

# Material Safety Data Sheet

Mercury, GR



## 1. Product and company identification

**Product name** : Mercury, GR  
**Product code** : MX0400  
**Supplier** : EMD Chemicals Inc.  
480 S. Democrat Rd.  
Gibbstown, NJ 08027  
856-423-6300 Technical Service  
Monday-Friday: 8:00 -5:00 PM  
**Synonym** : Quicksilver  
**Material uses** : Other non-specified industry: Analytical reagent.  
**Validation date** : 8/4/2009.  
**In case of emergency** : 800-424-9300 CHEMTREC (USA)  
613-996-6666 CANUTEC (Canada)  
24 Hours/Day: 7 Days/Week

## 2. Hazards identification

**Emergency overview** : DANGER!  
MAY BE FATAL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED.  
CAUSES EYE AND SKIN BURNS.  
CAUSES DAMAGE TO THE FOLLOWING ORGANS: EYE, LENS OR CORNEA.  
MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS,  
GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, EYES, CENTRAL  
NERVOUS SYSTEM.  
DANGER OF CUMULATIVE EFFECTS.  
Toxic to aquatic organisms, may cause long-term adverse effect in the aquatic  
environment.  
WARNING: This product contains a chemical known to the State of California to cause  
birth defects or other reproductive harm.  
Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing.  
Use only with adequate ventilation. Keep container tightly closed and sealed until ready  
for use. Wash thoroughly after handling.

**Physical state** : Liquid.  
**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard  
(29 CFR 1910.1200).  
**Routes of entry** : Dermal contact. Eye contact. Inhalation. Ingestion.  
**Potential acute health effects**  
**Inhalation** : Very toxic by inhalation. May give off gas, vapor or dust that is very irritating or corrosive  
to the respiratory system.  
**Ingestion** : Very toxic if swallowed. May cause burns to mouth, throat and stomach.  
**Skin** : Corrosive to the skin. Causes burns. Very toxic in contact with skin.  
**Eyes** : Corrosive to eyes. Causes burns.  
**Potential chronic health effects**  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.  
**Target organs** : Causes damage to the following organs: eye, lens or cornea.  
May cause damage to the following organs: kidneys, gastrointestinal tract, upper  
respiratory tract, skin, eyes, central nervous system (CNS).

Continued on next page

## 2. Hazards identification

**Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

## 3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>% by weight</u>
Mercury	7439-97-6	100

## 4. First aid measures

- Eye contact** : Call medical doctor or poison control center immediately. Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : Call medical doctor or poison control center immediately. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Call medical doctor or poison control center immediately. Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Call medical doctor or poison control center immediately. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

## 5. Fire-fighting measures

- Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods for cleaning up

## 6 . Accidental release measures

- Spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container.

## 7 . Handling and storage

- Handling** : Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container, protected from direct sunlight. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

## 8 . Exposure controls/personal protection

Ingredient	Exposure limits
Mercury	<p><b>OSHA PEL Z2 (United States, 11/2006).</b> CEIL: 1 mg/10m<sup>3</sup></p> <p><b>ACGIH TLV (United States, 1/2009). Absorbed through skin.</b> TWA: 0.03 mg/m<sup>3</sup>, (as Hg) 8 hour(s). Form: Inorganic</p> <p><b>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.</b> TWA: 0.05 mg/m<sup>3</sup>, (as Hg) 8 hour(s). Form: Vapor</p>

### Consult local authorities for acceptable exposure limits.

- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protection

- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: splash goggles , face shield
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.  
Recommended: safety apron
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9 . Physical and chemical properties

Physical state	: Liquid.
Color	: Silvery. Gray.
Odor	: Not available.
Molecular weight	: 200.59 g/mole
Molecular formula	: Hg
pH	: Not available.
Boiling/condensation point	: 356.6°C (673.9°F)
Melting/freezing point	: -38.9°C (-38°F)
Critical temperature	: 1461.9°C (2663.4°F)
Relative density	: 13.55
Vapor pressure	: Not available.
Vapor density	: Not available.
Odor threshold	: Not available.
Evaporation rate	: Not available.
Solubility	: Insoluble in the following materials: water

## 10 . Stability and reactivity

Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11 . Toxicological information

### Carcinogenicity

#### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Mercury	A4	3	-	-	-	-

No known significant effects or critical hazards.

### Mutagenicity

No known significant effects or critical hazards.

### Teratogenicity

No known significant effects or critical hazards.

## 12 . Ecological information

### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Mercury	Acute EC50 0.094 mg/L	Algae	48 hours
	Acute EC50 0.063 mg/L	Algae	48 hours
	Acute LC50 0.9 mg/L	Fish	96 hours
	Acute LC50 0.5 mg/L	Fish	96 hours
	Acute LC50 1.2 mg/L	Fish	96 hours
	Acute LC50 1 mg/L	Fish	96 hours
	Acute LC50 0.019 mg/dm <sup>3</sup> Marine water	Crustaceans - Brine shrimp - Artemia sp. - LARVAE	48 hours
	Acute LC50 0.002 mg/dm <sup>3</sup> Marine water	Crustaceans - Redtail prawn - Penaeus penicillatus -	48 hours

## 12 . Ecological information

Acute LC50 19 ug/L Marine water	LARVAE Crustaceans - Calanoid copepod - Acartia tonsa - 6 g	48 hours
Acute LC50 18.6 ug/L Fresh water	Fish - Rohu - Labeo rohita - Fingerling	96 hours
Acute LC50 18.3 ug/L Fresh water	Fish - Rohu - Labeo rohita - Fingerling	96 hours
Acute LC50 17.8 ug/L Fresh water	Fish - Rohu - Labeo rohita - Fingerling	96 hours
Acute LC50 17.2 ug/L Fresh water	Fish - Rohu - Labeo rohita - Fingerling	96 hours
Acute LC50 17 ug/L Marine water	Crustaceans - Calanoid copepod - Acartia tonsa	48 hours
Acute LC50 16.8 ug/L Fresh water	Fish - Rohu - Labeo rohita - Fingerling	96 hours
Acute LC50 16.3 ug/L Fresh water	Fish - Rohu - Labeo rohita - Fingerling	96 hours
Acute LC50 6.918 ug/L Fresh water	Crustaceans - Freshwater prawn - Caridina rajadhari	48 hours
Acute LC50 4 ug/L Marine water	Fish - Red sea bream - Chrysophrys major - LARVAE	96 hours
Acute LC50 250 ug/L Marine water	Crustaceans - Brine shrimp - Artemia salina	48 hours
Acute LC50 32 ug/L Marine water	Crustaceans - Calanoida	48 hours
Acute LC50 31 ug/L Marine water	Crustaceans - Calanoida	48 hours
Acute LC50 22 ug/L Marine water	Crustaceans - Calanoida - Adult	48 hours
Acute LC50 20.7 ug/L Fresh water	Fish - Rohu - Labeo rohita - Fingerling	96 hours
Acute LC50 19.7 ug/L Fresh water	Fish - Rohu - Labeo rohita - Fingerling	96 hours
Acute LC50 19.1 ug/L Fresh water	Fish - Rohu - Labeo rohita - Fingerling	96 hours


**Environmental effects** : No known significant effects or critical hazards.

**Other adverse effects** : No known significant effects or critical hazards.

## 13 . Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

## 14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN2809	MERCURY	8	III		<b>Reportable quantity</b> 1 lb. (0.454 kg)

PG\* : Packing group

## 15 . Regulatory information

### United States

- HCS Classification** : Highly toxic material  
Corrosive material  
Target organ effects
- U.S. Federal regulations** : **United States inventory (TSCA 8b)**: This material is listed or exempted.  
TSCA 12(b) one-time export: Mercury  
TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.  
**SARA 302/304/311/312 extremely hazardous substances**: No products were found.  
**SARA 302/304 emergency planning and notification**: No products were found.  
**SARA 302/304/311/312 hazardous chemicals**: Mercury  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification**:  
Mercury: Immediate (acute) health hazard, Delayed (chronic) health hazard  
**Clean Water Act (CWA) 307**: Mercury  
**Clean Water Act (CWA) 311**: No products were found.  
**Clean Air Act (CAA) 112 accidental release prevention**: No products were found.  
**Clean Air Act (CAA) 112 regulated flammable substances**: No products were found.  
**Clean Air Act (CAA) 112 regulated toxic substances**: No products were found.
- DEA List I Chemicals (Precursor Chemicals)** : Not listed
- DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
<b>Form R - Reporting requirements</b>	: Mercury	7439-97-6	100
<b>Supplier notification</b>	: Mercury	7439-97-6	100

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

- Massachusetts Substances** : This material is listed.
- New Jersey Hazardous Substances** : This material is listed.
- New York Acutely Hazardous Substances** : This material is listed.
- Pennsylvania RTK Hazardous Substances** : This material is listed.

### California Prop. 65

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

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
Mercury	No.	Yes.	No.	No.

### Canada

- WHMIS (Canada)** : Class D-1A: Material causing immediate and serious toxic effects (Very toxic).  
Class D-2A: Material causing other toxic effects (Very toxic).  
Class E: Corrosive material

## 15 . Regulatory information

- Canadian lists** : **CEPA Toxic substances:** This material is listed.  
**Canadian ARET:** This material is not listed.  
**Canadian NPRI:** This material is listed.  
**Alberta Designated Substances:** This material is not listed.  
**Ontario Designated Substances:** This material is not listed.  
**Quebec Designated Substances:** This material is not listed.
- CEPA DSL / CEPA NDSL** : This material is listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

### EU regulations

- Hazard symbol or symbols** :



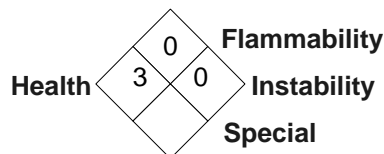
- Risk phrases** : R23- Toxic by inhalation.  
R33- Danger of cumulative effects.  
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- Safety phrases** : S1/2- Keep locked up and out of the reach of children.  
S7- Keep container tightly closed.  
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S60- This material and its container must be disposed of as hazardous waste.  
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

### International regulations

- International lists** : **Australia inventory (AICS):** This material is listed or exempted.  
**China inventory (IECSC):** This material is listed or exempted.  
**Japan inventory (ENCS):** Not determined.  
**Japan inventory (ISHL):** Not determined.  
**Korea inventory (KECI):** This material is listed or exempted.  
**New Zealand Inventory of Chemicals (NZIoC):** This material is listed or exempted.  
**Philippines inventory (PICCS):** This material is listed or exempted.

## 16 . Other information

- National Fire Protection Association (U.S.A.)** :



### Notice to reader

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.