

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Mercuric Chloride
CAS number	7487-94-7
Synonyms	Mercury(II) chloride, dichloromercury, sublimate, mercury bichloride

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	reagent, disinfectant, fungicide
-----------------	----------------------------------

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture


GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute dermal toxicity:	Category 1
Acute oral toxicity:	Category 2
Chronic hazards to the aquatic environment:	Category 2
Acute hazards to the aquatic environment:	Category 1
Skin corrosion:	Category 1B
Serious eye damage:	Category 1
Germ cell mutagenicity:	Category 2
Reproductive toxicity:	Category 2

Specific target organ toxicity following repeated exposure:

Category 1

2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal Word	Danger
Hazard statements	Fatal if swallowed. Fatal in contact with skin. 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. Very toxic to aquatic life with long lasting effects.
Precautionary Statements	If medical advice is needed, have product container or label at hand. Keep out of reach of children. Read label before use. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Wash skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (on hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Specific measures (see supplemental first aid instructions on this label). Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Store locked up. Dispose of contents and container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

WHMIS



D1A



D2A



E

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
---------------	--------------------------	------------	---------------

Mercuric chloride	Mercury (II) chloride, Mercury bichloride	7487-94-7	100.00%
-------------------	---	-----------	---------

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Loosen clothing and place exposed in a comfortable position. Seek medical assistance if cough or other symptoms appear.
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	Protect unexposed eye. Flush exposed eye gently using water for 15-20 minutes. Remove contact lenses while rinsing. Get medical attention immediately.
If swallowed	Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical aid immediately and call Poison Control Center.

4.2 Most important symptoms and effects, both acute and delayed

May cause muscle tremor and impaired motor function. May cause cardiac disturbances. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Shortness of breath, headache, nausea, dizziness, irritation/burns, all routes of exposure. Can cause ulceration of the conjunctiva and cornea. May cause allergic contact dermatitis. Cause gastrointestinal irritation with nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

If seeking medical attention provide SDS document to physician. Physician should treat symptomatically. The concentration of mercury in whole blood is a reasonable measure of the body burden of mercury and thus is used for monitoring purposes. The use of Dimercaprol or BAL (British AntiLewisite), or d-Penicillamine as a chelated agent should be determined by qualified medical personnel. Persons with kidney disease, chronic respiratory disease, or skin disease may be at increased risk. Get medical aid immediately and call Poison Control Center.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.
Unsuitable extinguishing media	No information available.

5.2 Specific hazards arising from the substance or mixture

Irritating and highly toxic gases may be generated by thermal decomposition or combustion. Hydrogen chloride gas, Mercury/mercury oxides.

5.3 Special protective equipment and precautions for firefighters

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing. Water runoff can cause environmental damage. Dike and collect water used to fight fire.

5.4 Further information

Flash Point Not determined

Autoignition Temperature Not determined

Explosion limits

Upper Not determined

Lower Not determined

Sensitivity to Mechanical Impact Not determined

Sensitivity to Static Discharge Not determined

NFPA

Health	Flammability	Instability	Physical hazards
4	0	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Ensure that air-handling systems are operational. Avoid contact with skin, eyes and clothing.

6.2 Environmental precautions

Should not be released into environment. Prevent from reaching drains, sewer, or waterway.

6.3 Methods and materials for containment and cleaning up

Wear protective eyewear, gloves, and clothing. Refer to Section 8. Always obey local regulations. If necessary, use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13. Keep in suitable closed containers for disposal.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Avoid contact with skin, eyes, and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Refer to Section 13. Do not eat, drink, smoke, or use personal products when handling chemicals substances. Do not breathe dust, mist, or vapor. Do not ingest or inhale. Extreme care should always be taken to prevent skin and gastrointestinal absorption because these routes of entry can greatly increase the total body burden.

Hygiene measures

Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Before re-wearing wash contaminated clothing.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials.

Incompatibilities

Light sensitive. Moisture sensitive.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

No information available.

US. ACGIH Threshold Limit Values

Component	Type	Value
Mercuric chloride	TWA	0.025 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

No information available.

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable exposure limits indicated above.

Personal protective equipment

Eye/face protection

Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU). Safety glasses or goggles are appropriate eye protection.

Skin/Body protection

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

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. When necessary use NIOSH approved breathing equipment.

Control of environmental exposure

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	
Appearance	White
Odor	Odorless
Odor Threshold	Not determined
pH	4.7
Melting Point/Range	277 °C (531 °F)
Boiling Point/Range	302 °C (576 °F) at 1013 hPa (760 mmHg)
Evaporation Rate	Not determined.
Flammability (solid)	Not determined.
Flammability or explosive limit	
Upper	Not determined
Lower	Not determined
Vapor Pressure	1.7 hPa (1.3 mmHg) at 236 °C (457 °F)
Vapor Density	Not determined
Density	Not determined
Solubility	Soluble in Water
Partition coefficient; n-octanol/water	Not determined
Autoignition Temp	Not determined
Decomposition Temp	Not determined
Viscosity	Not determined
Molecular Formula	HgCl ₂
Molecular Weight	271.5
VOC Content(%)	Not determined

Oxidizing properties

Not determined

9.2 Other safety information

No additional information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Nonreactive under normal conditions.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Incompatible materials. Light sensitive. Dust generation. Excess heat.

10.5 Incompatible materials

Strong oxidizing agents, strong bases, ammonia, copper, iron, silver salts, potassium, antimony, sodium, lead, hypophosphites, formates, sulfites, phosphates, albumin, gelatin, alkalies, alkaloid salts, lime water, arsenic, bromides, borax, carbonates, reduced iron, infusions of cinchona, columbo, oak bark or senna, tannic acid, metallic halides, vegetable astringents.

10.6 Hazardous decomposition products

Mercury/mercury oxides, chloride fumes.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Mercuric Chloride	41 mg/kg (rat)	-	-

Oral: Extremely hazardous in case of ingestion, of inhalation, causes gastrointestinal tract burns.

Dermal: Very hazardous in case of skin contact (irritant, permeator), of eyecontact (irritant).

Inhalation: Inhalation of dust will product irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing

Skin corrosion/irritation

Rabbit: Skin irritation - 24 h

Serious eye damage/eye irritation

Rabbit: Severe eye irritation - 24 h

Respiratory or skin sensitization

No additional information.

Germ cell mutagenicity

Has occurred in experimental animals.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Mercuric Chloride	7487-94-7	Group 3	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

No additional information.

Specific target organ toxicity - repeated exposure

May cause kidney damage. May cause central nervous system effects.

Reproductive toxicity

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals. Suspected human reproductive toxicant. May impair fertility or cause harm to an unborn child.

Chronic effects

Chronic mercury poisoning involves kidney damage, visual defect, tremor, and severe psychological changes. The brain is the critical organ for chronic mercury poisoning. The half-life of mercury in the brain is 10 years.

11.2 Additional Information

No additional information available.

SECTION 12: Ecological information

12.1 Toxicity

Product		Species	Test Results
Mercuric Chloride	7487-94-7	Lates calcarifer (Fish LOEC)	0.113 mg/l - 96.0 h
	7487-94-7	Daphnia magna (water flea)	0.002 mg/l - 48 h

12.2 Persistence and degradability

Compound decomposes to metallic mercury when in contact with organic matter and sunlight.

12.3 Bio accumulative potential

Bioconcentration factor (BCF): 5,680

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No informational available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN No.	UN1624
Proper Shipping Name	MERCURIC CHLORIDE
Hazard Class	6.1
Packing Group	II

IMDG

UN No.	UN1624
Proper Shipping Name	MERCURIC CHLORIDE
Hazard Class	6.1
Packing Group	II

IATA

UN No.	UN1624
Proper Shipping Name	MERCURIC CHLORIDE
Hazard Class	6.1
Packing Group	II

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Listed (MERCURIC CHLORIDE)

CERCLA Hazardous Substance List (40 CFR 302.4)
Listed (MERCURIC CHLORIDE)

SARA 304 Emergency release notification

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Listed (MERCURIC CHLORIDE) Reactive, Acute, Chronic.

SARA 313 (TRI reporting)

Listed (MERCURIC CHLORIDE)

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated

**FEMA Priority Substances Respiratory Health and Safety in the Flavor
Manufacturing Workplace**

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Not listed

US. New Jersey Worker and Community Right-to-Know Act

Not listed

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed

California Proposition 65

Not listed

SECTION 16: Other information

Issue date: 07/12/2024

Revision: 0

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.