

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: **n-Butylamine**  
 Product Description: **n-Butylamine**  
 Cat No. : B/5260/PB07  
 Synonyms 1-Aminobutane  
 CAS No 109-73-9  
 Molecular Formula C4 H11 N

**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  
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 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 2 (H225)
Acute oral toxicity	Category 4 (H302)
Acute dermal toxicity	Category 3 (H311)
Acute Inhalation Toxicity - Vapors	Category 3 (H331)
Skin Corrosion/Irritation	Category 1 A (H314)
Serious Eye Damage/Eye Irritation	Category 1 (H318)
Specific target organ toxicity - (single exposure)	Category 3 (H335)

**Label Elements**


# SAFETY DATA SHEET

n-Butylamine

Revision Date 23-Mar-2025

## Signal Word

## Danger

### Hazard Statements

H225 - Highly flammable liquid and vapor  
H314 - Causes severe skin burns and eye damage  
H302 - Harmful if swallowed  
H335 - May cause respiratory irritation  
H311 + H331 - Toxic in contact with skin or if inhaled

### Precautionary Statements

#### Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
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  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
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  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor  
P330 - Rinse mouth  
P331 - Do NOT induce vomiting  
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish  
P362 + P364 - Take off contaminated clothing and wash it before reuse

#### Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
P405 - Store locked up

#### Disposal

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

### Other Hazards

Toxic to terrestrial vertebrates  
This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Butylamine (n-)	109-73-9	>95

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

#### Eye Contact

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

# SAFETY DATA SHEET

n-Butylamine

Revision Date 23-Mar-2025

	Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Inhalation</b>	Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. If not breathing, give artificial respiration.
<b>Self-Protection of the First Aider</b>	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. Causes burns by all exposure routes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

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

**Notes to Physician** Treat symptomatically.

## **SECTION 5: FIREFIGHTING MEASURES**

### **Extinguishing media**

#### **Suitable Extinguishing Media**

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant 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. Corrosive material. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Thermal decomposition can lead to release of irritating gases and vapors. Containers may explode when heated. Keep product and empty container away from heat and sources of ignition.

### **Hazardous Combustion Products**

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

### **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**

Wear self-contained breathing apparatus and protective suit. Evacuate personnel to safe areas. Remove all sources of ignition. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharges.

### **Environmental precautions**

# SAFETY DATA SHEET

n-Butylamine

Revision Date 23-Mar-2025

Should not be released into the environment. See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system.

## Methods and Material for Containment and Cleaning Up

Wear self-contained breathing apparatus and protective suit. Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. 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

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

### Conditions for Safe Storage, Including any Incompatibilities

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

### Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Component	Malaysia	ACGIH TLV	OSHA PEL
Butylamine (n-)		Ceiling: 5 ppm Skin	Ceiling: 5 ppm Ceiling: 15 mg/m <sup>3</sup> Skin (Vacated) Ceiling: 5 ppm (Vacated) Ceiling: 15 mg/m <sup>3</sup>

Component	European Union	The United Kingdom	Germany
Butylamine (n-)			TWA: 2 ppm (8 Stunden). AGW - ceiling factor 2.5; exposure factor 2 TWA: 6.1 mg/m <sup>3</sup> (8 Stunden). AGW - ceiling factor 2.5; exposure factor 2 TWA: 2 ppm (8 Stunden). MAK even if the MAK value is adhered to, "odor-associated" symptoms cannot be ruled out in individual cases TWA: 6.1 mg/m <sup>3</sup> (8 Stunden). MAK even if the MAK value is adhered to, "odor-associated" symptoms cannot be ruled out in individual cases Höhepunkt: 4 ppm Höhepunkt: 12.2 mg/m <sup>3</sup>

# SAFETY DATA SHEET

n-Butylamine

Revision Date 23-Mar-2025

## Exposure Controls

### **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.

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**

Goggles

### **Hand Protection**

Protective gloves

### **Skin and body protection**

Long sleeved clothing

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**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

### **Recommended Filter type:**

Particulates filter conforming to EN 143 Ammonia and organic ammonia derivatives filter Type K Green conforming to EN14387

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

When RPE is used a face piece Fit Test should be conducted

## 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**

Ammonia-like

#### **Odor Threshold**

No data available

#### **pH**

12.6

100g/l aq.sol

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

-49 °C / -56.2 °F

#### **Softening Point**

No data available

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

78 °C / 172.4 °F

#### **Flash Point**

-7 °C / 19.4 °F

**Method -** No information available

#### **Evaporation Rate**

No data available

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

Not applicable

Liquid

#### **Explosion Limits**

**Lower** 1.7

**Upper** 10

# SAFETY DATA SHEET

n-Butylamine

Revision Date 23-Mar-2025

Vapor Pressure	93 hPa @ 20 °C	
Vapor Density	2.5 (Air = 1.0)	(Air = 1.0)
Specific Gravity / Density	0.740	
Bulk Density	Not applicable	Liquid
Water Solubility	Miscible	
Solubility in other solvents	No information available	

## Partition Coefficient (n-octanol/water)

Component	log Pow
Butylamine (n-)	0

Autoignition Temperature	290 - °C / 554 - °F	
Decomposition Temperature	No data available	
Viscosity	0.5 mPa.s at 20 °C	
Explosive Properties		Vapors may form explosive mixtures with air
Oxidizing Properties	No information available	

Molecular Formula	C4 H11 N
Molecular Weight	73.13

## 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	None under normal processing.

### Conditions to Avoid

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

### Incompatible Materials

Acids. Metals. copper.

### Hazardous Decomposition Products

Nitrogen oxides (NOx). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

# SAFETY DATA SHEET

n-Butylamine

Revision Date 23-Mar-2025

## Product Information

### (a) acute toxicity;

Oral	Category 4
Dermal	Category 3
Inhalation	Category 3

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Butylamine (n-)	LD50 = 366 mg/kg ( Rat )	LD50 > 1110 mg/kg ( Rabbit )	LC50 = 4.7 mg/L ( Rat ) 4 h LC50 = 3.7 mg/L ( Rat ) 4 h

(b) skin corrosion/irritation; Category 1 A

(c) serious eye damage/irritation; Category 1

### (d) respiratory or skin sensitization;

Respiratory	Based on available data, the classification criteria are not met
Skin	Based on available data, the classification criteria are not met

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met  
Not mutagenic in AMES Test

(f) carcinogenicity; Based on available data, the classification criteria are not met  
There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Based on available data, the classification criteria are not met

(h) STOT-single exposure; Category 3

Results / Target organs Respiratory system.

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

Target Organs None known.

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

**Symptoms / effects, both acute and delayed** Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

**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

This product contains the following substance(s) which are hazardous for the environment. Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

# SAFETY DATA SHEET

n-Butylamine

Revision Date 23-Mar-2025

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Butylamine (n-)	LC50: = 26.8 mg/L, 96h flow-through (Pimephales promelas) LC50: = 32 mg/L, 96h semi-static (Lepomis macrochirus) LC50: = 32 mg/L, 96h static (Lepomis macrochirus) LC50: = 268 mg/L, 96h flow-through (Pimephales promelas)			EC50 = 24.8 mg/L 30 min EC50 = 28.5 mg/L 15 min EC50 = 41.1 mg/L 5 min

## Persistence and degradability

### **Persistence**

### **Degradation in sewage treatment plant**

Expected to be biodegradable

Persistence is unlikely, based on information available.

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

## Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Butylamine (n-)	0	No data available

## Mobility in soil

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. Will likely be mobile in the environment due to its volatility. Disperses rapidly in air.

## 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 empty into drains Large amounts will affect pH and harm aquatic organisms Solutions with high pH-value must be neutralized before discharge

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

UN-No

Hazard Class

UN1125

3



# SAFETY DATA SHEET

n-Butylamine

Revision Date 23-Mar-2025

**Subsidiary Hazard Class** 8  
**Packing Group** II  
**Proper Shipping Name** BUTYLAMINE

## Road and Rail Transport

**UN-No** UN1125  
**Hazard Class** 3  
**Subsidiary Hazard Class** 8  
**Packing Group** II  
**Proper Shipping Name** n-BUTYLAMINE

## IATA

**UN-No** UN1125  
**Hazard Class** 3  
**Subsidiary Hazard Class** 8  
**Packing Group** II  
**Proper Shipping Name** n-BUTYLAMINE

**Special Precautions for User** No special precautions required

## SECTION 15: REGULATORY INFORMATION

### 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
Butylamine (n-)	203-699-2	X	X	X	X	X	X	X	KE-03750

### National Regulations

**Persistent Organic Pollutant** This product does not contain any known or suspected substance  
**Ozone Depletion Potential** 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%

# SAFETY DATA SHEET

n-Butylamine

Revision Date 23-Mar-2025

**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

Revision Date 23-Mar-2025  
Revision Summary Not applicable.

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