

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/20/2024

Reviewed on 05/20/2024

1 Identification

- **Product identifier**
- **Trade name:** Mercuric Chloride, Reagent ACS Grade
- **Article number:** M2127
- **CAS Number:**
7487-94-7
- **EC number:**
231-299-8
- **Index number:**
080-010-00-X
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Aqua Solutions, Inc.
6913 Highway 225
DEER PARK, TX 77536
USA
800-256-2586
- **Information department:**
Technical Coordinator
Sherman Nelson shermann@aquasolutions.org
- **Emergency telephone number:**
Chemtec: 800-424-9300
Canutec: 613-996-6666



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Toxicity - Oral 2

H300 Fatal if swallowed.



GHS08 Health hazard

Germ Cell Mutagenicity 2

H341 Suspected of causing genetic defects.

Toxic to Reproduction 2

H361 Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Skin Corrosion 1B

H314 Causes severe skin burns and eye damage.

- **Label elements**

- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/20/2024

Reviewed on 05/20/2024

Trade name: Mercuric Chloride, Reagent ACS Grade

(Contd. of page 1)

· **Hazard pictograms**



· **Signal word** *Danger*

· **Hazard statements**

Fatal if swallowed.

Causes severe skin burns and eye damage.

Suspected of causing genetic defects.

Suspected of damaging fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dusts or mists.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

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

If swallowed: Immediately call a poison center/doctor.

Specific treatment (see on this label).

If swallowed: Rinse mouth. Do NOT induce vomiting.

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Wash contaminated clothing before reuse.

Store locked up.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

US

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/20/2024

Reviewed on 05/20/2024

Trade name: Mercuric Chloride, Reagent ACS Grade

(Contd. of page 2)

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
CAS: 7487-94-7 Mercuric 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.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **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.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Use neutralizing agent.
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **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.
- **Protective Action Criteria for Chemicals**
- **PAC-1:** 0.1 mg/m³

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/20/2024

Reviewed on 05/20/2024

Trade name: Mercuric Chloride, Reagent ACS Grade

(Contd. of page 3)

- PAC-2: 0.14 mg/m³
- PAC-3: 38 mg/m³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Thorough dusting.
- **Information about protection against explosions and fires:** No special measures required.
- **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:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**

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

CAS: 7487-94-7 Mercuric Chloride

PEL	Long-term value: 0.1 mg/m ³ as Hg; see OSHA standard interpretation memo
REL	Long-term value: 0.05* mg/m ³ Ceiling limit value: 0.1 mg/m ³ as Hg; *Vapor; Skin
TLV	Long-term value: 0.025 mg/m ³ as Hg; A4; Skin; BEI

- **Ingredients with biological limit values:**

CAS: 7487-94-7 Mercuric Chloride

BEI	20 µg/g creatinine LD50 Intraperitoneal: urine Time: prior to shift LD50: Mercury
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- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/20/2024

Reviewed on 05/20/2024

Trade name: Mercuric Chloride, Reagent ACS Grade

(Contd. of page 4)

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Crystalline

Color: White

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: 277 °C (530.6 °F)

Boiling point/Boiling range: 304 °C (579.2 °F)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Product is not flammable.

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapor pressure at 20 °C (68 °F):** 0.0001 hPa (0 mm Hg)

· **Density at 20 °C (68 °F):** 5.44 g/cm³ (45.3968 lbs/gal)

· **Bulk density:** 2,000 kg/m³

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/20/2024

Reviewed on 05/20/2024

Trade name: Mercuric Chloride, Reagent ACS Grade

(Contd. of page 5)

- | | |
|---|--|
| · Relative density | Not determined. |
| · Vapor density | Not applicable. |
| · Evaporation rate | Not applicable. |
| · Solubility in / Miscibility with Water at 20 °C (68 °F): | 74 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 further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

Oral	LD50	5 mg/kg (ATE)
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- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer) 3**
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

(Contd. on page 7)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/20/2024

Reviewed on 05/20/2024

Trade name: Mercuric Chloride, Reagent ACS Grade



(Contd. of page 6)

- **Additional ecological information:**
- **General notes:**
*Water hazard class 3 (Assessment by list): extremely hazardous for water
 Do not allow product to reach ground water, water course or sewage system, even in small quantities.
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.
 Danger to drinking water if even extremely small quantities leak into the ground.*
- **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:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|-------------------------------------|
| · UN-Number | UN1624 |
| · DOT, IMDG, IATA | |
| · UN proper shipping name | Mercuric chloride |
| · DOT | MERCURIC CHLORIDE |
| · IMDG | MERCURIC CHLORIDE, MARINE POLLUTANT |
| · IATA | MERCURIC CHLORIDE |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 6.1 Toxic substances |
| · Label | 6.1 |
| <hr style="border-top: 1px dashed #000;"/> | |
| · IMDG | |
|  | |
| · Class | 6.1 Toxic substances |
| · Label | 6.1 |

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/20/2024

Reviewed on 05/20/2024

Trade name: Mercuric Chloride, Reagent ACS Grade

(Contd. of page 7)

· IATA



· Class	6.1 Toxic substances
· Label	6.1
· Packing group	II
· DOT, IMDG, IATA	II
· Environmental hazards:	Environmentally hazardous substance, solid; Marine Pollutant
· Marine pollutant:	Yes (P) Symbol (fish and tree)
· Special precautions for user	Warning: Toxic substances
· Hazard identification number (Kemler code):	60
· EMS Number:	F-A,S-A
· Segregation groups	(SGG7) Heavy metals and their salts (including their organometallic compounds), (SGG11) mercury and mercury compounds
· Stowage Category	A
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 25 kg On cargo aircraft only: 100 kg
· Remarks:	Special marking with the symbol (fish and tree).
· IMDG	
· Limited quantities (LQ)	500 g
· Excepted quantities (EQ)	Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
· UN "Model Regulation":	UN 1624 MERCURIC CHLORIDE, 6.1, II

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is listed.
- **Section 313 (Specific toxic chemical listings):** Substance is listed.
- **TSCA (Toxic Substances Control Act):** ACTIVE
- **Hazardous Air Pollutants** Substance is listed.
- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is listed.

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/20/2024

Reviewed on 05/20/2024

Trade name: Mercuric Chloride, Reagent ACS Grade

(Contd. of page 8)

- **Carcinogenic categories**
- **EPA (Environmental Protection Agency) C**
- **TLV (Threshold Limit Value) A4**
- **NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is not listed.**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05 GHS06 GHS08

- **Signal word** *Danger*
- **Hazard statements**
 - Fatal if swallowed.*
 - Causes severe skin burns and eye damage.*
 - Suspected of causing genetic defects.*
 - Suspected of damaging fertility or the unborn child.*
 - Causes damage to organs through prolonged or repeated exposure.*
- **Precautionary statements**
 - Obtain special instructions before use.*
 - Do not handle until all safety precautions have been read and understood.*
 - Do not breathe dusts or mists.*
 - Wash thoroughly after handling.*
 - Do not eat, drink or smoke when using this product.*
 - Wear protective gloves/protective clothing/eye protection/face protection.*
 - If swallowed: Immediately call a poison center/doctor.*
 - Specific treatment (see on this label).*
 - If swallowed: Rinse mouth. Do NOT induce vomiting.*
 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*
 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.*
 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
 - IF exposed or concerned: Get medical advice/attention.*
 - Get medical advice/attention if you feel unwell.*
 - Wash contaminated clothing before reuse.*
 - Store locked up.*
 - Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** *Environment protection department.*
- **Contact:**
 - Date of Preparation / Last Revision:*
- **Date of preparation / last revision**
 - Revision 1.2, 05/20/2024: Reviewed SDS for accuracy. MH/STN*
 - 05/20/2024*
- **Abbreviations and acronyms:**
 - IMDG: International Maritime Code for Dangerous Goods*
 - DOT: US Department of Transportation*
 - IATA: International Air Transport Association*

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/20/2024

Reviewed on 05/20/2024

Trade name: Mercuric Chloride, Reagent ACS Grade

(Contd. of page 9)

*P: Marine Pollutant**EINECS: European Inventory of Existing Commercial Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**BEI: Biological Exposure Limit**Acute Toxicity - Oral 2: Acute toxicity – Category 2**Skin Corrosion 1B: Skin corrosion/irritation – Category 1B**Germ Cell Mutagenicity 2: Germ cell mutagenicity – Category 2**Toxic to Reproduction 2: Reproductive toxicity – Category 2**Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1**** Data compared to the previous version altered.**

US