

# SAFETY DATA SHEET

Creation Date 10-Sep-2009

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Revision Number 11

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

**Product Name** Chlorobenzene

**Cat No. :** B254-4; B254-4LC; B254-20; B254RS-200; B255-1; B255-500

**CAS No** 108-90-7  
**Synonyms** Monochlorobenzene; Benzene chloride (Laboratory/Certified)

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

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

#### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

#### **Emergency Telephone Number**

CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

Flammable liquids	Category 3
Acute Inhalation Toxicity - Vapors	Category 4
Skin Corrosion/Irritation	Category 2

### Label Elements

#### **Signal Word**

Warning

#### **Hazard Statements**

Flammable liquid and vapor  
Causes skin irritation  
Harmful if inhaled

**Precautionary Statements****Prevention**

Use only outdoors or in a well-ventilated area  
 Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
 Keep container tightly closed  
 Ground and bond container and receiving equipment  
 Use explosion-proof electrical/ventilating/lighting equipment  
 Take action to prevent static discharges  
 Use non-sparking tools

**Response**

Get medical attention/advice if you feel unwell

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 Call a POISON CENTER or doctor if you feel unwell

**Skin**

If skin irritation occurs: Get medical advice/attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
 Take off contaminated clothing and wash before reuse

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

**Storage**

Store in a well-ventilated place. Keep cool

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Toxic to aquatic life with long lasting effects

**Hazards classified under paragraph (d)(1)(ii) of 1910.1200**

No information available

### 3. Composition/information on Ingredients

Component	CAS No	Weight %
Chlorobenzene	108-90-7	>95

### 4. First-aid measures

**General Advice**

If symptoms persist, call a physician.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.
<b>Most important symptoms and effects</b>	None reasonably foreseeable. Causes central nervous system depression: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting
<b>Notes to Physician</b>	Treat symptomatically

## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Water spray, carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam.
<b>Unsuitable Extinguishing Media</b>	Water may be ineffective
<b>Flash Point</b>	23 °C / 73.4 °F
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	590 °C / 1094 °F
<b>Explosion Limits</b>	
<b>Upper</b>	9.6 vol %
<b>Lower</b>	1.8 vol %
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

### Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Phosgene. Hydrogen chloride gas.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### NFPA

<b>Health</b>	<b>Flammability</b>	<b>Instability</b>	<b>Physical hazards</b>
2	3	0	N/A

## 6. Accidental release measures

<b>Personal Precautions</b>	Use personal protective equipment as required. Ensure adequate ventilation.
<b>Environmental Precautions</b>	Should not be released into the environment.

**Methods for Containment and Clean Up** Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

## 7. Handling and Storage

<b>Handling</b>	Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Ensure adequate ventilation.
<b>Storage.</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Incompatible Materials. Strong oxidizing agents. Bases. Strong

reducing agents. Metals.

## 8. Exposure controls / personal protection

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Chlorobenzene	TWA: 10 ppm	(Vacated) TWA: 75 ppm (Vacated) TWA: 350 mg/m <sup>3</sup> TWA: 75 ppm TWA: 350 mg/m <sup>3</sup>	IDLH: 1000 ppm	TWA: 5 ppm STEL: 15 ppm

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

### Engineering Measures

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

### Personal Protective Equipment

#### Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

#### Respiratory Protection

No protective equipment is needed under normal use conditions.

#### Recommended Filter type:

Organic gases and vapours filter. Type A. Brown. conforming to EN14387.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Appearance

Physical State

Liquid

Color

Clear

Odor

bitter almonds

Odor Threshold

No information available

### Property

#### Values

#### Remarks

#### Method

Melting Point/Range

-45 °C / -49 °F

Softening Point

No data available

Boiling Point/Range

131 °C / 267.8 °F

Flash Point

23 °C / 73.4 °F

Flammability (liquid)

Flammable

Method - No information available

Flammability (solid,gas)

Not applicable

On basis of test data

Explosion Limits

Lower 1.3 Vol%

Liquid

Upper 11 Vol%

Autoignition Temperature

590 °C / 1094 °F

Decomposition Temperature

> 132°C

pH

No information available

Viscosity

0.8 mPa.s @ 20°C

Water Solubility

0.4 g/l (20°C)

Solubility in other solvents

No information available

Partition Coefficient (n-octanol/water)

<b>Component</b>	<b>log Pow</b>	
Chlorobenzene	3.79	
<b>Vapor Pressure</b>	12 mbar @ 20°C	
<b>Density / Specific Gravity</b>	1.108	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Vapor Density</b>	3.9	(Air = 1.0)
<b>Particle characteristics</b>	Not applicable (liquid)	
<b>Other Information</b>		
<b>Molecular Formula</b>	C6 H5 Cl	
<b>Molecular Weight</b>	112.56	
<b>Explosive Properties</b>	explosive air/vapour mixtures possible	
<b>Evaporation Rate</b>	1 (Butyl Acetate = 1.0)	

## 10. Stability and reactivity

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Stable under recommended storage conditions.
<b>Conditions to Avoid</b>	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
<b>Incompatible Materials</b>	Strong oxidizing agents, Bases, Strong reducing agents, Metals
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Phosgene, Hydrogen chloride gas
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Information on expected route of exposure

<b>Inhalation</b>	Harmful by inhalation. INHALATION MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS. May cause irritation of respiratory tract.
<b>Ingestion</b>	Aspiration hazard. May be harmful if swallowed. May cause central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
<b>Eyes</b>	Irritating to eyes.
<b>Skin</b>	Irritating to skin. May be harmful in contact with skin.

### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Chlorobenzene	LD50 2000 - 4000 mg/kg ( Rat )	LD50 > 7940 mg/kg ( Rabbit )	LC50 = 13.5 mg/L ( Rat ) 7 h

<b>Toxicologically Synergistic Products</b>	No information available
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### (b) skin corrosion/irritation;

<b>Test method</b>	OECD 404
<b>Test species</b>	rabbit
<b>Observational endpoint</b>	Erythema/Eschar = 2.7 Oedema = 1

**(c) serious eye damage/irritation;**

<b>Test method</b>	OECD 405
<b>Test species</b>	rabbit
<b>Observation end point</b>	Redness of the conjunctivae = 0.9 Iris lesion = 0 Oedema of the conjunctivae = 0.4 Cornea opacity = 0.1

**(d) respiratory or skin sensitization;**

<b>Respiratory</b>	No data available
<b>Skin</b>	No data available

**(e) germ cell mutagenicity;** No data available

**(f) carcinogenicity;**

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Chlorobenzene	108-90-7	Not listed	Not listed	A3	Not listed	A3

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen  
A2 - Suspected Human Carcinogen  
A3 - Animal Carcinogen

Mexico - Occupational Exposure Limits - Carcinogens

ACGIH: (American Conference of Governmental Industrial Hygienists)  
Mexico - Occupational Exposure Limits - Carcinogens  
A1 - Confirmed Human Carcinogen  
A2 - Suspected Human Carcinogen  
A3 - Confirmed Animal Carcinogen  
A4 - Not Classifiable as a Human Carcinogen  
A5 - Not Suspected as a Human Carcinogen

**(g) reproductive toxicity;** No data available

**(h) STOT-single exposure;** No data available

**(i) STOT-repeated exposure;** No data available

<b>Test method</b>	Chronic Toxicity	
<b>Test species / Duration</b>	Rat / 90 days	Rat / 90 days
<b>Study result</b>	NOAEL = 125 mg/kg	NOAEC = 234 mg/m <sup>3</sup>
<b>Route of exposure</b>	Oral	Inhalation
<b>Target Organs</b>	No information available.	

**(j) aspiration hazard;** Based on available data, the classification criteria are not met

**Other Adverse Effects** Tumorigenic effects have been reported in experimental animals.

**Symptoms / effects, both acute and delayed** Causes central nervous system depression. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

**Other Adverse Effects** Tumorigenic effects have been reported in experimental animals.

**Endocrine Disrupting Properties** This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

### Ecotoxicity

The product contains following substances which are hazardous for the environment. Contains a substance which is: Very toxic to aquatic organisms.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Chlorobenzene	EC50: = 12.5 mg/L, 96h static (Pseudokirchneriella subcapitata) EC50: 2.55 - 420 mg/L, 96h (Pseudokirchneriella subcapitata)	LC50: = 91 mg/L, 96h static (Brachydanio rerio) LC50: 4.1 - 5.3 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 4.1 - 4.9 mg/L, 96h static (Lepomis macrochirus) LC50: 6.9 - 7.9 mg/L, 96h flow-through (Lepomis macrochirus) LC50: 36.35 - 58.19 mg/L, 96h static (Poecilia reticulata) LC50: = 4.5 mg/L, 96h static (Pimephales promelas) LC50: 7 - 8.5 mg/L, 96h flow-through (Pimephales promelas)	EC50 = 11.26 mg/L 30 min EC50 = 11.3 mg/L 30 min EC50 = 11.5 mg/L 15 min EC50 = 20 mg/L 10 min EC50 = 9.36 mg/L 5 min	EC50: = 0.59 mg/L, 48h (Daphnia magna)

**Persistence and Degradability** Persistence is unlikely

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Chlorobenzene	3.79

## 13. Disposal considerations

**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.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Chlorobenzene - 108-90-7	U037	-

## 14. Transport information

### DOT

UN-No UN1134  
 Proper Shipping Name CHLOROBENZENE  
 Hazard Class 3  
 Packing Group III

### TDG

UN-No UN1134  
 Proper Shipping Name CHLOROBENZENE  
 Hazard Class 3  
 Packing Group III

### IATA

UN-No UN1134  
 Proper Shipping Name CHLOROBENZENE  
 Hazard Class 3  
 Packing Group III

### IMDG/IMO

UN-No UN1134  
 Proper Shipping Name CHLOROBENZENE

Hazard Class 3  
Packing Group III

## 15. Regulatory Information

### United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Chlorobenzene	108-90-7	X	ACTIVE	-

#### Legend:

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)** Not applicable

**TSCA 12(b)** - Notices of Export Not applicable

### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Chlorobenzene	108-90-7	X	-	203-628-5	X	X	X	X	X	KE-25489

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Component	CAS No	Weight %	SARA 313 - Threshold Values %	SARA 313 - Reporting thresholds
Chlorobenzene	108-90-7	>95	1.0 %	-

#### SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

#### CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Chlorobenzene	X	100 lb	-	X

#### Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Chlorobenzene	X		-

**OSHA** - Occupational Safety and Health Administration Not applicable

#### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Component	Hazardous Substances RQs	CERCLA Extremely Hazardous Substances RQs	SARA Reportable Quantity (RQ)
Chlorobenzene	100 lb	-	100 lb 45.4 kg

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Chlorobenzene	X	X	X	X	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations****Mexico - Grade**

Serious risk, Grade 3

**Authorisation/Restrictions according to EU REACH**

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Chlorobenzene	108-90-7	-	Use restricted. See entry 75. (see link for restriction details)	-

**REACH links**<https://echa.europa.eu/substances-restricted-under-reach>**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Chlorobenzene	108-90-7	Listed	Not applicable	Not applicable	Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

**Other International Regulations**

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)

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		Notification	Requirements		
Chlorobenzene	108-90-7	Not applicable	Not applicable	Not applicable	Annex I - Y45

## 16. Other Information

<b>Prepared By</b>	Product stewardship (Regulatory Affairs) Thermo Fisher Scientific email - begel.sdsdesk@thermofisher.com
<b>Creation Date</b>	10-Sep-2009
<b>Revision Date</b>	18-Dec-2025
<b>Print Date</b>	18-Dec-2025
<b>Revision Summary</b>	Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

### Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of SDS**