

Safety Data Sheet

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

Product identifier:

Product name: Butylamine

Reference number(SDS): 63320jis_E-3

Product type:

Reagent

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

Telephone number: +81-48-986-6161

FAX: +81-48-989-2787

e-mail address: shiyaku-t@junsei.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

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

H225-Highly flammable liquid and vapor

H302-Harmful if swallowed

H311-Toxic in contact with skin

H331-Toxic if inhaled

H314-Causes severe skin burns and eye damage

H318-Causes serious eye damage

H360-May damage fertility or the unborn child

H370-Causes damage to organs after single exposure

H371-May cause damage to organs after single exposure

H402-Harmful to aquatic life

PRECAUTIONARY STATEMENT**Prevention**

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid release to the environment.
Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe vapors.
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
Do not eat, drink or smoke when using this product.

Response

In case of fire: Use appropriate media other than water for extinction.
IF exposed or concerned: Get medical advice/attention.
Immediately call a POISON CENTER or doctor/physician.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF exposed or concerned: Call a POISON CENTER or 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/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 or 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.
Store locked up.

Disposal

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

Specific Physical and Chemical hazards

Highly flammable liquid. Vapor/air mixture may explode.

3. Composition/information on ingredients**Mixture/Substance selection:****Substance**

Common name, synonyms: 1-Aminobutane

Ingredient name: Butylamine

Content (%): 98.0 <

Chemical formula: C₄H₁₁N

Chemicals No, Japan: 2-132

CAS No.: 109-73-9

MW: 73.14

ECNO: 203-699-2

4. First-aid measures

Descriptions of first-aid measures

General measures

IF exposed or concerned: Get medical advice/attention.
Immediately call a POISON CENTER or doctor/physician.
Keep victim warm and quiet.
Call emergency medical service.
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.
Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Give artificial respiration if victim is not breathing.
Administer oxygen if breathing is difficult.
Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Remove and isolate contaminated clothing and shoes.
In case of burns, immediately cool affected skin for as long as possible with cold water.
Do not remove clothing if adhering to skin.

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 or doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Sore throat. Cough. Burning sensation. Headache. Flushing of the face. Vomiting. Dizziness.
Shortness of breath. Laboured breathing. Abdominal pain. Diarrhoea. Nausea. Shock or collapse.

(Symptoms when skin and/or eye contact)

Pain. Redness. Blisters. Burns. Loss of vision.

Indication of any immediate medical attention and special treatment needed

The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort.
Rest and medical observation is therefore essential.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use foam, dry powder, CO₂, water in large amounts. to extinguish.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.
Fire may produce irritating, corrosive and/or toxic gases.
Runoff from fire control or dilution water may cause pollution.

Advice for firefighters**Specific fire-fighting measures**

- Evacuate non-essential personnel to safe area.
- Cool container with water spray.

Special protective equipment and precautions for fire-fighters

- Wear fire/ flame resistant/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.

6. Accidental release measures**Personnel precautions, protective equipment and emergency procedures**

- Keep unauthorized personnel away.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ventilate area until material pick up is complete.
- Wear proper protective equipment.
- PUBLIC SAFETY:** Ventilate closed spaces before entering.
- Do not touch or walk through spilled material.

Environmental precautions

- Runoff to sewer may create fire or explosion hazard.
- Vapor explosion hazard indoors, outdoors or in sewers.
- Avoid release to headsprings, rivers, lakes, ocean and groundwater.

Methods and materials for containment and cleaning up

- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Use clean non-sparking tools to collect absorbed material.
- All equipment used when handling the product must be grounded.

Preventive measures for secondary accident

- Collect spillage.
- ELIMINATE** all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Prevent entry into waterways, sewers, basements or confined areas.
- Keep out of low areas.

7. Handling and storage**Precautions for safe handling****Preventive measures**

(Exposure Control for handling personnel)

- Do not breathe vapors.

(Protective measures against fire and explosion)

- Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.

(Exhaust/ventilator)

- Exhaust/ventilator should be available.

(Safety treatments)

- Avoid contact with skin.
- Avoid contact with eyes.

Safety Measures

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.

Butylamine, JUNSEI CHEMICAL CO., LTD., 63320jis_E-3, 16/03/2021

Use only outdoors or in a well-ventilated area.

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

Use personal protective equipment as required.

When using do not eat, drink or smoke.

Any incompatibilities

Acids, Strong oxidizing agents should not be mixed with the chemicals.

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

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

Keep cool. Protect from sunlight.

Store locked up.

Container and packaging materials for safe handling data is not available.

Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

8. Exposure controls/personal protection

Control parameters

Control value in MHLW is not available.

Adopted value

JSOH(1994) (ceiling) 5ppm; 15mg/m³ (dermal)

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

Notation...Skin

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.

Wear positive pressure self-contained breathing apparatus (SCBA).

Hand protection

Wear protective gloves.

Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials.

Eye protection

Wear chemical safety goggle.

Wear eye/face protection.

Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless

Odor: Characteristic odor

Odor threshold: 1.8 µl/L (in air)

Melting point/Freezing point: -50°C
Boiling point or initial boiling point: 78°C
Boiling range data is not available.
Flammability (gases, liquids and solids): Ignitable
Lower and upper explosion limit/flammability limit:
 Lower explosion limit: 1.7 vol %
 Upper explosion limit: 9.8 vol %
Flash point: (C.C.) -12°C
Auto-ignition temperature: 312°C
Decomposition temperature data is not available.
Self-Accelerating Decomposition Temperature/SADT data is not available.
pH: 12.6(100g/L, 20°C)
Dynamic viscosity: 0.574mPas(25°C)
Kinematic viscosity data is not available.
Solubility:
 Solubility in water: Miscible [1000g/liter(20°C)]
 Solubility in solvent: Miscible with alcohol, ether.
n-Octanol/water partition coefficient: log Pow 0.97
Vapor pressure: 10.9 kPa (20°C)
VOC data is not available.
Evaporation rate data is not available.
Density and/or relative density: 0.734~0.743g/ml (20°C)
Relative vapor density (Air=1): 2.5
Relative density of the Vapor/air – mixture at 20°C (Air = 1) data is not available.
Critical temperature data is not available.
No Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Reactivity data is not available.

Chemical stability

Stable under normal storage/handling conditions.

Highly flammable.

Turns to yellow on standing.

Possibility of hazardous reactions

The vapour is heavier than air and may travel along the ground; distant ignition possible.

Reacts with strong oxidants and acids. This generates fire and explosion hazard.

Attacks some metals in the presence of water.

Conditions to avoid

Contact with incompatible materials.

Open flames. Heat. Sparks.

Incompatible materials

Acids, Strong oxidizing agents

Hazardous decomposition products

Carbon oxides, Nitrogen oxides

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

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

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

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

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

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

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

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

Serious eye damage/irritation

[GHS Cat. Japan, base data]

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]

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

Teratogenic effects data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

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

[cat.2]

[GHS Cat. Japan, base data]

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

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

H402-Harmful to aquatic life

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

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

Water solubility

1000g/L(20°C) (SRC PhysProp Database)

Persistence and degradability

Degrade rapidly [BOD_Degradation: 66% (Reference value); HPLC Degradation: 100% (J—CHECK, 1979)]

Bioaccumulative potential

log Pow=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.

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 (– if this is not the intended use).

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

14. Transport Information**UN No., UN CLASS**

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

Butylamine

Maritime transport in bulk according to IMO instruments

Noxious Liquid ; Cat. Y

Butylamine(Y-377)

15. Regulatory Information

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

Chemicals listed in TSCA Inventory

Butylamine

Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

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

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

16. Other information**GHS classification and labelling**

H225–Flam. Liq. 2: H225 Highly flammable liquid and vapor
H302–Acute Tox. 4: H302 Harmful if swallowed
H311–Acute Tox. 3: H311 Toxic in contact with skin
H331–Acute Tox. 3: H331 Toxic if inhaled
H314–Skin Corr. 1: H314 Causes severe skin burns and eye damage
H318–Eye Dam. 1: H318 Causes serious eye damage
H360–Repr. 1B: H360 May damage fertility or the unborn child
H370–STOT SE 1: H370 Causes damage to organs after single exposure
H402–Aquatic Acute 3: H402 Harmful to aquatic life

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (7th revised edition, 2017), UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39–18)
IATA Dangerous Goods Regulations (61th Edition) 2020
Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2020 TLVs and BEIs. (ACGIH)
<http://monographs.iarc.fr/ENG/Classification/index.php>
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2019 Recommendation on TLVs (JSOH)
Supplier's data/information
Chemicals safety data management system "GHS Assistant" Version 4.10 (<https://www.asahi-ghs.com/>)
NITE Chemical Risk Information Platform "NITE-CHRIP"
(https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop)
GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.0) (Mar. 2020, METI)

Definitions and Abbreviations

SDS (Safety Data Sheet)
LD50 (Lethal Dose, 50%)
LC50 (Lethal Concentration, 50%)
IARC (International Agency for Research on Cancer)
ACGIH (American Conference of Governmental Industrial Hygienists)
EPA (US Environmental Protection Agency)
NTP (US National Toxicology Program)
JSOH (Japan Society for Occupational Health)
EU (European Union)
EC50 (Effective Concentration, 50%)
NOEC (No Observed Effect Concentration)
BOD (Biochemical Oxygen Demand)
COD (Chemical Oxygen Demand)
BCF (Bioconcentration Factor)
anh (anhydride)

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

Butylamine, JUNSEI CHEMICAL CO., LTD., 63320jis_E-3, 16/03/2021

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 2019).