

**1 Identification****Product identifier****Product name:** Mercury(II) chloride**Stock number:** A17472**CAS Number:**

7487-94-7

**EC number:**

231-299-8

**Index number:**

080-010-00-X

**Relevant identified uses of the substance or mixture and uses advised against.****Identified use:** SU24 Scientific research and development**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Alfa Aesar

Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

**Information Department:** Health, Safety and Environmental Department**Emergency telephone number:**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

**2 Hazard(s) identification****Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)**

GHS06 Skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.



GHS08 Health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 1 H372 Causes damage to the lung, the kidneys, the liver, the heart, the reproductive system, the blood, the brain, the endocrine system and the immune system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative, Dermal.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Hazards not otherwise classified No information known.

**Label elements****GHS label elements** The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)**Hazard pictograms**

GHS05 GHS06 GHS08

**Signal word** Danger**Hazard statements**

H300 Fatal if swallowed.

H314 Causes severe skin burns and eye damage.

H341 Suspected of causing genetic defects.

H361 Suspected of damaging fertility or the unborn child.

H372 Causes damage to the lung, the kidneys, the liver, the heart, the reproductive system, the blood, the brain, the endocrine system and the immune system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative, Dermal.

**Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P201 Obtain special instructions before use.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P281 Use personal protective equipment as required.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**WHMIS classification**

D1A - Very toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects

E - Corrosive material



Product name: Mercury(II) chloride

(Contd. of page 1)

**Classification system**  
HMIS ratings (scale 0-4)  
(Hazardous Materials Identification System)

HEALTH	3	Health (acute effects) = 3
FIRE	0	Flammability = 0
REACTIVITY	1	Physical Hazard = 1

**Other hazards**  
Results of PBT and vPvB assessment  
PBT: Not applicable.  
vPvB: Not applicable.

### 3 Composition/information on ingredients

**Chemical characterization: Substances**  
CAS# Description:  
7487-94-7 Mercury(II) chloride  
Identification number(s):  
EC number: 231-299-8  
Index number: 080-010-00-X

### 4 First-aid measures

**Description of first aid measures**  
**General information**  
Immediately remove any clothing soiled by the product.  
In case of irregular breathing or respiratory arrest provide artificial respiration.  
**After inhalation**  
Supply fresh air. If required, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.  
**After skin contact**  
Immediately wash with water and soap and rinse thoroughly.  
Seek immediate medical advice.  
**After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.  
**After swallowing** Do not induce vomiting; immediately call for medical help.  
**Information for doctor**  
**Most important symptoms and effects, both acute and delayed**  
Causes severe skin burns.  
Fatal if swallowed.  
Suspected of damaging fertility or the unborn child.  
Causes damage to the lung, the kidneys, the liver, the heart, the reproductive system, the blood, the brain, the endocrine system and the immune system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative, Dermal.  
**Indication of any immediate medical attention and special treatment needed** No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**  
Suitable extinguishing agents Product is not flammable. Use fire-fighting measures that suit the surrounding fire.  
**Special hazards arising from the substance or mixture**  
If this product is involved in a fire, the following can be released:  
Mercury oxide  
Hydrogen chloride (HCl)  
**Advice for firefighters**  
**Protective equipment**  
Wear self-contained respirator.  
Wear fully protective impervious suit.

### 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
**Environmental precautions: Do not allow product to reach sewage system or any water course.**  
**Methods and material for containment and cleaning up:**  
Use neutralizing agent.  
Dispose of contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
**Prevention of secondary hazards: No special measures required.**  
**Reference to other sections**  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

**Handling**  
**Precautions for safe handling**  
Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.  
**Information about protection against explosions and fires: The product is not flammable**  
**Conditions for safe storage, including any incompatibilities**  
**Storage**  
**Requirements to be met by storerooms and receptacles: No special requirements.**  
**Information about storage in one common storage facility:**  
Store away from strong bases.  
Store away from oxidizing agents.

(Contd. on page 3)  
USA

Product name: **Mercury(II) chloride**

(Contd. of page 2)

**Further information about storage conditions:**

Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
Specific end use(s) No further relevant information available.

**8 Exposure controls/personal protection**

**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Control parameters**

**Components with limit values that require monitoring at the workplace:**

**7487-94-7 Mercury(II) chloride (100.0%)**

PEL (USA)	Long-term value: 0.1 mg/m <sup>3</sup> as Hg; see OSHA standard interpretation memo
REL (USA)	Long-term value: 0.05* mg/m <sup>3</sup> Ceiling limit value: 0.1 mg/m <sup>3</sup> as Hg; *Vapor; Skin
TLV (USA)	Long-term value: 0.025 mg/m <sup>3</sup> as Hg; Skin; BEI
EL (Canada)	Long-term value: 0.025 mg/m <sup>3</sup> as Hg; Skin, R
EV (Canada)	Long-term value: 0.025 mg/m <sup>3</sup> as Hg, Skin

**Ingredients with biological limit values:**

**7487-94-7 Mercury(II) chloride (100.0%)**

BEI (USA)	35 µg/L Medium: urine Time: prior to shift Parameter: Total inorganic mercury (background)
	15 µg/L Medium: blood Time: end of shift at end of workweek Parameter: Total inorganic mercury (background)

Additional information: No data

**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

**Protection of hands:**

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Penetration time of glove material (in minutes) Not determined

**Eye protection:**

Tightly sealed goggles

Full face protection

**Body protection:** Protective work clothing.

**9 Physical and chemical properties**

**Information on basic physical and chemical properties**

**General Information**

**Appearance:**

Form:	Powder
Color:	White
Odor:	Odorless
Odor threshold:	Not determined.

pH-value: Not applicable.

**Change in condition**

Melting point/Melting range: 280-282 °C (536-540 °F)

Boiling point/Boiling range: 302 °C (576 °F)

Sublimation temperature / start: Not determined

Flammability (solid, gaseous): Not determined

Ignition temperature: Not determined

Decomposition temperature: Not determined

Auto igniting: Not determined.

Danger of explosion: Not determined.

**Explosion limits:**

Lower: Not determined

Upper: Not determined

Vapor pressure at 20 °C (68 °F): 0.0001 hPa

Density at 20 °C (68 °F): 5.4 g/cm<sup>3</sup> (45.063 lbs/gal)

Relative density: Not determined.

Vapor density: Not applicable.

Evaporation rate: Not applicable.

(Contd. on page 4)  
USA

Product name: **Mercury(II) chloride**

(Contd. of page 3)

**Solubility in / Miscibility with**  
Water at 20 °C (68 °F): 69 g/l  
**Partition coefficient (n-octanol/water):** Not determined.  
**Viscosity:**  
dynamic: Not applicable.  
kinematic: Not applicable.  
**Other information** No further relevant information available.

### 10 Stability and reactivity

**Reactivity** No information known.  
**Chemical stability** Stable under recommended storage conditions.  
**Thermal decomposition / conditions to be avoided:** Decomposition will not occur if used and stored according to specifications.  
**Possibility of hazardous reactions** Reacts with strong oxidizing agents  
**Conditions to avoid** No further relevant information available.  
**Incompatible materials:**  
Bases  
Oxidizing agents  
**Hazardous decomposition products:**  
Mercury oxide  
Hydrogen chloride (HCl)

### 11 Toxicological information

#### Information on toxicological effects

**Acute toxicity:**  
Fatal if swallowed.  
Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

#### LD/LC50 values that are relevant for classification:

Oral | LD50 | 1 mg/kg (rat)

**Skin irritation or corrosion:** Causes severe skin burns.

**Eye irritation or corrosion:** Causes serious eye damage.

**Sensitization:** No sensitizing effects known.

#### Germ cell mutagenicity:

Suspected of causing genetic defects.  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

#### Carcinogenicity:

EPA-C: Possible human carcinogen: limited evidence of carcinogenicity in animals in the absence of human data.

IARC-3: Not classifiable as to carcinogenicity to humans.

ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.

#### Reproductive toxicity:

Suspected of damaging fertility or the unborn child.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

#### Specific target organ system toxicity - repeated exposure:

Causes damage to the lung, the kidneys, the liver, the heart, the reproductive system, the blood, the brain, the endocrine system and the immune system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative, Dermal.

**Specific target organ system toxicity - single exposure:** No effects known.

**Aspiration hazard:** No effects known.

**Subacute to chronic toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

### 12 Ecological information

#### Toxicity

**Aquatic toxicity:** No further relevant information available.

**Persistence and degradability** No further relevant information available.

**Bioaccumulative potential** No further relevant information available.

**Mobility in soil** No further relevant information available.

#### Ecotoxicological effects:

**Remark:** Very toxic for aquatic organisms

#### Additional ecological information:

#### General notes:

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

Very toxic for aquatic organisms

#### Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

**Other adverse effects** No further relevant information available.

### 13 Disposal considerations

#### Waste treatment methods

**Recommendation** Consult state, local or national regulations to ensure proper disposal.

#### Uncleaned packagings:

**Recommendation:** Disposal must be made according to official regulations.






USA

(Contd. on page 5)

Product name: **Mercury(II) chloride**

(Contd. of page 4)

**14 Transport information**

UN-Number DOT, IMDG, IATA	UN1624
UN proper shipping name DOT IMDG IATA	Mercuric chloride MERCURIC CHLORIDE, MARINE POLLUTANT MERCURIC CHLORIDE
Transport hazard class(es) DOT	
 	
Class Label Class Label IMDG	6.1 Toxic substances. 6.1 6.1 (T5) Toxic substances 6.1
 	
Class Label IATA	6.1 Toxic substances. 6.1
	
Class Label	6.1 Toxic substances. 6.1
Packing group DOT, IMDG, IATA	II
Environmental hazards: Marine pollutant (IMDG):	Environmentally hazardous substance, solid; Marine Pollutant Symbol (fish and tree)
Special precautions for user EMS Number: Segregation groups	Warning: Toxic substances F-A, S-A Heavy metals and their salts (including their organometallic compounds), mercury and mercury compounds
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information: DOT Marine Pollutant (DOT): Remarks:	No Special marking with the symbol (fish and tree).
UN "Model Regulation":	UN1624, Mercuric chloride, 6.1, II

**15 Regulatory information**

Safety, health and environmental regulations/legislation specific for the substance or mixture  
 GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)  
 Hazard pictograms



GHS05 GHS06 GHS08

Signal word **Danger**

Hazard statements

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H314 Causes severe skin burns and eye damage.

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P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)

7487-94-7 Mercury(II) chloride

(Contd. on page 6)

USA

Product name: Mercury(II) chloride

(Contd. of page 5)

California Proposition 65  
Prop 65 - Chemicals known to cause cancer Substance is not listed.

Prop 65 - Developmental toxicity

7487-94-7 Mercury(II) chloride

Prop 65 - Developmental toxicity, female Substance is not listed.  
Prop 65 - Developmental toxicity, male Substance is not listed.

Information about limitation of use:

For use only by technically qualified individuals.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## 16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

Date of preparation / last revision 08/23/2016 / -

### Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

vPvB: very Persistent and very Bioaccumulative

ACGIH: American Conference of Governmental Industrial Hygienists (USA)

OSHA: Occupational Safety and Health Administration (USA)

NTP: National Toxicology Program (USA)

IARC: International Agency for Research on Cancer

EPA: Environmental Protection Agency (USA)

USA