

**MATERIAL SAFETY DATA SHEET  
MERCURY****1. Identification of the substance / preparation***Identification of the product*

Catalogue No: 104404  
Product name: Mercury 99,9999

*Use of the substance/preparation*

Reagent for analysis  
Customized

**2. Composition/information on ingredients**

CAS-No:	7439-97-6	CE-Index-No:	029-004-00-0
M:	200.59 g/mol	CE-No:	321-847-6
Formula:	Hg		

**3. Hazards identification**

Toxic by inhalation. Danger of cumulative effects. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**4. First aid measures**

First-aid personnel: ensure self-protection!

After inhalation: fresh air. If necessary, apply mouth-to-mouth resuscitation or mechanical ventilation. Immediately call in physician.

After skin contact: wash off with plenty of water. Remove contaminated clothing.

After eye contact: rinse out with plenty of water for at least 10 minutes with the eyelid held wide open. Immediately call in ophthalmologist.

After swallowing: if victim is still conscious, make him drink plenty of water, induce vomiting, and administer activated charcoal (20-40 g in 10% slurry). Immediately call in physician.

**5. Fire-fighting measures***Suitable extinguishing media:*

In adaptation to materials stored in the immediate neighbourhood.

*Special risks:*

Non-combustible. Vapors heavier than air. Ambient fire may liberate hazardous vapours. The following may developed in event of fire: mercury vapours.

*Special protective equipment for fire fighting:*

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

*Other information:*

Prevent fire-fighting water from entering surface water or groundwater.

**6. Accidental release measures***Person-related precautionary measures:*

Do not inhale vapours/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

*Environmental-protection measures:*

Do not allow to enter sewerage system.

*Procedures for cleaning / absorption:*

Take up with suitable equipment. Forward for disposal. Clean up affected area.

**7. Handling and storage***Handling:**Notes for safe handling:*

Work under hood. Do not inhale substance: Avoid generation of vapours/aerosols.

*Storage:*

Tightly closed in a well ventilated place. Accessible only for authorised persons, store temperature: no restrictions.

**8. Exposure controls/personal protection***Personal protective equipment:*

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substance handle. The resistance of the protective clothing to chemical should be ascertained with the respective supplier.

Respiratory protection: Required. Combination filters Hg-P3.

Eye protection: Required

*Hand protection:**In full contact:*

Glove material: nitrile rubber

Layer thickness: 0.11 mm

Breakthrough time: >480 Min.

**In splash contact:**

Glove material: nitrile rubber  
 Layer thickness: 0.11 mm  
 Breakthrough time: >480 Min.

The protective gloves to be use must comply with the specifications of EC 89/686/EEC and result standard EN374, for example KCL 740 Dermatril® (full contact), 740 Dermatril® (splash contact). The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with simples of the recommended.

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GMBH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de))

**Industrial hygiene:**

Immediately change contaminate clothing. Apply skin-protective barrier cream. Wash hands and face alter worcking substance. Works under hood. Do not inhale substance, under no circumstances eat or drink at workplace.

**9. Physical and chemical properties**

Form:		liquid	
Color:		silvery	
Odor:		odorless	
pH value			neutral
Melting point			-39 °C
Boiling point	(1013 hPa)		357 °C
Ingition temperature			not available
Flash point			not available
Explosion limits	lower		not available
	upper		not available
Vapour pressure	(20 °C)		0.17 Pa
	(30 °C)		0.39 Pa
Density	(20 °C)		13.55 g/cm <sup>3</sup>
Solubility in water	(25 °C)		0.02 mg/l
Bioconcentration factor			63000 (experimental)

**10. Stability and reactivity**

*Conditions to be avoided*  
 Strong heating

*Substance to be avoided*

Acetylidene, ammoni, amines, alcali metals, azides, metal, halogens, acids, conc. Sulfuric acid, nitric acid / hydrohalic acids), carbides, alojen oxides.

*Hazardous decomposition products*

In the event of fire: See chapter 5.

## 11. Toxicological information

*Acute toxicity*

Quantitative data on the toxicity of this product are not available.

*Further toxicological information*

Mercury compounds have a cytotoxic and protoplasmatoxic effect. Intoxication symptoms: acute contact with eye causes severe lesions. Swallowing and inhalation of dusts damages mucous membranes of gastrointestinal and respiratory tract (metallic taste, nausea, vomiting, abdominal pain, blood pressure, cardiac dysrhythmia, circulatory collapse, and renal failure; manifest themes vest in the CNS (impaired speech, vision, hearing, and sensitivity, loss of memory irritability, hallucinations, delirium inter alias).

*Further data*

The product should be handled with the care usual when dealing with chemicals.

## 12. Ecological Information

Behaviour in environmental compartments:

Very highly bio accumulative. BCF: 63000 (experimental).

Ecotoxic effects:

Biological effects:

Highly toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Daphnia toxicity: Daphnia LC<sub>50</sub>: 0.0052 mg/ l / 96h.

Fish toxicity: Ictalurus punctatus LC<sub>50</sub>: 0.35 mg/ l / 96h.

Further ecologic data:

The following applies to the water-soluble matter contains in inorganic Hg compounds in general (tested with mercury (II) chloride): leuciscus idus LC<sub>50</sub>: 0.5 mg/ l (48h), daphnia magna EC<sub>50</sub>: 0.005-3,6 mg/ l (48h) , Chlorella pyrenoidosa EC<sub>50</sub>: 0.3 mg/ l (5h), Pseudomonas fluorescents IC<sub>50</sub>: 0.005 mg/l. The toxicity of mercury (II) ions water organisms depends on the water hardness [source: IPCS].

Do not allow to enter waters, waste Ester, or soil!

### 13. Disposal considerations

*Product:*

Chemical must be disposed of in compliance with the respective national regulations. Under [www.retrologistik.de](http://www.retrologistik.de) you will find country -and substance- specific information as well as contact partners.

*Packaging:*

Merck product parking must be disposed of in compliance with the country – specific regulations or must be passed to a packaging return system. Under [www.retrologistik.de](http://www.retrologistik.de) you will find country -and substance- specific information as well as contact partners.

### 14. Regulatory information

*Labelling according to EC directives*

Symbol:	T	Toxic
	N	Dangerous for the environment
R-phrases:	23-33-50/53	Toxic by inhalation. Danger of cumulative effects. Very toxic to aquatic organisms, may cause long-term adverse effects un the aquatic environment.
S-phrases:	7-45-60-61	In case of accident or if you feel unwell, sep medical advise immediately (show the label where possible).
EC-No:	231-106-7	CE label

*Reduced labelling (1999/45/CE, art. 10,4)*

Symbol:	T	Toxic
	N	Dangerous for the environment
R-phrases	23	Toxic by inhalation.
S-phrases	45	In case of accident or if you feel unwell, seek medical advise immediately (show the label where possible).