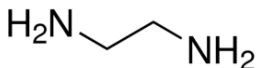


CAS-No.: 107-15-3 MSDS

## 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. : 612-006-00-6  
EC-No. : 203-468-6  
CAS-No. : 107-15-3  
Product code : 00140  
Chemical structure :   
Synonyms : 1,2-Diaminoethane

#### 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

##### 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, H226  
Category 3  
Acute toxicity (oral), H302  
Category 4  
Acute toxicity (dermal), H312  
Category 4  
Skin corrosion/irritation, H314  
Category 1B  
Respiratory sensitisation, H334  
Category 1  
Skin sensitisation, H317  
Category 1

# ETHYLENEDIAMINE For Synthesis

## Safety Data Sheet

Full text of H statements : see section 16

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

Xn; R21/22

R42

C; R34

R43

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

GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H226 - Flammable liquid and vapour.  
H302+H312 - Harmful if swallowed or in contact with skin  
H314 - Causes severe skin burns and eye damage.  
H317 - May cause an allergic skin reaction.  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements (CLP) : 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/doctor

## 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : ETHYLENEDIAMINE For Synthesis  
CAS-No. : 107-15-3  
EC-No. : 203-468-6  
EC Index-No. : 612-006-00-6

# ETHYLENEDIAMINE For Synthesis

## Safety Data Sheet

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

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
First-aid measures after skin contact	: Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor. Specific measures (see supplemental first aid instruction on this label). Wash with plenty of water/.... Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label).
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/doctor.
First-aid measures after ingestion	: Rinse mouth. Call a POISON CENTER/doctor if you feel unwell. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

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

Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects 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

Treat symptomatically.

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

Emergency procedures	: Evacuate unnecessary personnel.
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#### 6.1.2. For emergency responders

Protective equipment	: Use personal protective equipment as required.
Emergency procedures	: Stop release.

# ETHYLENEDIAMINE For Synthesis

## Safety Data Sheet

### 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.

### 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 open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid breathing dust/fume/gas/mist/vapours/spray.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

### 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 container tightly closed. Store in original container. Store in a dry 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 face shield

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 : 60.1 g/mol

Colour : Clear Colorless.

Odour : amine like.

# ETHYLENEDIAMINE For Synthesis

## Safety Data Sheet

Odour threshold	: No data available
pH	: 12.2 at 110 g/l at 20 °C
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 8.5 °C
Freezing point	: No data available
Boiling point	: 118 °C
Flash point	: 38 °C
Auto-ignition temperature	: 379 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable liquid and vapour.
Vapour pressure	: 13 hPa at 20 °C
Relative vapour density at 20 °C	: 2.07
Relative density	: No data available
Density	: 0.89 g/cm <sup>3</sup>
Solubility	: Water: Soluble in water
Log Pow	: 2.04
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.027 - 0.16 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

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. Overheating. Direct sunlight. Heat. Sparks.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

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

# ETHYLENEDIAMINE For Synthesis

## Safety Data Sheet

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity	: Oral: Harmful if swallowed. Dermal: Harmful in contact with skin.
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 12.2 at 110 g/l at 20 °C
Serious eye damage/irritation	: Serious eye damage, category 1, implicit pH: 12.2 at 110 g/l at 20 °C
Respiratory or skin sensitisation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
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

ETHYLENEDIAMINE For Synthesis (107-15-3)	
Log Pow	2.04

#### 12.4. Mobility in soil

No additional information available

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

ETHYLENEDIAMINE For Synthesis (107-15-3)	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

# ETHYLENEDIAMINE For Synthesis

## Safety Data Sheet

### 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) : 1604

UN-No. (IMDG) : 1604

UN-No. (IATA) : 1604

UN-No. (ADN) : 1604

UN-No. (RID) : 1604

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : ETHYLENEDIAMINE

Proper Shipping Name (IMDG) : ETHYLENEDIAMINE

Proper Shipping Name (IATA) : Ethylenediamine

Proper Shipping Name (ADN) : ETHYLENEDIAMINE

Proper Shipping Name (RID) : ETHYLENEDIAMINE

Transport document description (ADR) : UN 1604 ETHYLENEDIAMINE, 8 (3), II, (D/E)

Transport document description (IMDG) : UN 1604 ETHYLENEDIAMINE, 8 (3), II (34°C c.c.)

Transport document description (IATA) : UN 1604 Ethylenediamine, 8 (3), II

Transport document description (ADN) : UN 1604 ETHYLENEDIAMINE, 8 (3), II

Transport document description (RID) : UN 1604 ETHYLENEDIAMINE, 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)

# ETHYLENEDIAMINE For Synthesis

## Safety Data Sheet

Hazard labels (IATA) : 8, 3



### ADN

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

Danger labels (ADN) : 8, 3



### 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

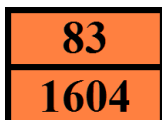


# ETHYLENEDIAMINE For Synthesis

## Safety Data Sheet

Hazard identification number (Kemler No.) : 83

Orange plates :



Tunnel restriction code (ADR) : D/E

EAC code : •2W

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  
EmS-No. (Fire) : F-E  
EmS-No. (Spillage) : S-C  
Stowage category (IMDG) : A  
Stowage and handling (IMDG) : SW2  
Segregation (IMDG) : SG35  
Flash point (IMDG) : 34°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

# ETHYLENEDIAMINE For Synthesis

## Safety Data Sheet

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  
Ethylenediamine (EDA) is on the REACH Candidate List  
ETHYLENEDIAMINE For Synthesis is not on the REACH Annex XIV List

#### 15.1.2. National regulations

##### Germany

Reference to AwSV : Water hazard class (WGK) 1, low hazard to water (Classification according to AwSV; ID No. 103)  
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 <H226;H302+H312;H314;H317;H334>; 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

# ETHYLENEDIAMINE For Synthesis

## Safety Data Sheet

### SECTION 16: Other information

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

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Flam. Liq. 3	Flammable liquids, Category 3
Resp. Sens. 1	Respiratory sensitisation, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Sens. 1	Skin sensitisation, Category 1
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
R10	Flammable
R21/22	Harmful in contact with skin and if swallowed
R34	Causes burns
R42	May cause sensitization by inhalation
R43	May cause sensitisation by skin contact
C	Corrosive
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*