

# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Mercury(II) chloride $\geq 99,5\%$ , p.a., ACS

article number: **KK04**  
Version: **GHS 4.0 en**  
Replaces version of: 2022-07-14  
Version: (GHS 3)

date of compilation: 2016-04-20  
Revision: 2024-03-02

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

### 1.1 Product identifier

Identification of the substance **Mercury(II) chloride  $\geq 99,5\%$ , p.a., ACS**  
Article number **KK04**  
CAS number **7487-94-7**

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

Relevant identified uses: Laboratory chemical  
Laboratory and analytical use  
Uses advised against: Do not use for squirting or spraying. Do not use for products which come into direct contact with the skin. Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feedingstuffs.

### 1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0  
**Telefax:** +49 (0) 721 - 56 06 149  
**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)  
**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

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Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.10	Acute toxicity (oral)	1	Acute Tox. 1	H300
3.1D	Acute toxicity (dermal)	1	Acute Tox. 1	H310
3.2	Skin corrosion/irritation	1B	Skin Corr. 1B	H314
3.5	Germ cell mutagenicity	2	Muta. 2	H341
3.7	Reproductive toxicity	2	Repr. 2	H361f
3.9	Specific target organ toxicity - repeated exposure	1	STOT RE 1	H372

For full text of abbreviations: see SECTION 16

### The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Delayed or immediate effects can be expected after short or long-term exposure.

## 2.2 Label elements

### Labelling

#### Signal word

**Danger**

#### Pictograms

GHS05, GHS06,  
GHS08



#### Hazard statements

H300+H310	Fatal if swallowed or in contact with skin
H314	Causes severe skin burns and eye damage
H341	Suspected of causing genetic defects
H361f	Suspected of damaging fertility
H372	Causes damage to organs through prolonged or repeated exposure

#### Precautionary statements

##### Precautionary statements - prevention

P260	Do not breathe dusts or mists
P262	Do not get in eyes, on skin, or on clothing
P280	Wear protective gloves/protective clothing

##### Precautionary statements - response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302+P352	IF ON SKIN: Wash with plenty of soap and water
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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

For professional users only

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## 2.3 Other hazards

### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Mercury(II) chloride
Molecular formula	$\text{HgCl}_2$
Molar mass	271.5 $\text{g/mol}$
CAS No	7487-94-7

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

#### Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

#### Following ingestion

Rinse mouth immediately and drink plenty of water. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects). In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

### 4.2 Most important symptoms and effects, both acute and delayed

Nausea, Vomiting, Diarrhoea, Gastrointestinal complaints, Irritability, Lack of coordination, Blood pressure drop, Circulatory collapse, Cardiac arrhythmias, Renal impairment, Effects on special senses (such as sight, hearing and sense of smell), Impaired memory function, Corrosion, Gastric perforation, Risk of blindness

### 4.3 Indication of any immediate medical attention and special treatment needed

none

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!  
water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

#### Unsuitable extinguishing media

water jet

### 5.2 Special hazards arising from the substance or mixture

Non-combustible.

#### Hazardous combustion products

In case of fire may be liberated: Hydrogen chloride (HCl), Chlorine (Cl<sub>2</sub>), Mercury (Hg)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains. Take up mechanically.

#### Advice on how to clean up a spill

Take up mechanically. Control of dust.

#### Other information relating to spills and releases

Place in appropriate containers for disposal.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

Handle and open container with care. Avoid exposure. Clear contaminated areas thoroughly. Measures to prevent aerosol and dust generation.

**Measures to prevent fire as well as aerosol and dust generation**

Removal of dust deposits.

**Advice on general occupational hygiene**

When using do not eat or drink. Thorough skin-cleansing after handling the product.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a dry place. Keep container tightly closed.

**Incompatible substances or mixtures**

Observe hints for combined storage.

**Protect against external exposure, such as**

direct light irradiation, UV-radiation/sunlight

**Consideration of other advice:**

Store locked up.

**Ventilation requirements**

Use local and general ventilation.

**Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 – 25 °C

**7.3 Specific end use(s)**

No information available.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**National limit values**

**Occupational exposure limit values (Workplace Exposure Limits)**

Country	Name of agent	CAS No	Identifier	TWA [mg/m <sup>3</sup> ]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
AU	nuisance dusts		WES	10			i	WES
AU	mercury compounds, divalent inorganic	7487-94-7	WES	0.025			Hg	WES

**Notation**

- Ceiling-C Ceiling value is a limit value above which exposure should not occur
- Hg Calculated as Hg (mercury)
- i Inhalable fraction
- STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
- TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection. Wear face protection.

#### Skin protection



- **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

- **type of material**

NBR (Nitrile rubber)

- **material thickness**

0,3 mm

- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

#### Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P3 (filters at least 99,95 % of airborne particles, colour code: White). Type: Hg-P3 (combined filters against mercury vapour and particles, colour code: Red/White).

#### Environmental exposure controls

Keep away from drains, surface and ground water.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	solid
Form	powder, crystalline
Colour	white
Odour	odourless
Melting point/freezing point	277 °C
Boiling point or initial boiling point and boiling range	302 °C at 1,013 hPa
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	3.2 (in aqueous solution: 15 g/l, 20 °C)
Kinematic viscosity	not relevant
<u>Solubility(ies)</u>	
Water solubility	74 g/l at 20 °C
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	not relevant (inorganic)
Vapour pressure	not determined
<u>Density and/or relative density</u>	
Density	5.44 g/cm <sup>3</sup> at 20 °C
Relative vapour density	Information on this property is not available.
Bulk density	~2,000 kg/m <sup>3</sup>
Particle characteristics	No data available.
<u>Other safety parameters</u>	
Oxidising properties	none

### 9.2 Other information

Information with regard to physical hazard classes:	hazard classes acc. to GHS (physical hazards): not relevant
Other safety characteristics:	There is no additional information.

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

May cause decomposition by long-term light influence.

### 10.3 Possibility of hazardous reactions

**Violent reaction with:** Alkali metals, Hydrazine, Strong alkali

### 10.4 Conditions to avoid

Direct light irradiation. UV-radiation/sunlight.

### 10.5 Incompatible materials

Light metals

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Classification acc. to GHS**

#### Acute toxicity

Fatal if swallowed. Fatal in contact with skin.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	1 mg/kg	rat		TOXNET
dermal	LD50	41 mg/kg	rat		TOXNET

#### Skin corrosion/irritation

Causes severe skin burns and eye damage.

#### Serious eye damage/eye irritation

Causes serious eye damage.

#### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

#### Germ cell mutagenicity

Suspected of causing genetic defects.

#### Carcinogenicity

Shall not be classified as carcinogenic.

#### Reproductive toxicity

Suspected of damaging fertility.

#### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).



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## **Specific target organ toxicity - repeated exposure**

Causes damage to organs through prolonged or repeated exposure.

## **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

## **Symptoms related to the physical, chemical and toxicological characteristics**

### **• If swallowed**

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects)

### **• If in eyes**

causes burns, Causes serious eye damage, risk of blindness

### **• If inhaled**

Data are not available.

### **• If on skin**

causes severe burns, causes poorly healing wounds

### **• Other information**

Other adverse effects: Central nervous system, Liver and kidney damage, Nausea, Vomiting, Abdominal pain, Diarrhoea, Circulatory collapse, Blood pressure drop, Cardiac arrhythmias, Agitation, Irritability, Effects on special senses (such as sight, hearing and sense of smell), Impaired memory function

## **11.2 Endocrine disrupting properties**

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Very toxic to aquatic life with long lasting effects.

### **12.2 Persistence and degradability**

Data are not available.

### **12.3 Bioaccumulative potential**

Data are not available.

### **12.4 Mobility in soil**

Data are not available.

### **12.5 Results of PBT and vPvB assessment**

Data are not available.

### **12.6 Endocrine disrupting properties**

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

### **12.7 Other adverse effects**

Data are not available.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

#### Relevant provisions relating to waste(Basel Convention)

#### Properties of waste which render it hazardous

**H6.1**      Poisonous (Acute)  
**H11**        Toxic (Delayed or chronic)

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number

<b>UN RTDG</b>	UN 1624
IMDG-Code	UN 1624
ICAO-TI	UN 1624

### 14.2 UN proper shipping name

<b>UN RTDG</b>	MERCURIC CHLORIDE
IMDG-Code	MERCURIC CHLORIDE
ICAO-TI	Mercuric chloride

### 14.3 Transport hazard class(es)

<b>UN RTDG</b>	6.1
IMDG-Code	6.1
ICAO-TI	6.1

### 14.4 Packing group

<b>UN RTDG</b>	II
IMDG-Code	II
ICAO-TI	II

### 14.5 Environmental hazards

hazardous to the aquatic environment

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### 14.6 Special precautions for user

There is no additional information.

### 14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### 14.8 Information for each of the UN Model Regulations

#### Transport information National regulations Additional information (UN RTDG)

UN number	1624
Class	6.1
Environmental hazards	Yes Hazardous to the aquatic environment
Packing group	II
Danger label(s)	6.1 Fish and tree



Special provisions (SP)	- UN RTDG
Excepted quantities (EQ)	E4 UN RTDG
Limited quantities (LQ)	500 g UN RTDG
Emergency Action Code	2X

#### International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	MERCURIC CHLORIDE
Particulars in the shipper's declaration	UN1624, MERCURIC CHLORIDE, 6.1, II, MARINE POLLUTANT
Marine pollutant	yes (P) (hazardous to the aquatic environment)
Danger label(s)	6.1, "Fish and tree"



Special provisions (SP)	-
Excepted quantities (EQ)	E4
Limited quantities (LQ)	500 g
EmS	F-A, S-A
Stowage category	A
Segregation group	7 - Heavy metals and their salts 11 - Mercury and mercury compounds

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### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name	Mercuric chloride
Particulars in the shipper's declaration	UN1624, Mercuric chloride, 6.1, II
Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	6.1
	
Excepted quantities (EQ)	E4
Limited quantities (LQ)	1 kg

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

There is no additional information.

#### National regulations(Australia)

##### Australian Inventory of Chemical Substances(AICS)

Substance is listed.

#### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

#### National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

#### Legend

AIIC	Australian Inventory of Industrial Chemicals
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory

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### Legend

NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$ .	yes
14.8		Emergency Action Code: 2X	yes
15.1		National inventories: change in the listing (table)	yes

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
STEL	Short-term exposure limit

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Abbr.	Descriptions of used abbreviations
TWA	Time-weighted average
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne contaminants

### Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H341	Suspected of causing genetic defects.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.