Sweep up mercury, quartz and sand, and dispose of as 'special waste' in scrap lamp drums outside.
- Remove contaminated clothing and wash before reuse.

MATERIAL SAFETY DATA SHEET
MERCURY

Section 1 - Chemical Product and Company Identification

CHEMICAL NAME:	Mercury	FORMULA: Hg
SYNONYMS:	Quicksilver, Hydragyrum.	
U.N. No:	2809	
CAS No:	7439-97-6	
EEC No:	231-106-7	

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Section 2 - Composition/information on ingredients.

Chemical element.
Hazard Symbol: T
Risk Phrases: 23 33
Percent by weight: 100

Section 3 - Hazards Identification.

Toxic by inhalation.
Danger of cumulative effects.

Potential Health Effects.

Eye:
Contact may cause irritation, vapour may cause irritation.

Skin:
May cause irritation and be absorbed in harmful amounts. May cause skin sensitisation which becomes evident upon re-exposure.

Ingestion:
May cause gastrointestinal irritation. May cause effects similar to those for inhalation exposure.

Inhalation:
Causes respiratory tract irritation. May cause cause metal fume fever which is characterised by flu-like symptoms with a metallic taste.

Chronic:
Chronic mercurial poisoning is the variety usually encountered in industry; there is little scope for first aid treatment and the emphasis must be on prevention.
See also Section 11.

Section 4 - First Aid Measures.

Eyes:

Flush with plenty of water for 15 minutes, occasionally lifting lids.
OBTAIN MEDICAL ATTENTION.

Skin:

Flush skin with plenty of soap and water for 15 minutes while removing contaminated clothing and shoes.
OBTAIN MEDICAL ATTENTION.

Ingestion:

OBTAIN MEDICAL ATTENTION.

Inhalation:

OBTAIN MEDICAL ATTENTION.

Section 5 - Fire Fighting Measures.

General Information:

Mercury is non inflammable, but evolves toxic fumes when heated. It is essential that self-contained breathing apparatus be worn when dealing with fires that may involve mercury.

Suitable extinguishing media:

Use the agent most appropriate to extinguish the surrounding fire.

Section 6 - Accidental Release Measures.

General information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Contain with wet sand and recover by vacuum suction. **Under no circumstances must a vacuum cleaner be used as it will become totally contaminated and a source of mercury vapour whenever it is switched on.**

A 50/50 slurry of calcium hydroxide and flowers of sulphur should be spread over the affected area and allowed to dry, when swept up it will carry most of the mercury with it. This should be repeated until there is no visible trace of mercury on the affected surface. Cracks and imperfections in the surface require special attention, as this is where small droplets of mercury can be trapped.

Section 7 - Handling and Storage.

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Keep the container tightly closed when not in use. Avoid ingestion and inhalation.

Storage:

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

Section 8 - Exposure Controls, Personal Protection.

Engineering controls:

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

Personal protective equipment:

Eyes:

Appropriate protective eyeglasses or chemical safety goggles.

Skin:

Appropriate gloves to prevent skin exposure.

Clothing:

Appropriate clothing to prevent skin exposure.

Respirators:

Appropriate respirators for working environment.

Section 9 - Physical and Chemical Properties.

Physical state:	Liquid.
Appearance:	Silvery, reflective liquid.
Odour:	Odourless.
pH:	Not applicable.
Vapour pressure:	0.001mm @ 20°C, 0.28mm @ 100°C.
Viscosity:	15.5mP @ 25°C.
Boiling point:	356.9°C.
Freezing/Melting point:	-38.9°C.
Decomposition temperature:	Not applicable.
Solubility:	Insoluble in water.
Density:	13.59g/ml.
Molecular formula:	Hg.
Molecular weight :	200.59.

Section 10 - Stability and Reactivity.

Chemical stability:

Not applicable, chemical element.

Conditions to avoid:

High temperatures.

Incompatibilities with other materials:

Acetylene, ammonia, bromine, chlorine dioxide, methyl azide, sodium carbide, halogens, strong oxidisers. Easily forms amalgams with most non-ferrous metals and can therefore cause severe corrosion problems.

It is highly corrosive to aluminium.

Hazardous decomposition products:

Not applicable, chemical element.

Hazardous polymerisation:

Has not been reported.

Section 11 - Toxicological Information.

The principal health concerns are toxicity to the central nervous system and the kidneys caused by long-term, relatively low-level exposure. The nervous system effects manifest themselves in tremors, particularly in the forearm.

Adverse effects can also be produced by a single, relatively high inhalation exposure to the vapour. The cosequences of this are mainly irritation of the respiratory tract (eg coughing and shortnedd of breath) and feverish symptoms. Kidney damage and central nervous system effects, including mood changes (depression, irritability, aggression) have also developed following such an exposure.

A number of cases of allergic skin reactions have occurred following contact with mercury.

Section 12 - Ecological Information.

Environmental:

On soil, the material is relatively easy to contain and collect. In water, it binds to particulate matter and collects in the sediment. It has potential to bioconcentrate in aquatic organisms.

Section 13 - Disposal Considerations.

Chemical residues are classified as special waste and as such are covered by regulations. Contact your local waste disposal authority or a chemical disposal company for advice. Empty containers may also need to be handled in the same way.

Section 14 - Transport Information.

UN No:	2809.
IMDG Class:	8.
IMO:	8/2809.
Packing group:	III
IATA:	2809.
Packing group:	III
Shipping Name:	MERCURY.

Section 15 - Regulatory Information.

Labelling according to EEC Directives.

Hazard symbol: T Toxic.

EEC No: 231-106-7

Risk Phrases:

R23	Toxic by inhalation.
R33	Danger of cumulative effects.
S45	If you feel unwell, seek medical advice. (Show the label where possible)
S7	Keep the container tightly closed.

U.K. Occupational Exposure Limit:

0.025mg/m^3 (8 hour TWA)

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risk as required by other health and safety legislation.

Section 16 - Further Information.

A Health & Safety Executive Guidance Note, EH17 (Revised) 'Mercury and its inorganic divalent compounds.', ISBN 0-7176-1127-2, is available from HMSO and other bookshops.

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