

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Mercury(II) chloride

Product Number : 215465  
Brand : Sigma-Aldrich

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
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Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Target Organ Effect, Highly toxic by ingestion, Highly toxic by skin absorption, Corrosive, Teratogen, Mutagen

##### Target Organs

Kidney, Nerves., Gastrointestinal tract

##### GHS Classification

Acute toxicity, Dermal (Category 1)  
Acute toxicity, Oral (Category 2)  
Skin corrosion (Category 1B)  
Serious eye damage (Category 1)  
Reproductive toxicity (Category 2)  
Specific target organ toxicity - repeated exposure (Category 1)  
Acute aquatic toxicity (Category 1)  
Chronic aquatic toxicity (Category 1)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H300 + H310 Fatal if swallowed or in contact with skin  
H314 Causes severe skin burns and eye damage.  
H361 Suspected of damaging 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 statement(s)

P264 Wash hands thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P302 + P350 IF ON SKIN: Gently wash with plenty of soap and water.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTER or doctor/ physician.  
 P501 Dispose of contents/ container to an approved waste disposal plant.

**HMIS Classification**

**Health hazard:** 3  
**Chronic Health Hazard:** \*  
**Flammability:** 0  
**Physical hazards:** 0

**NFPA Rating**

**Health hazard:** 3  
**Fire:** 0  
**Reactivity Hazard:** 0

**Potential Health Effects**

**Inhalation** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.  
**Skin** May be fatal if absorbed through skin. Causes skin burns.  
**Eyes** Causes eye burns.  
**Ingestion** May be fatal if swallowed.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Mercuric chloride  
 Formula : Cl<sub>2</sub>Hg  
 Molecular Weight : 271.50 g/mol

Component		Concentration
<b>Mercuric chloride</b>		
CAS-No.	7487-94-7	-
EC-No.	231-299-8	
Index-No.	080-010-00-X	

**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**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIREFIGHTING MEASURES**

**Conditions of flammability**

Not flammable or combustible.

**Suitable extinguishing media**

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

**Special protective equipment for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Mercury/mercury oxides.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

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

**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 and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE****Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

Light sensitive. Moisture sensitive. Product is sensitive to light and moisture.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Basis
Mercuric chloride	7487-94-7	TWA	0.025 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Central Nervous System impairment Kidney damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen Danger of cutaneous absorption varies			
		C	0.1 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
	Skin notation			
		TWA	0.05 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
	Potential for dermal absorption			
		C	0.1 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
	Potential for dermal absorption			

**Personal protective equipment****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**

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

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**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form	solid
Colour	no data available

**Safety data**

pH	no data available
Melting point/freezing point	Melting point/range: 277 °C (531 °F) - lit.
Boiling point	302 °C (576 °F) at 1,013 hPa (760 mmHg)
Flash point	not applicable
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	1.7 hPa (1.3 mmHg) at 236 °C (457 °F)
Density	5.440 g/cm <sup>3</sup>
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

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**10. STABILITY AND REACTIVITY****Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

no data available

**Conditions to avoid**

Avoid moisture. Light.

**Materials to avoid**

Strong oxidizing agents, Strong bases

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Mercury/mercury oxides.  
Other decomposition products - no data available

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**11. TOXICOLOGICAL INFORMATION****Acute toxicity****Oral LD50****Inhalation LC50**

no data available

**Dermal LD50**

LD50 Dermal - rat - 41 mg/kg

**Other information on acute toxicity**

no data available

**Skin corrosion/irritation**

Skin - rabbit - Severe skin irritation - 24 h

**Serious eye damage/eye irritation**

Eyes - rabbit - Severe eye irritation - 24 h

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

In vitro tests showed mutagenic effects which were not observed with in vivo test.

**Carcinogenicity**

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 (Mercuric chloride)

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.

**Reproductive toxicity**

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

**Teratogenicity**

Suspected human reproductive toxicant

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

no data available

**Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Ingestion</b>	May be fatal if swallowed.
<b>Skin</b>	May be fatal if absorbed through skin. Causes skin burns.
<b>Eyes</b>	Causes eye burns.

**Signs and Symptoms of Exposure**

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

**Synergistic effects**

no data available

**Additional Information**

RTECS: OV9100000

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**12. ECOLOGICAL INFORMATION****Toxicity**

Toxicity to fish	mortality LOEC - Lates calcarifer - 0.113 mg/l - 96.0 h LC50 - Oncorhynchus mykiss (rainbow trout) - 0.016 mg/l - 96.0 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 0.002 mg/l - 48 h
Toxicity to algae	Growth inhibition EC50 - Ditylum brightwellii - 0.01 mg/l - 5 d

**Persistence and degradability**

no data available

**Bioaccumulative potential**

Bioaccumulation	Pimephales promelas (fathead minnow) - Bioconcentration factor (BCF): 5,680
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**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

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**13. DISPOSAL CONSIDERATIONS****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. 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.

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**14. TRANSPORT INFORMATION****DOT (US)**

UN number: 1624 Class: 6.1 Packing group: II  
Proper shipping name: Mercuric chloride  
Reportable Quantity (RQ):

Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN number: 1624 Class: 6.1 Packing group: II EMS-No: F-A, S-A  
Proper shipping name: MERCURIC CHLORIDE  
Marine pollutant: Marine pollutant

**IATA**

UN number: 1624 Class: 6.1 Packing group: II  
Proper shipping name: Mercuric chloride

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**15. REGULATORY INFORMATION**

**OSHA Hazards**

Target Organ Effect, Highly toxic by ingestion, Highly toxic by skin absorption, Corrosive, Teratogen, Mutagen

**SARA 302 Components**

The following components are subject to reporting levels established by SARA Title III, Section 302:

	CAS-No.	Revision Date
Mercuric chloride	7487-94-7	2007-07-01

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

	CAS-No.	Revision Date
Mercuric chloride	7487-94-7	2007-07-01

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Mercuric chloride	7487-94-7	2007-07-01

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
Mercuric chloride	7487-94-7	2007-07-01

**California Prop. 65 Components**

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.	CAS-No.	Revision Date
Mercuric chloride	7487-94-7	2007-09-28

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**16. OTHER INFORMATION**

**Further information**

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