

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: **9905**  
Version: **GHS 3.0 en**  
Replaces version of: 2022-01-18  
Version: (GHS 2)

date of compilation: 2016-08-18  
Revision: 2024-03-02

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

### 1.1 Product identifier

Identification of the substance **Chlorobenzene D5 99 Atom%D**  
Article number 9905  
CAS number 3114-55-4

### 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 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

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
2.6	Flammable liquid	3	Flam. Liq. 3	H226
3.1I	Acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.2	Skin corrosion/irritation	2	Skin Irrit. 2	H315

For full text of abbreviations: see SECTION 16

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

The product is combustible and can be ignited by potential ignition sources.

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: 9905

### 2.2 Label elements

#### Labelling

#### Signal word

Warning

#### Pictograms

GHS02, GHS07



#### Hazard statements

H226	Flammable liquid and vapour
H315	Causes skin irritation
H332	Harmful if inhaled

#### Precautionary statements

##### Precautionary statements - prevention

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P261	Avoid breathing dust/fume/gas/mist/vapours/spray
P280	Wear protective gloves

##### Precautionary statements - response

P302+P352	IF ON SKIN: Wash with plenty of soap and water
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction

##### Precautionary statements - storage

P403+P235	Store in a well-ventilated place. Keep cool
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##### Precautionary statements - disposal

P501	Dispose of contents/container to industrial combustion plant
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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	Chlorobenzene D5
Molecular formula	$C_6D_5Cl$
Molar mass	$117.6 g/mol$
CAS No	3114-55-4

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: 9905

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures



##### General notes

Take off contaminated clothing.

##### Following inhalation

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

##### Following skin contact

Rinse skin with water/shower. In case of skin irritation, consult a physician.

##### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

##### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Irritation

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

none

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media



##### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!  
water spray, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

##### Unsuitable extinguishing media

water jet

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

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

##### Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen halides (HX)

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: 9905

### 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.

## SECTION 6: Accidental release measures

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



#### For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

### 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.

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

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 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.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Provision of sufficient ventilation.

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



Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

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

Keep container tightly closed.

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: 9905

### Incompatible substances or mixtures

Observe hints for combined storage.

### Consideration of other advice:

Ground/bond container and receiving equipment.

### Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. 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)

This information is not available.

### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



##### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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

>0,11 mm

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: 9905

- **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: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C, colour code: Brown).

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	characteristic
Melting point/freezing point	-45.1 °C
Boiling point or initial boiling point and boiling range	132 °C
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	60 g/m <sup>3</sup> (LEL) - 520 g/m <sup>3</sup> (UEL) / 1.3 vol% (LEL) - 11 vol% (UEL)
Flash point	28 °C
Auto-ignition temperature	590 °C
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	0.7233 mm <sup>2</sup> /s at 20 °C
Dynamic viscosity	0.8 mPa s at 20 °C
<u>Solubility(ies)</u>	
Water solubility	0.49 g/l at 20 °C
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	2.84
Vapour pressure	11.7 hPa at 20 °C

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: 9905

### Density and/or relative density

Density	1.106 g/cm <sup>3</sup>
Relative vapour density	3.88 (air = 1)

Particle characteristics not relevant (liquid)

### Other safety parameters

Oxidising properties none

## 9.2 Other information

Information with regard to physical hazard classes: There is no additional information.

Other safety characteristics:

Maximum explosion pressure 5.7 bar

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

It's a reactive substance. Risk of ignition.

#### **If heated**

Risk of ignition. Vapours may form explosive mixtures with air.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

**Violent reaction with:** strong oxidiser

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### 10.5 Incompatible materials

There is no additional information.

### 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**

Harmful if inhaled.

GHS of the United Nations, annex 4. May be harmful if swallowed.

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: 9905

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	2,910 mg/kg	rat		

### Skin corrosion/irritation

Causes skin irritation.

### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Shall not be classified as carcinogenic.

### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

### Specific target organ toxicity - single exposure

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

### Specific target organ toxicity - repeated exposure

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

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

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

#### • If swallowed

Data are not available.

#### • If in eyes

Data are not available.

#### • If inhaled

Data are not available.

#### • If on skin

causes skin irritation

#### • Other information

none

## 11.2 Endocrine disrupting properties

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



# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: 9905

### SECTION 12: Ecological information

#### 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)				
Endpoint	Value	Species	Source	Exposure time
EC50	100 mg/l	daphnia magna		48 h
LC50	1 mg/l	fish		96 h

#### 12.2 Persistence and degradability

Theoretical Oxygen Demand: 2,060 mg/g  
Theoretical Carbon Dioxide: 2.246 mg/mg

Process of degradability		
Process	Degradation rate	Time
biotic/abiotic	15 %	28 d

#### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)	2.84
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#### 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.

### 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.

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: 9905

### 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

H3 Flammable liquids

### 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

UN RTDG	UN 1134
IMDG-Code	UN 1134
ICAO-TI	UN 1134

### 14.2 UN proper shipping name

UN RTDG	CHLOROBENZENE
IMDG-Code	CHLOROBENZENE
ICAO-TI	Chlorobenzene

### 14.3 Transport hazard class(es)

UN RTDG	3
IMDG-Code	3
ICAO-TI	3

### 14.4 Packing group

UN RTDG	III
IMDG-Code	III
ICAO-TI	III

### 14.5 Environmental hazards

hazardous to the aquatic environment

### 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

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: 9905

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

<b>UN number</b>	1134
<b>Class</b>	3
<b>Environmental hazards</b>	Yes Hazardous to the aquatic environment
<b>Packing group</b>	III
<b>Danger label(s)</b>	3 Fish and tree



<b>Special provisions (SP)</b>	- UN RTDG
<b>Excepted quantities (EQ)</b>	E1 UN RTDG
<b>Limited quantities (LQ)</b>	5 L UN RTDG
<b>Emergency Action Code</b>	2Y

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

Proper shipping name	CHLOROBENZENE
Particulars in the shipper's declaration	UN1134, CHLOROBENZENE, 3, III, 28°C c.c., MARINE POLLUTANT
Marine pollutant	yes (hazardous to the aquatic environment)
Danger label(s)	3, "Fish and tree"



Special provisions (SP)	-
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-E, S-D
Stowage category	A
Segregation group	10 - Liquid halogenated hydrocarbons

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

Proper shipping name	Chlorobenzene
Particulars in the shipper's declaration	UN1134, Chlorobenzene, 3, III
Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	3



Excepted quantities (EQ)	E1
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# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: 9905

Limited quantities (LQ)

10 L

### SECTION 15: Regulatory information

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

There is no additional information.

#### 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
EU	ECSI	substance is listed
NZ	NZIoC	substance is listed
TW	TCSI	substance is listed

#### Legend

ECSI EC Substance Inventory (EINECS, ELINCS, NLP)  
NZIoC New Zealand Inventory of Chemicals  
TCSI Taiwan Chemical Substance Inventory

#### 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: 2Y	yes

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
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

# Safety data sheet

acc. to Safe Work Australia - Code of Practice



## Chlorobenzene D5 99 Atom%D

article number: 9905

Abbr.	Descriptions of used abbreviations
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
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
UEL	Upper explosion limit (UEL)
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative

### 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
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H332	Harmful if inhaled.

### Disclaimer

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