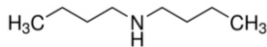


### MATERIAL SAFETY DATA SHEET (MSDS)

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

##### 1.1. Product identifier

Product form	: Substance
	:
CAS-No.	: 111-92-2
Product code	: 3270A
Chemical structure	: 
Synonyms	: Dibutylamine

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

###### 1.2.1. Relevant identified uses

Industrial/Professional use spec	: Industrial For professional use only
Use of the substance/mixture	: Laboratory chemicals

###### 1.2.2. Uses advised against

No additional information available

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

SPAN LAB  
UNIT NO. 14, SKY INDUSTRIAL ESTATE, WALIV, VASAI (E)  
401208 Mumbai - INDIA  
PH: +91 9820509929  
[info@spanlab.in](mailto:info@spanlab.in) [www.spanlab.in](http://www.spanlab.in)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2	H225
Acute toxicity (oral), Category 4	H302
Acute toxicity (dermal), Category 4	H312
Acute toxicity (inhal.), Category 4	H332
Skin corrosion/irritation, Category 1A	H314

Full text of H statements : see section 16

# DI-N-BUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xn; R20/21/22

R10

Full text of R-phrases: see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS05

GHS07

Signal word (CLP) :

Danger

Hazard statements (CLP) :

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

Precautionary statements (CLP) :

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.  
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.

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : DI-N-BUTYLAMINE FOR SYNTHESIS

CAS-No. : 111-92-2

Full text of R- and H-statements: see section 16

### 3.2. Mixtures

Not applicable

# DI-N-BUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.
- First-aid measures after skin contact : Take off immediately all contaminated clothing. Immediately call a POISON CENTER/doctor. Wash with plenty of water/....
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
- First-aid measures after ingestion : Rinse mouth. Call a POISON CENTER/doctor if you feel unwell.

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

- Symptoms/effects : Causes severe skin burns and eye damage.
- Symptoms/effects after inhalation : Harmful if inhaled.
- Symptoms/effects after skin contact : Harmful in contact with skin.
- Symptoms/effects after ingestion : Harmful if swallowed.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry powder. Water spray. Foam.
- Unsuitable extinguishing media : Do not use a heavy water stream.

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

- Fire hazard : Flammable liquid and vapour.
- Explosion hazard : May form flammable/explosive vapour-air mixture.

#### 5.3. Advice for firefighters

- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

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

- General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Use personal protective equipment as required.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Avoid release to the environment.

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

- Methods for cleaning up : Collect spillage. On land, sweep or shovel into suitable containers.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

# DI-N-BUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

Precautions for safe handling	: Avoid contact with skin and eyes. Take precautionary measures against static discharge. Use only non-sparking tools. Keep away from sources of ignition - No smoking. Do not breathe vapours.
Hygiene measures	: Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

Technical measures	: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment.
Storage conditions	: Keep container tightly closed. Keep in fireproof place.
Incompatible materials	: Heat sources.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Hand protection	: Protective gloves
Eye protection	: Chemical goggles or safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: [In case of inadequate ventilation] wear respiratory protection.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Molecular mass	: 129.25 g/mol
Colour	: Clear Colorless.
Odour	: amine like.
Odour threshold	: No data available
pH	: 11.1 at 1 g/l at 20 °C
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -62 °C
Freezing point	: No data available
Boiling point	: 159 °C
Flash point	: 40 °C
Auto-ignition temperature	: 260 °C
Decomposition temperature	: No data available

# DI-N-BUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

Flammability (solid, gas)	: Flammable liquid and vapour.
Vapour pressure	: 2.5 hPa at 20 °C
Relative vapour density at 20 °C	: 4.5
Relative density	: No data available
Density	: 0.76 g/cm <sup>3</sup>
Solubility	: Water: 4.05 g/l (25°C)
Log Pow	: 2.06
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.006 - 0.068 vol %

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Open flame. Heat. Sparks.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Oral: Harmful if swallowed. Dermal: Harmful in contact with skin. Inhalation: Harmful if inhaled.
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 11.1 at 1 g/l at 20 °C
Serious eye damage/irritation	: Serious eye damage, category 1, implicit pH: 11.1 at 1 g/l at 20 °C
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified

# DI-N-BUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Harmful if swallowed. Harmful in contact with skin.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

##### DI-N-BUTYLAMINE FOR SYNTHESIS (111-92-2)

Log Pow	2.06
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#### 12.4. Mobility in soil

No additional information available

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

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Handle empty containers with care because residual vapours are flammable.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR) : 2248

# DI-N-BUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

### RID

Transport hazard class(es) (RID) : 8 (3)

Danger labels (RID) : 8, 3



### 14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : II

Packing group (RID) : II

### 14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : CF1

Limited quantities (ADR) : 1I

Excepted quantities (ADR) : E2

Packing instructions (ADR) : P001, IBC02

Mixed packing provisions (ADR) : MP15

Portable tank and bulk container instructions (ADR) : T7

Portable tank and bulk container special provisions (ADR) : TP2

Tank code (ADR) : L4BN

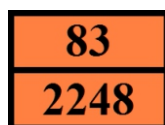
Vehicle for tank carriage : FL

Transport category (ADR) : 2

Special provisions for carriage - Operation (ADR) : S2

Hazard identification number (Kemler No.) : 83

Orange plates :



Tunnel restriction code (ADR) : D/E

EAC code : •3W

APP code : A(fl)

#### - Transport by sea

Limited quantities (IMDG) : 1 L

Excepted quantities (IMDG) : E2

Packing instructions (IMDG) : P001

IBC packing instructions (IMDG) : IBC02

Tank instructions (IMDG) : T7

Tank special provisions (IMDG) : TP2

# DI-N-BUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

UN-No. (IMDG)	: 2248
UN-No. (IATA)	: 2248
UN-No. (ADN)	: 2248
UN-No. (RID)	: 2248

### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: DI-N-BUTYLAMINE
Proper Shipping Name (IMDG)	: DI-n-BUTYLAMINE
Proper Shipping Name (IATA)	: Di-n-butylamine
Proper Shipping Name (ADN)	: DI-N-BUTYLAMINE
Proper Shipping Name (RID)	: DI-n-BUTYLAMINE
Transport document description (ADR)	: UN 2248 DI-N-BUTYLAMINE, 8 (3), II, (D/E)
Transport document description (IMDG)	: UN 2248 DI-n-BUTYLAMINE, 8 (3), II (39°C c.c.)
Transport document description (IATA)	: UN 2248 Di-n-butylamine, 8 (3), II
Transport document description (ADN)	: UN 2248 DI-N-BUTYLAMINE, 8 (3), II
Transport document description (RID)	: UN 2248 DI-n-BUTYLAMINE, 8 (3), II

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR)	: 8 (3)
Danger labels (ADR)	: 8, 3



#### IMDG

Transport hazard class(es) (IMDG)	: 8 (3)
Danger labels (IMDG)	: 8, 3



#### IATA

Transport hazard class(es) (IATA)	: 8 (3)
Hazard labels (IATA)	: 8, 3



#### ADN

Transport hazard class(es) (ADN)	: 8 (3)
Danger labels (ADN)	: 8, 3





# DI-N-BUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-C
Stowage category (IMDG)	: A
Flash point (IMDG)	: 39°C c.c.
MFAG-No	: 132

### - Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y840
PCA limited quantity max net quantity (IATA)	: 0.5L
PCA packing instructions (IATA)	: 851
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 855
CAO max net quantity (IATA)	: 30L
ERG code (IATA)	: 8F

### - Inland waterway transport

Classification code (ADN)	: CF1
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E2
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 1

### - Rail transport

Classification code (RID)	: CF1
Limited quantities (RID)	: 1L
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001, IBC02
Mixed packing provisions (RID)	: MP15
Portable tank and bulk container instructions (RID)	: T7
Portable tank and bulk container special provisions (RID)	: TP2
Tank codes for RID tanks (RID)	: L4BN
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE6
Hazard identification number (RID)	: 83

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

DI-N-BUTYLAMINE FOR SYNTHESIS is not on the REACH Candidate List

DI-N-BUTYLAMINE FOR SYNTHESIS is not on the REACH Annex XIV List

# DI-N-BUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

### 15.1.2. National regulations

#### Germany

- Reference to AwSV : Water hazard class (WGK) 1, low hazard to water (Classification according to AwSV; ID No. 593)
- 12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

#### Netherlands

- SZW-lijst van kankerverwekkende stoffen : The substance is not listed
- SZW-lijst van mutagene stoffen : The substance is not listed
- NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed
- NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed
- NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

#### Denmark

- Class for fire hazard : Class II-1
- Store unit : 5 liter
- Classification remarks : R10 <H225;H302+H312+H332;H314>; Emergency management guidelines for the storage of flammable liquids must be followed
- Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Flam. Liq. 2	Flammable liquids, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
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.
R10	Flammable
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
Xn	Harmful

# DI-N-BUTYLAMINE FOR SYNTHESIS

## Safety Data Sheet

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*