

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**
**Product Identifier**

Perihal Produk: **1,4-Dichlorobutane**  
 Product Description: **1,4-Dichlorobutane**  
 Cat No. : L02711  
 CAS No 110-56-5  
 Molecular Formula C4 H8 Cl2

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

Recommended Use Laboratory chemicals.  
 Uses advised against No Information available

**Company**

Thermo Fisher Scientific Fisher Scientific (M) Sdn Bhd  
 Hap Seng Business Park, Lot 01-03, 01-04 Aras 1 Unity Square,  
 No 12, Persiaran Perusahaan, Seksyen 23, 40300 Shah Alam,  
 Selangor Darul Ehsan, Malaysia.  
 Main line: +60 3-5525 7888

**Supplier**

E-mail address Enquiry.my@thermofisher.com

**Emergency Telephone Number**

Tel: +03-5525 7888  
 CHEMTREC Malaysia **1-800-815-308** (Malay)  
 CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

Flammable liquids	Category 3 (H226)
Chronic aquatic toxicity	Category 3 (H412)

**Label Elements**

**Signal Word**
**Warning**
**Hazard Statements**

H226 - Flammable liquid and vapor

# SAFETY DATA SHEET

1,4-Dichlorobutane

Revision Date 24-Mar-2025

H412 - Harmful to aquatic life with long lasting effects

## Precautionary Statements

### Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P233 - Keep container tightly closed

P240 - Ground and bond container and receiving equipment

P241 - Use explosion-proof electrical/ ventilating/ lighting equipment

P242 - Use non-sparking tools

P243 - Take action to prevent static discharges

P280 - Wear protective gloves/protective clothing/eye protection/face protection

### Response

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

### Storage

P403 + P235 - Store in a well-ventilated place. Keep cool

### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

## Other Hazards

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
1,4-Dichlorobutane	110-56-5	<=100

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### Eye Contact

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

#### Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention.

#### Ingestion

Clean mouth with water. Get medical attention.

#### Inhalation

Remove from exposure, lie down. Remove to fresh air.

#### Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

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

#### Notes to Physician

Treat symptomatically. Symptoms may be delayed.

## SECTION 5: FIREFIGHTING MEASURES

# SAFETY DATA SHEET

1,4-Dichlorobutane

Revision Date 24-Mar-2025

## Extinguishing media

### **Suitable Extinguishing Media**

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam. Water mist may be used to cool closed containers.

### **Extinguishing media which must not be used for safety reasons**

No information available.

## Special hazards arising from the substance or mixture

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

## **Hazardous Combustion Products**

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

## Advice for fire-fighters

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

Remove all sources of ignition. Take precautionary measures against static discharges.

### Environmental precautions

See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage. Do not flush into surface water or sanitary sewer system.

### Methods and Material for Containment and Cleaning Up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

Avoid contact with skin and eyes. Do not breathe mist/vapors/spray. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges.

### Conditions for Safe Storage, Including any Incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks and flame. Flammables area. Keep container tightly closed in a dry and well-ventilated place.

### Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

# SAFETY DATA SHEET

1,4-Dichlorobutane

Revision Date 24-Mar-2025

## Control Parameters

### Exposure Controls

#### Engineering Measures

Use explosion-proof electrical/ventilating/lighting equipment. Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### **Eye Protection**

Wear safety glasses with side shields (or goggles)

#### **Hand Protection**

Protective gloves

#### **Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

#### **Respiratory Protection**

No protective equipment is needed under normal use conditions

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

### Environmental exposure controls

Prevent product from entering drains

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

#### **Appearance**

Colorless

#### **Physical State**

Liquid

#### **Odor**

No information available

#### **Odor Threshold**

No data available

#### **pH**

6-7

200 g/l aq.sol

#### **Melting Point/Range**

-38 °C / -36.4 °F

#### **Softening Point**

No data available

#### **Boiling Point/Range**

161 - 163 °C / 321.8 - 325.4 °F

#### **Flash Point**

40 °C / 104 °F

**Method -** No information available

#### **Evaporation Rate**

No data available

#### **Flammability (solid,gas)**

Not applicable

Liquid

#### **Explosion Limits**

**Lower** 1.8

**Upper** 8.9

# SAFETY DATA SHEET

1,4-Dichlorobutane

Revision Date 24-Mar-2025

Vapor Pressure	5 hPa @ 20 °C	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	1.160	
Bulk Density	Not applicable	Liquid
Water Solubility	0.24% (20 °C)	practically insoluble
Solubility in other solvents	No information available	

## Partition Coefficient (n-octanol/water)

Autoignition Temperature	220 °C / 428 °F	
Decomposition Temperature	120 °C	
Viscosity	1.46 mPa s at 20 °C	
Explosive Properties		explosive air/vapour mixtures possible
Oxidizing Properties	No information available	

Molecular Formula	C4 H8 Cl2
Molecular Weight	127.01

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

### Chemical Stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	No information available.

### Conditions to Avoid

Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.

### Incompatible Materials

Strong oxidizing agents. Strong bases.

### Hazardous Decomposition Products

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

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

Product Information	No acute toxicity information is available for this product
---------------------	---

# SAFETY DATA SHEET

1,4-Dichlorobutane

Revision Date 24-Mar-2025

**(a) acute toxicity;**

Oral	No data available
Dermal	No data available
Inhalation	No data available

**(b) skin corrosion/irritation;** No data available

**(c) serious eye damage/irritation;** No data available

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

Respiratory	No data available
Skin	No data available

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

**(f) carcinogenicity;** No data available

There are no known carcinogenic chemicals in this product

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

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

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

**Target Organs** No information available.

**(j) aspiration hazard;** No data available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Symptoms / effects, both acute and delayed** Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity effects**

Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
1,4-Dichlorobutane	LC50: 47.8 - 55.6 mg/L, 96h flow-through (Pimephales promelas)			

**Persistence and degradability**

**Persistence** Insoluble in water, May persist, based on information available.

# SAFETY DATA SHEET

1,4-Dichlorobutane

Revision Date 24-Mar-2025

**Degradation in sewage treatment plant**

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**Bioaccumulative potential**

May have some potential to bioaccumulate

**Mobility in soil**

Spillage unlikely to penetrate soil. The product is insoluble and sinks in water. The product evaporates slowly. Is not likely mobile in the environment due its low water solubility. Spillage unlikely to penetrate soil.

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**Other adverse effects**

No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from Residues/Unused Products**

Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

**Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous Keep product and empty container away from heat and sources of ignition

**Other Information**

Do not flush to sewer Waste codes should be assigned by the user based on the application for which the product was used Can be landfilled or incinerated, when in compliance with local regulations Do not let this chemical enter the environment Do not empty into drains

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO**

UN-No	UN1993
Hazard Class	3
Packing Group	III
Proper Shipping Name	Flammable liquid, n.o.s. 1,4-Dichlorobutane

**Road and Rail Transport**

UN-No	UN1993
Hazard Class	3
Packing Group	III
Proper Shipping Name	Flammable liquid, n.o.s. 1,4-Dichlorobutane

**IATA**

UN-No	UN1993
Hazard Class	3
Packing Group	III
Proper Shipping Name	Flammable liquid, n.o.s. 1,4-Dichlorobutane

**Special Precautions for User**

No special precautions required

## SECTION 15: REGULATORY INFORMATION

ALFAAL02711

# SAFETY DATA SHEET

1,4-Dichlorobutane

Revision Date 24-Mar-2025

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

### International Inventories

X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
1,4-Dichlorobutane	203-778-1	X	-	X	X	X	X	X	KE-10098

Component	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
1,4-Dichlorobutane				Annex I - Y45

### National Regulations

#### Persistent Organic Pollutant Ozone Depletion Potential

This product does not contain any known or suspected substance

This product does not contain any known or suspected substance

## SECTION 16: OTHER INFORMATION

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

#### Prepared By

Health, Safety and Environmental Department

#### Revision Date

24-Mar-2025

#### Revision Summary

Not applicable.

**In accordance with local and national regulations: Occupational Safety and Health**



# SAFETY DATA SHEET

1,4-Dichlorobutane

Revision Date 24-Mar-2025

---

## (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

### 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 Safety Data Sheet**