

SAFETY DATA SHEETS

According to the UN GHS revision 8

Version: 1.0

Creation Date: July 15, 2019

Revision Date: July 15, 2019



YATAI CHEMICAL CORP

1. SECTION 1: Identification

1.1. GHS Product identifier

Product name Butylamine

1.2. Other means of identification

Other names n-Butylamine; 1-Aminobutane; Butylamine

1.3. Recommended use of the chemical and restrictions on use

Identified uses Food additives -> Flavoring Agents

Uses advised against no data available

1.4. Supplier's details

Company Yatai Chemical Corp

Address Room 20A5, No.585, Longhua West Road,
Shanghai, China

Telephone 0086-21-64563115

1.5. Emergency phone number

Emergency phone number 0086-21-64563115

Service hours Monday to Friday, 9am-5pm (Standard time zone:
UTC/GMT +8 hours).

2. SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Flammable liquids, Category 2

Acute toxicity - Category 4, Oral

Acute toxicity - Category 4, Dermal

Skin corrosion, Sub-category 1A

Acute toxicity - Category 4, Inhalation

2.2. GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour
H302 Harmful if swallowed
H312 Harmful in contact with skin
H314 Causes severe skin burns and eye damage
H332 Harmful if inhaled

Precautionary statement(s)**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/hearing protection/...P264 Wash ... thoroughly after handling.P270 Do not eat, drink or smoke when using this product.P260 Do not breathe dust/fume/gas/mist/vapours/spray.P261 Avoid breathing dust/fume/gas/mist/vapours/spray.P271 Use only outdoors or in a well-ventilated area.

Response

P303+P361+P533 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].P370+P378 In case of fire: Use ... to extinguish.P301+P317 IF SWALLOWED: Get medical help.P330 Rinse mouth.P302+P352 IF ON SKIN: Wash with plenty of water/...P317 Get medical help.P321 Specific treatment (see ... on this label).P362+P364 Take off contaminated clothing and wash it before reuse.P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.P363 Wash contaminated clothing before reuse.P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.P316 Get emergency medical help immediately.P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P403+P235 Store in a well-ventilated place. Keep cool.P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3. Other hazards which do not result in classification

no data available

3. SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Butylamine	Butylamine	109-73-9	203-699-2	100%

4. SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

Medical attention is required. Consult a doctor. Show this safety data sheet (SDS) to the doctor in attendance.

If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Refer for medical attention .

4.2. Most important symptoms/effects, acute and delayed

Inhalation causes irritation, nausea, vomiting, headache, faintness, severe coughing and chest pains; can cause lung edema. Ingestion causes severe irritation of mouth and stomach. Contact with eyes causes severe irritation and edema of the cornea. Contact with skin causes burns; absorption through skin may cause nausea, vomiting and shock. (USCG, 1999)

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Basic treatment: Establish a patent airway (oropharyngeal or nasopharyngeal airway, if needed). Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary . Monitor for shock and treat if necessary . Anticipate seizures and treat if necessary . For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with 0.9% saline (NS) during transport . Do not use emetics. For ingestion, rinse mouth and administer 5 mg/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal . Cover skin burns with dry sterile dressings after decontamination . /Organic bases/Amines and related compounds/

5. SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Use water spray, dry chemical, "alcohol resistant" foam, or carbon dioxide. Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

5.2. Specific hazards arising from the chemical

Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition and flash back. Containers may explode in fire. (USCG, 1999)

5.3. Special protective actions for fire-fighters

Use water in large amounts, powder, alcohol-resistant foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

6. SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate danger area! Consult an expert! Personal protection: chemical protection suit including self-contained breathing apparatus. Ventilation. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.2. Environmental precautions

Evacuate danger area! Consult an expert! Personal protection: chemical protection suit including self-contained breathing apparatus. Ventilation. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.3. Methods and materials for containment and cleaning up

Evacuate and restrict persons not wearing protective equipment from area of spill or leak until cleanup is complete. Remove all ignition sources. Establish forced ventilation to keep levels below explosive limit. Absorb liquids in vermiculite, dry sand, earth, peat, carbon, or a similar material and deposit in sealed containers. It may be necessary to contain and dispose of this chemical as a hazardous waste. If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Contact your Department of Environmental Protection or your regional office of the federal EPA for specific recommendations. If employees are required to clean-up spills, they must be properly trained and equipped. OSHA 1910.120(q) may be applicable. Butyl Amines

7. SECTION 7: Handling and storage

7.1. Precautions for safe handling

NO open flames, NO sparks and NO smoking. Closed system, ventilation, explosion-proof electrical equipment and lighting.

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2. Conditions for safe storage, including any incompatibilities

Fireproof. Separated from food and feedstuffs. See Chemical Dangers. Store in closed containers in a cool, dry, well-ventilated area.

8. SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure limit values

TLV: 5 ppm as STEL; (skin). MAK: 6.1 mg/m³, 2 ppm; peak limitation category: I(2); pregnancy risk group: C

Biological limit values

no data available

8.2. Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

9. SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid.
Colour	Colourless, clear.
Odour	Amine odor
Melting point/freezing point	-47 °C. Atm. press.: 1 013 hPa.
Boiling point or initial boiling point and boiling range	77 °C. Atm. press.: 1 013 hPa.
Flammability	Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.
Lower and upper	Lower flammable limit: 1.7% by volume; Upper

explosion limit/flammability limit	flammable limit: 9.8% by volume
Flash point	-7.5 °C. Atm. press.:1 013 hPa.
Auto-ignition temperature	320 °C. Atm. press.:1 016 hPa.
Decomposition temperature	no data available
pH	13.
Kinematic viscosity	dynamic viscosity (in mPa s) = 0.507. Temperature:20°C.
Solubility	Miscible with water
Partition coefficient n-octanol/water	Pow = 1. Temperature:25 °C.;log Pow = 0. Temperature:25 °C.
Vapour pressure	102 hPa. Temperature:20 °C.
Density and/or relative density	736 kg/m ³ . Temperature:20 °C.
Relative vapour density	2.5 (vs air)
Particle characteristics	no data available

10. SECTION 10: Stability and reactivity

10.1. Reactivity

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.

10.2. Chemical stability

n-Butylamine/ is stable in closed containers at room temperature under normal storage and handling conditions.

10.3. Possibility of hazardous reactions

FlammableThe vapour is heavier than air and may travel along the ground; distant ignition possible.N-BUTYL AMINE reacts violently with strong oxidizing agents and acids. Attacks copper and copper compounds [Handling Chemicals Safely 1980 p. 123]. Reacts with hypochlorites to give N-chloroamines which may be explosive when isolated [Bretherick 1979 p. 108].

10.4. Conditions to avoid

no data available

10.5. Incompatible materials

Forms explosive mixture with air. May accumulate static electrical charges, and may cause ignition of its vapors. n-Butylamine is a weak base; reacts with strong oxidizers and acids causing fire and explosion hazard. Incompatible with organic anhydrides, isocyanates, vinyl acetate, acrylates, substituted allyls, alkylene oxides, epichlorohydrin, ketones, aldehydes, alcohols, glycols, phenols, cresols, caprolactum solution. Attacks some metals in presence of moisture. Butyl Amines

10.6. Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /nitrogen oxides/.

11. SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (male/female) - 371.8 mg/kg bw. Remarks: In corn oil.
- Inhalation: LC50 - rat (male/female) - 4.2 mg/L air (analytical).
- Dermal: LD50 - guinea pig (male) - 429 mg/kg bw (abdomen, intact skin).

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance and the vapour are corrosive to the eyes, skin and respiratory tract. Inhalation of the vapour may cause lung oedema. See Notes. The effects may be delayed. Medical observation is indicated.

STOT-repeated exposure

Repeated or prolonged contact with skin may cause dermatitis.

Aspiration hazard

A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20°C.

12. SECTION 12: Ecological information

12.1. Toxicity

- Toxicity to fish: LC50 - *Pimephales promelas* - 268 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - *Ceriodaphnia dubia* - 8.3 mg/L - 48 h.
- Toxicity to algae: EC50 - *Desmodesmus subspicatus* (previous name: *Scenedesmus subspicatus*) - 17 mg/L - 72 h.
- Toxicity to microorganisms: NOEC - *Pseudomonas putida* - 65 mg/L - 16 h.

12.2. Persistence and degradability

The hoechst batch method of determining biodegradability of substances was studied using diethylene glycol as reference material. ... /degradation of/ n-butylamine ... was greater than 90% cod ... /after/ two days.

12.3. Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for n-butylamine(SRC), using a log Kow of 0.97(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

12.4. Mobility in soil

The Koc of n-butylamine has been determined to be 15, 105 and 107 in Podzol soil, Alfisol soil and sediment, respectively(1). According to a classification scheme(2), these Koc values suggest that n-butylamine is expected to have high mobility in soil(SRC). The pKa of n-butylamine is 10.78(3) indicating that this compound will exist almost entirely in the cation form in the environment and cations generally adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts(4).

12.5. Other adverse effects

no data available

13. SECTION 13: Disposal considerations

13.1. Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. SECTION 14: Transport information

14.1. UN Number

ADR/RID: UN1125 (For reference only, please check.)

IMDG: UN1125 (For reference only, please check.)

IATA: UN1125 (For reference only, please check.)

14.2. UN Proper Shipping Name

ADR/RID: n-BUTYLAMINE (For reference only, please check.)

IMDG: n-BUTYLAMINE (For reference only, please check.)

IATA: n-BUTYLAMINE (For reference only, please check.)

14.3. Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)

IMDG: 3 (For reference only, please check.)

IATA: 3 (For reference only, please check.)

14.4. Packing group, if applicable

ADR/RID: II (For reference only, please check.)

IMDG: II (For reference only, please check.)

IATA: II (For reference only, please check.)

14.5. Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

14.6. Special precautions for user

no data available

14.7. Transport in bulk according to IMO instruments

no data available

15. SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Butylamine	Butylamine	109-73-9	203-699-2
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

16. SECTION 16: Other information

Information on revision

Creation Date July 15, 2019

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Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website:
<http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website:
<https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website:
<http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:
http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website:
<http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Other Information

The occupational exposure limit value should not be exceeded during any part of the working exposure. 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. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.

Any questions regarding this SDS, Please send your inquiry to ydcl@yataichemical.com

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