



## Safety Data Sheet

### 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: n-Butylamine

SDS No. : 1092E-2

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzenkanri@kishida.co.jp

### 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

**PHYSICAL AND CHEMICAL HAZARDS**

Flammable liquids: Category 2

**HEALTH HAZARDS**

Acute toxicity (Oral): Category 4

Acute toxicity (Dermal): Category 3

Acute toxicity (Inhalation): Category 3

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Reproductive toxicity: Category 1B

Specific target organ toxicity – single exposure: Category 1(respiratory system)

Specific target organ toxicity – single exposure: Category 2(central nervous system)

**ENVIRONMENT HAZARDS**

Hazardous to the aquatic environment (Acute): Category 3

Label elements



Signal word: Danger

**HAZARD STATEMENT**

Highly flammable liquid and vapor

Harmful if swallowed

Toxic in contact with skin

Toxic if inhaled

Causes severe skin burns and eye damage

Causes serious eye damage

May damage fertility or the unborn child

Causes damage to organs(respiratory system)

May cause damage to organs(central nervous system)

Harmful to aquatic life

**PRECAUTIONARY STATEMENT**

Prevention

Avoid release to the environment.



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.

Use non-sparking tools.

Take action to prevent static discharges.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Do not eat, drink or smoke when using this product.

#### Response

In case of fire: Use appropriate media other than water to extinguish.

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor/physician.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF exposed or concerned: Call a POISON CENTER/doctor/physician.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN: Wash with plenty of soap and water.

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

Take off immediately all contaminated clothing and wash it before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

#### Storage

Store in a well-ventilated place. Keep container tightly closed. Keep cool.

#### Disposal

Dispose of contents/container in accordance with local/national regulation.

#### Specific Physical and Chemical hazards

Highly flammable liquid. Vapor/air mixture may explode.

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### 3. Composition/information on ingredients

#### Mixture/Substance selection:

##### Substance

Ingredient name:n-Butylamine

Content (%):98(min)

Chemical formula:CH<sub>3</sub>(CH<sub>2</sub>)<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>

Chemicals No, Japan:2-132

CAS No.:109-73-9

MW:73.14

ECNO:203-699-2

Note : The figures shown above are not the specifications of the product.

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### 4. First-aid measures

#### Descriptions of first-aid measures

##### General measures

IF exposed or concerned: Get medical advice/attention.

##### IF INHALED

Remove person to fresh air and keep comfortable for breathing.



Call a POISON CENTER/doctor/physician if you feel unwell.

**IF ON SKIN (or hair)**

Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

**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.

**IF SWALLOWED**

Rinse mouth. Do NOT induce vomiting.

Call a POISON CENTER/doctor/physician if you feel unwell.

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**5. Fire-fighting measures**

**Extinguishing media**

**Suitable extinguishing media**

In case of fire, use water mist, foam, dry powder, CO2 to extinguish.

**Unsuitable extinguishing media**

Indoor firefighting equipment or outdoor firefighting equipment

Sprinkler equipment

Dry-powder firefighting equipment – except for phosphate etc.,hydrogen carbonate etc.

Straight stream water extinguisher

Water mist extinguisher

Reinforcing liquid jet extinguisher

Dry-powder extinguisher – except for phosphate etc.,hydrogen carbonate etc.

Bucket of water or tank of water

**Specific hazards arising from the substance or mixture**

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

**Advice for firefighters**

**Specific fire-fighting measures**

Evacuate non-essential personnel to safe area.

**Special protective equipment and precautions for fire-fighters**

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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**6. Accidental release measures**

**Personnel precautions, protective equipment and emergency procedures**

Ventilate area until material pick up is complete.

Wear proper protective equipment.

**Environmental precautions**

Prevent spills from entering sewers, watercourses or low areas.

**Methods and materials for containment and cleaning up**

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

**Preventive measures for secondary accident**

Collect spillage.



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## 7. Handling and storage

### Precautions for safe handling

#### Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

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

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use non-sparking tools.

Take action to prevent static discharges.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

#### Safety Measures

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

When using do not eat, drink or smoke.

#### Any incompatibilities

See "10.Stability and Reactivity"

#### Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Take off immediately all contaminated clothing and wash it before reuse.

#### Storage

##### Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

##### Container and packaging materials for safe handling

Glass

Polyethylene

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## 8. Exposure controls/personal protection

### Control parameters

#### Adopted value

(n-Butylamine)

ACGIH(1985) STEL: C 5ppm (Headache; URT & eye irr)

#### Notation

(n-Butylamine)

Skin

#### OSHA-PEL

(n-Butylamine)

STEL: C 5ppm, 15mg/m<sup>3</sup>

### Exposure controls

#### Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

#### Individual protection measures



- Respiratory protection
  - Wear respiratory protection.
- Hand protection
  - Wear protective gloves.
- Eye protection
  - Wear eye/face protection.

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## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

- Physical state: Liquid
- Color: Colorless
- Odor: Characteristic odor
- Melting point/Freezing point:  $-50^{\circ}\text{C}$
- Boiling point or initial boiling point: (n-Butylamine) $78^{\circ}\text{C}$
- Boiling range data is not available.
- Flammability (gases, liquids and solids) data is not available.
- Lower and upper explosion limit/flammability limit:
  - Lower explosion limit: 1.7 vol %
  - Upper explosion limit: 9.8 vol %
- Flash point: (n-Butylamine)(C.C.)  $-12^{\circ}\text{C}$
- Auto-ignition temperature: (n-Butylamine) $312^{\circ}\text{C}$
- Decomposition temperature data is not available.
- pH data is not available.
- Kinematic viscosity data is not available.
- Solubility:
  - Solubility in water: Miscible
- n-Octanol/water partition coefficient:  $\log P_{ow} 0.86$
- Vapor pressure: 10.9 kPa ( $20^{\circ}\text{C}$ )
- Density and/or relative density: 0.74
- Relative vapor density (Air=1): 2.5
- Particle characteristics data is not available.

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## 10. Stability and Reactivity

- Reactivity
  - Not available.
- Chemical stability
  - Turns yellow on standing. (ICSC 0374)
- Possibility of hazardous reactions
  - The vapour is heavier than air and may travel along the ground; distant ignition possible.
  - Decomposes on heating and on burning. This produces toxic fumes including nitrogen oxides.
  - The substance is a weak base. Reacts with strong oxidants and acids. This generates fire and explosion hazard. Attacks some metals in the presence of water. (ICSC 0374)
- Conditions to avoid
  - Contact with incompatible materials.
  - Contact with fire source.
- Incompatible materials
  - Acids, Strong oxidizing agents
- Hazardous decomposition products
  - Nitrogen oxides



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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

##### Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(n-Butylamine)

rat LD50=372mg/kg (SIDS, 2016; ACGIH 7th, 2001; PATTY 6th, 2012)

##### Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(n-Butylamine)

rabbit LD50=850mg/kg (JSOH, 1994)

##### Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(n-Butylamine)

vapor: rat LC50=4.2mg/L/4hr=1403ppm/4hr (SIDS, 2016)

#### Irritant properties

##### Skin corrosion/irritation

[GHS Cat. Japan, base data]

(n-Butylamine)

guinea pig corrosive (JSOH, 1994); rabbit corrosive (SIDS, 2016)

##### Serious eye damage/irritation

[GHS Cat. Japan, base data]

(n-Butylamine)

rabbit severe damage (JSOH, 1994); corrosive (SIDS, 2016)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

#### Reproductive toxicity

[GHS Cat. Japan, base data]

(n-Butylamine)

cat. 1B; SIDS, 2016; Food Safety Commission, 2010

#### STOT

##### STOT-single exposure

###### [cat.1]

[GHS Cat. Japan, base data]

(n-Butylamine)

respiratory system (JSOH, 1994; ACGIH 7th, 2001; SIDS, 2016)

###### [cat.2]

[GHS Cat. Japan, base data]

(n-Butylamine)

central nervous system (JSOH, 1994; ACGIH 7th, 2001; SIDS, 2016)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

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## 12. Ecological Information

### Ecotoxicity

#### Aquatic toxicity

Harmful to aquatic life

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(n-Butylamine)

Fish (*Hypoclinemus valenciennei*) LC50=24mg/L/96hr (NLM HSDB, 2014; EPA Aquire, 2017)

**Water solubility**

(n-Butylamine)  
miscible (ICSC, 2003)

**Persistence and degradability**

(n-Butylamine)  
Degrade rapidly (BOD\_Degradation: 66% (Reference value); HPLC Degradation: 100% (CSCL DB, 1979))

**Bioaccumulative potential**

(n-Butylamine)  
log Kow=0.97 (SRC PHYSPROP DB, 2017)

**Mobility in soil**

Mobility in soil data is not available.

**Other adverse effects**

Ozone depleting chemical data is not available.

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**13. Disposal considerations**

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

**Waste treatment methods**

Avoid release to the environment.  
Dispose of contents/container in accordance with local/national regulation.

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**14. Transport Information**

UN No. or ID No.: 1125  
UN Proper Shipping Name :  
n-BUTYLAMINE  
Class or division (Transport hazard class) : 3  
Subsidiary hazard(s) : 8  
Packing group : II  
ERG GUIDE No.: 132

**IMDG Code (International Maritime Dangerous Goods Regulations)**

UN No.: 1125  
Proper Shipping Name :  
n-BUTYLAMINE  
Class or division : 3  
Subsidiary hazard(s) : 8  
Packing group : II

**IATA Dangerous Goods Regulations**

UN No.: 1125  
Proper Shipping Name :  
n-BUTYLAMINE  
Class or division : 3  
Subsidiary hazard(s) : 8  
Hazard labels : Flamm.liquid & Corrosive  
Packing group : II

**Environmental hazards**

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

MARPOL Annex V – Prevention of pollution by garbage discharge

Reproductive toxicity: cat.1, 1A, 1B

n-Butylamine

Maritime transport in bulk according to IMO instruments



Noxious Liquid ; Cat. Y  
n-Butylamine

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#### 15. Regulatory Information

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

Chemicals listed in TSCA Inventory

n-Butylamine

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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#### 16. Other information

GHS classification and labelling

Flam. Liq. 2: H225 Highly flammable liquid and vapor

Acute Tox. 4: H302 Harmful if swallowed

Acute Tox. 3: H311 Toxic in contact with skin

Acute Tox. 3: H331 Toxic if inhaled

Skin Corr. 1: H314 Causes severe skin burns and eye damage

Eye Dam. 1: H318 Causes serious eye damage

Repr. 1B: H360 May damage fertility or the unborn child

STOT SE 1: H370 Causes damage to organs

STOT SE 2: H371 May cause damage to organs

Aquatic Acute 3: H402 Harmful to aquatic life

Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (62nd Edition) 2021

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2021 TLVs and BEIs. (ACGIH)

Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2020).