

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dibutylamine > 99 % for synthesis

Revision date: 16.03.2023

Product code: 23104

Page 1 of 11

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Dibutylamine > 99 % for synthesis

REACH Registration Number: 01-2119475606-30-XXXX  
CAS No: 111-92-2  
Index No: 612-049-00-0  
EC No: 203-921-8

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

#### Uses advised against

Do not use for private purposes (household).

### 1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH  
Street: Stempelstraße 6  
Place: D-47167 Duisburg  
Telephone: 0203/5194-0  
e-mail: info@analytichem.de  
Contact person: Abteilung Produktsicherheit  
e-mail: produktsicherheit@analytichem.de  
Internet: www.analytichem.de  
Responsible Department: Abteilung Produktsicherheit  
Telefax: 0203/5194-290  
Telephone: 0203/5194-107/117

### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

### Further Information

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No 1272/2008

Flam. Liq. 3; H226  
Acute Tox. 2; H330  
Acute Tox. 3; H311  
Acute Tox. 4; H302  
Skin Corr. 1A; H314

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

#### Regulation (EC) No 1272/2008

Signal word: Danger

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dibutylamine > 99 % for synthesis

Revision date: 16.03.2023

Product code: 23104

Page 2 of 11

#### Pictograms:



#### Hazard statements

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.

#### Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
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.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor.

#### 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Sum formula:	C <sub>8</sub> H <sub>19</sub> N
Molecular weight:	129,24 g/mol

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
111-92-2	di-n-butylamine			100 %
	203-921-8	612-049-00-0	01-2119475606-30-XXXX	
	Flam. Liq. 3, Acute Tox. 2, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1A; H226 H330 H311 H302 H314			

Full text of H and EUH statements: see section 16.

#### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
111-92-2	203-921-8	di-n-butylamine	100 %
	inhalation: LC50 = 218 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); dermal: LD50 = 768 mg/kg; oral: LD50 = 550 mg/kg		

#### Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

## SECTION 4: First aid measures

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dibutylamine > 99 % for synthesis

Revision date: 16.03.2023

Product code: 23104

Page 3 of 11

#### 4.1. Description of first aid measures

##### General information

Self-protection of the first aider

##### After inhalation

Provide fresh air.

If breathing is irregular or stopped, administer artificial respiration.

Call a physician immediately.

##### After contact with skin

Wash immediately with: Water

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

Call a physician immediately.

##### After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Remove contact lenses, if present and easy to do. Continue rinsing.

##### After ingestion

Rinse mouth immediately and drink plenty of water.

Do not allow a neutralisation agent to be drunk. Do NOT induce vomiting.

Call a physician immediately.

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

Headache, Gastrointestinal complaints, Vomiting, Conjunctival oedema (chemosis), Spasms,

Unconsciousness, Irritant, corrosive, Cough, Dyspnoea

Risk of serious damage to eyes.

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

No data available

## SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Foam

Carbon dioxide (CO<sub>2</sub>)

Extinguishing powder

##### Unsuitable extinguishing media

no restriction

#### 5.2. Special hazards arising from the substance or mixture

Combustible liquids

Hazardous combustion products

In case of fire may be liberated:

Hydrogen cyanide (hydrocyanic acid)

Nitrogen oxides (NO<sub>x</sub>)

Carbon dioxide (CO<sub>2</sub>) Carbon monoxide

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Heating causes rise in pressure with risk of bursting.

#### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.

#### Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Move undamaged containers from immediate hazard area if it can be done safely.

Use water spray jet to protect personnel and to cool endangered containers.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dibutylamine > 99 % for synthesis

Revision date: 16.03.2023

Product code: 23104

Page 4 of 11

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### General advice

Keep away from sources of ignition - No smoking.

This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).

Take action to prevent static discharges.

#### For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

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

#### For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Danger of explosion

### 6.3. Methods and material for containment and cleaning up

#### For containment

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

#### For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

#### Other information

Provide adequate ventilation.

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

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Avoid exposure - obtain special instructions before use.

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Use extractor hood (laboratory).

Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

#### Advice on protection against fire and explosion

Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Dibutylamine > 99 % for synthesis**

Revision date: 16.03.2023

Product code: 23104

Page 5 of 11

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs.

**Further information on handling**

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

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Store in a place accessible by authorized persons only.

**7.2. Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels**

Keep in a cool, well-ventilated place.

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

**Further information on storage conditions**

Keep container tightly closed.

Keep cool. Protect from sunlight.

storage temperature < +30°C

**7.3. Specific end use(s)**

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**DNEL/DMEL values**

CAS No	Substance			
DNEL type	Exposure route	Effect	Value	
111-92-2	di-n-butylamine			
Worker DNEL, long-term	inhalation	systemic	29 mg/m <sup>3</sup>	
Worker DNEL, acute	inhalation	systemic	29 mg/m <sup>3</sup>	
Worker DNEL, long-term	inhalation	local	29 mg/m <sup>3</sup>	
Worker DNEL, acute	inhalation	local	29 mg/m <sup>3</sup>	

**PNEC values**

CAS No	Substance	
Environmental compartment	Value	
111-92-2	di-n-butylamine	
Freshwater	0,084 mg/l	
Freshwater (intermittent releases)	0,084 mg/l	
Marine water	0,008 mg/l	
Freshwater sediment	11,4 mg/kg	
Marine sediment	1,14 mg/kg	
Micro-organisms in sewage treatment plants (STP)	149,5 mg/l	
Soil	2,23 mg/kg	

**8.2. Exposure controls**

**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Individual protection measures, such as personal protective equipment**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Dibutylamine > 99 % for synthesis

Revision date: 16.03.2023

Product code: 23104

Page 6 of 11

#### Eye/face protection

goggles  
Face protection umbrella

#### Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact  
Trade name/designation: KCL 730 Camatril® Velours  
Suitable material: NBR (Nitrile rubber) 0,4 mm  
Wearing time with permanent contact: > 480 min

By short-term hand contact  
Trade name/designation: KCL 730 Camatril® Velours  
Suitable material: NBR (Nitrile rubber) 0,4 mm  
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

#### Skin protection

Take off immediately all contaminated clothing and wash it before reuse.  
Wear fire resistant or flame retardant clothing.  
Wash hands and face before breaks and after work and take a shower if necessary.  
Draw up and observe skin protection programme.

#### Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.  
Filtering device with filter or ventilator filtering device of type: A

#### Environmental exposure controls

Do not allow to enter into surface water or drains.  
Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.  
Danger of explosion

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	colourless
Odour:	like: Amines
Odour threshold:	No data available
Melting point/freezing point:	-62 °C
Boiling point or initial boiling point and boiling range:	160 °C
Flammability:	No data available
Lower explosion limits:	0,6 vol. %
Upper explosion limits:	6,8 vol. %
Flash point:	39 °C
Auto-ignition temperature:	No data available
Decomposition temperature:	260 °C
pH-Value (at 20 °C):	11,1 (1 g/l)
Viscosity / kinematic:	No data available

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Dibutylamine > 99 % for synthesis**

Revision date: 16.03.2023

Product code: 23104

Page 7 of 11

Water solubility: (at 20 °C)	3,8 g/L
Solubility in other solvents	
No data available	
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure: (at 20 °C)	2,26 hPa
Vapour pressure:	No data available
Density:	0,767 g/cm <sup>3</sup>
Relative density:	No data available
Bulk density:	No data available
Relative vapour density:	No data available
Particle characteristics:	No data available

**9.2. Other information****Information with regard to physical hazard classes**

## Explosive properties

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

## Sustaining combustion:

Sustaining combustion

## Self-ignition temperature

Solid:

No data available

Gas:

No data available

## Oxidizing properties

No data available

**Other safety characteristics**

## Evaporation rate:

No data available

## Solvent separation test:

No data available

## Solvent content:

No data available

## Solid content:

No data available

## Sublimation point:

No data available

## Softening point:

No data available

## Pour point:

No data available

## Viscosity / dynamic:

0,9 mPa·s

(at 20 °C)

## Flow time:

No data available

**Further Information**

No data available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

Vapours may form explosive mixtures with air.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Oxidising agent

Acids

Alcohols

Ketone

aldehydes

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Dibutylamine > 99 % for synthesis**

Revision date: 16.03.2023

Product code: 23104

Page 8 of 11

ester  
Nitriles  
Phenols

**10.4. Conditions to avoid**

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

**10.5. Incompatible materials**

Light metal  
copper  
Copper alloys  
Tin

**10.6. Hazardous decomposition products**

SECTION 5: Firefighting measures

**Further information**

No data available

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Toxicokinetics, metabolism and distribution**

Avoid exposure - obtain special instructions before use.

**Acute toxicity**

Fatal if inhaled.  
Toxic in contact with skin.  
Harmful if swallowed.  
If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).  
Pulmonary oedema

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
111-92-2	di-n-butylamine				
	oral	LD50 550 mg/kg	Rat	Publication (1954)	Evaluation of acute oral toxicity after
	dermal	LD50 768 mg/kg	Rabbit	Publication (1954)	according to Draize et al.
	inhalation (4 h) vapour	LC50 218 mg/l	Rat	Study report (1987)	OECD Guideline 403
	inhalation dust/mist	ATE 0,05 mg/l			

**Irritation and corrosivity**

Causes severe skin burns and eye damage.  
Causes serious eye damage.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Dibutylamine > 99 % for synthesis**

Revision date: 16.03.2023

Product code: 23104

Page 9 of 11

**Information on likely routes of exposure**

No data available

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards**

**Endocrine disrupting properties**

No data available

**Further information**

Headache, Gastrointestinal complaints, Vomiting, Conjunctival oedema (chemosis), Spasms, Unconsciousness, Irritant, corrosive, Cough, Dyspnoea  
Risk of serious damage to eyes.

**SECTION 12: Ecological information**

**12.1. Toxicity**

CAS No	Chemical name						
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method	
111-92-2	di-n-butylamine						
	Acute fish toxicity	LC50 5,5 mg/l	96 h	Oncorhynchus mykiss	Chemosphere 9, 753-762 (1980)	other: IRSA, Quaderni dell'Instituto di	
	Acute algae toxicity	ErC50 16,91 mg/l	72 h	Desmodesmus subspicatus	Study report (1988)	other: DIN 38412, part 9	
	Acute crustacea toxicity	EC50 8,4 mg/l	48 h	Ceriodaphnia dubia	Study report (1994)	other: Standard guide for conducting acu	
	Crustacea toxicity	NOEC 4,2 mg/l	21 d	Daphnia magna	Publication (1999)	OECD Guideline 211	

**12.2. Persistence and degradability**

95 %; 28 d; aerob  
OECD 301C  
Readily biodegradable (according to OECD criteria).

**12.3. Bioaccumulative potential**

No indication of bioaccumulation potential.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
111-92-2	di-n-butylamine	2,1

**BCF**

CAS No	Chemical name	BCF	Species	Source
111-92-2	di-n-butylamine	21	fish	United States Enviro

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.  
No data available

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**Dibutylamine > 99 % for synthesis**

Revision date: 16.03.2023

Product code: 23104

Page 10 of 11

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

No data available

**12.7. Other adverse effects**

Do not allow to enter into surface water or drains.

**Further information**

Avoid release to the environment.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b>14.1. UN number or ID number:</b>	UN 2248
<b>14.2. UN proper shipping name:</b>	DI-n-BUTYLAMINE
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8+3
Classification code:	CF1
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	83
Tunnel restriction code:	D/E

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	UN 2248
<b>14.2. UN proper shipping name:</b>	DI-n-BUTYLAMINE
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8+3
Classification code:	CF1
Limited quantity:	1 L
Excepted quantity:	E2

**Marine transport (IMDG)**

<b>14.1. UN number or ID number:</b>	UN 2248
<b>14.2. UN proper shipping name:</b>	DI-n-BUTYLAMINE
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8+3
Special Provisions:	-
Limited quantity:	1 L
Excepted quantity:	E2
EmS:	F-E, S-C

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Dibutylamine &gt; 99 % for synthesis

Revision date: 16.03.2023

Product code: 23104

Page 11 of 11

## Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number or ID number:</b>	UN 2248
<b>14.2. UN proper shipping name:</b>	DI-n-BUTYLAMINE
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8+3
Limited quantity Passenger:	0.5 L
Passenger LQ:	Y840
Excepted quantity:	E2
IATA-packing instructions - Passenger:	851
IATA-max. quantity - Passenger:	1 L
IATA-packing instructions - Cargo:	855
IATA-max. quantity - Cargo:	30 L

## SECTION 15: Regulatory information

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

## EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40

Information according to 2012/18/EU (SEVESO III): H2 ACUTE TOXIC

Additional information: P5c

## National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 1 - slightly hazardous to water

## SECTION 16: Other information

## Changes

This data sheet contains changes from the previous version in section(s): 1.

## Relevant H and EUH statements (number and full text)

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.

## Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.