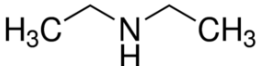


CAS No: 109-89-7 MSDS

## MATERIAL SAFETY DATA SHEET (MSDS)

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

## 1.1. Product identifier

Product form : Substance  
 :  
 EC index no : 612-003-00-X  
 EC no : 203-716-3  
 CAS No : 109-89-7  
 Product code : 00099  
 Formula : C<sub>4</sub>H<sub>11</sub>N  
 Chemical structure : 

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

## 1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

## 1.2.2. Uses advised against

No additional information available

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

LOBA CHEMIE PVT.LTD.  
 107 Wode House Road, Jehangir Villa, Colaba  
 400005 Mumbai - INDIA  
 T +91 22 6663 6663 - F +91 22 6663 6699  
[info@lobachemie.com](mailto:info@lobachemie.com) - [www.lobachemie.com](http://www.lobachemie.com)

## 1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (9:00am - 6:00 pm)

## SECTION 2: Hazards identification

## 2.1. Classification of the substance or mixture

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

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

Full text of classification categories and H statements : see section 16

# DIETHYLAMINE For Synthesis

## Safety Data Sheet

### Classification according to Directive 67/548/EEC or 1999/45/EC

F; R11

Xn; R20/21/22

C; R35

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/sparks/open flames/hot surfaces. - 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/physician

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Name : DIETHYLAMINE For Synthesis

CAS No : 109-89-7

EC no : 203-716-3

EC index no : 612-003-00-X

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

### 3.2. Mixture

Not applicable

# DIETHYLAMINE For Synthesis

## Safety Data Sheet

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Specific treatment is urgent (see ... on this label).
- First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Immediately call a POISON CENTER or doctor/physician. Specific measures (see ... on this label). Wash with plenty of soap and water. Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Specific treatment (see ... on this label).
- First-aid measures after ingestion : Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician. Specific treatment (see ... on this label).

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

- Symptoms/injuries : Causes severe skin burns and eye damage.
- Symptoms/injuries after inhalation : Corrosive to the respiratory tract.
- Symptoms/injuries after skin contact : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.
- Symptoms/injuries after eye contact : Causes serious eye damage.
- Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

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

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>).
- Unsuitable extinguishing media : Do not use a heavy water stream.

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

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

#### 5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment.

### 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 naked lights. 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. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

# DIETHYLAMINE For Synthesis

## Safety Data Sheet

### 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.  
Precautions for safe handling : No naked lights. No smoking. Use only non-sparking tools. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact during pregnancy/while nursing.  
Hygiene measures : Do not eat, drink or smoke when using this product. Wash ... thoroughly after handling.

### 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. Comply with applicable regulations.  
Storage conditions : Keep in fireproof place. Keep container tightly closed.  
Incompatible materials : Heat sources.  
Packaging materials : Do not store in corrodable metal.

### 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 face shield  
Skin and body protection : Wear suitable protective clothing  
Respiratory protection : Wear respiratory protection

## SECTION 9: Physical and chemical properties

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

Physical state : Liquid  
Molecular mass : 73.14 g/mol  
Colour : Clear Colorless.  
Odour : fishy ammonical.  
Odour threshold : No data available  
pH : No data available  
Relative evaporation rate (butylacetate=1) : 16.9  
Melting point : -50 °C  
Freezing point : No data available

# DIETHYLAMINE For Synthesis

## Safety Data Sheet

Boiling point	: 55 - 58
Flash point	: -28 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable Highly flammable liquid and vapour
Vapour pressure	: 195 mm Hg at 20°C
Relative vapour density at 20 °C	: 2.5
Relative density	: No data available
Density	: 0.71 g/cm <sup>3</sup>
Solubility	: Water: Miscible in water
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.018 - 0.101 vol %

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

### 10.2. Chemical stability

Highly flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Open flame. Direct sunlight.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

May release flammable gases. Thermal decomposition generates : Corrosive vapours.

## 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.

# DIETHYLAMINE For Synthesis

## Safety Data Sheet

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Serious eye damage, category 1, implicit
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Additional information	: Corrosive to the respiratory tract
Specific target organ toxicity (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

No additional information available

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

# DIETHYLAMINE For Synthesis

## Safety Data Sheet

### SECTION 14: Transport information

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

#### 14.1. UN number

UN-No. (ADR)	: 1154
UN-No. (IMDG)	: 1154
UN-No.(IATA)	: 1154
UN-No.(ADN)	: 1154
UN-No. (RID)	: 1154

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: DIETHYLAMINE
Proper Shipping Name (IMDG)	: DIETHYLAMINE
Proper Shipping Name (IATA)	: DIETHYLAMINE
Proper Shipping Name (ADN)	: DIETHYLAMINE
Proper Shipping Name (RID)	: DIETHYLAMINE
Transport document description (ADR)	: UN 1154 DIETHYLAMINE, 3 (8), II, (D/E)
Transport document description (IMDG)	: UN 1154 DIETHYLAMINE, 3 (8), II (-39°C c.c.)
Transport document description (IATA)	: UN 1154 DIETHYLAMINE, 3 (8), II
Transport document description (ADN)	: UN 1154 DIETHYLAMINE, 3 (8), II
Transport document description (RID)	: UN 1154 DIETHYLAMINE, 3 (8), II

#### 14.3. Transport hazard class(es)

##### ADR

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



##### IMDG

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



##### IATA

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



##### ADN

Transport hazard class(es) (ADN)	: 3 (8)
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# DIETHYLAMINE For Synthesis

## Safety Data Sheet

Danger labels (ADN) : 3, 8



### RID

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

Danger labels (RID) : 3, 8



### 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) : FC

Limited quantities (ADR) : 1L

Excepted quantities (ADR) : E2

Packing instructions (ADR) : P001, IBC02

Mixed packing provisions (ADR) : MP19

Portable tank and bulk container instructions (ADR) : T7

Portable tank and bulk container special provisions (ADR) : TP1

Tank code (ADR) : L4BH

Vehicle for tank carriage : FL

Transport category (ADR) : 2

Special provisions for carriage - Operation (ADR) : S2, S20

Hazard identification number (Kemler No.) : 338

Orange plates :



Tunnel restriction code (ADR) : D/E

EAC code : •2WE

APP code : A(fl)



# DIETHYLAMINE For Synthesis

## Safety Data Sheet

### - 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)	: TP1
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-C
Stowage category (IMDG)	: E
Stowage and handling (IMDG)	: SW2
Flash point (IMDG)	: -39°C c.c.
MFAG-No	: 132

### - Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y340
PCA limited quantity max net quantity (IATA)	: 0.5L
PCA packing instructions (IATA)	: 352
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 363
CAO max net quantity (IATA)	: 5L
ERG code (IATA)	: 3CH

### - Inland waterway transport

Classification code (ADN)	: FC
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)	: FC
Limited quantities (RID)	: 1L
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001, IBC02
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T7
Portable tank and bulk container special provisions (RID)	: TP1
Tank codes for RID tanks (RID)	: L4BH
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE7
Hazard identification number (RID)	: 338

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

Not applicable

# DIETHYLAMINE For Synthesis

## Safety Data Sheet

### 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

DIETHYLAMINE For Synthesis is not on the REACH Candidate List

DIETHYLAMINE For Synthesis is not on the REACH Annex XIV List

##### 15.1.2. National regulations

###### Germany

AwSV/VwVwS Annex reference : Water hazard class (WGK) 1, slightly hazardous to water (Classification according to VwVwS, Annex 2; WGK No 248)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

###### Denmark

Classification remarks : 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-phrases:

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
R11	Highly flammable

# DIETHYLAMINE For Synthesis

## Safety Data Sheet

R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R35	Causes severe burns
C	Corrosive
F	Highly flammable
Xn	Harmful

*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*