

# SAFETY DATA SHEET

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

### 1.1 Product identifiers

Product name : Diethylamine  
Product Number : D110465  
Brand : aladdin  
CAS-No. : 109-89-7

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

Identified uses : Laboratory chemicals, Manufacture of substances

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

Company : Shanghai Aladdin Biochemical Tech Co., Ltd  
Address : 36 Xinjinqiao Road, Shanghai  
Telephone : 400-620-6333  
Fax : no data available

### 1.4 Emergency telephone number

Emergency Phone : 0532-83889090

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Acute toxicity, Dermal (Category 3), H311

Skin corrosion (Sub-category 1A), H314

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

**Pictogram**



**Signal word**

Danger

**Hazard statement(s)**

H225	Highly Flammable liquid and vapor
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H335	May cause respiratory irritation
H402	Harmful to aquatic life
H302+H332	Harmful if swallowed or if inhaled

**Precautionary statement(s)**

P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...] thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P310	Immediately call a POISON CENTER or doctor/physician.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].
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.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use ... to extinguish.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal plant.
P301+P312+P330	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	: N-Ethylethanamine N-ethyl-Ethanamine DEA
Formula	: C4H11N
Molecular weight	: 73.14
CAS No.	: 109-89-7
EC-NO.	: 203-716-3

Component	Classification	Concentration
Diethylamine	Flam. Liq. 2; Acute Tox. 4; Acute Tox. 3; Skin Corr. 1A; Eye Dam. 1; STOT SE 3; H225, H302, H332, H311, H314, H318, H335 limits: >= 1 %: STOT SE 3, H335;	Standard for GC, ≥99.5%(GC)

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

If breathing stops: immediately apply artificial respiration, if necessary also oxygen. After inhalation: fresh air.

Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

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**In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

**In case of eye contact**

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

**If swallowed**

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

no data available

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**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

**Suitable extinguishing media**

Carbon dioxide (CO2) Foam Dry powder

**Unsuitable extinguishing media**

no data available

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides Nitrogen oxides (NOx) Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Risk of dust explosion. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

**5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

**5.4 Further information**

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

**6.2 Environmental precautions**

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Do not let product enter drains. Risk of explosion.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Flash back possible over considerable distance. Container explosion may occur under fire conditions. Advice on protection against fire and explosion. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons

### 7.3 Specific end use(s)

no data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Component	CAS No.	Value	Control parameters	Basis
Diethylamine	109-89-7	TWA	5ppm	United States. ACGIH Threshold Limit (TLV)
	Note	Cannot be classified as a human carcinogen  The skin absorbs hazards		
		STEL	15ppm	United States. ACGIH Threshold Limit (TLV)
		Cannot be classified as a human carcinogen  The skin absorbs hazards		

		ST	25 ppm75 mg/m3	United States. The contact limit recommended by NIOSH
		TWA	10 ppm30 mg/m3	United States. The contact limit recommended by NIOSH
		TWA	25 ppm75 mg/m3	United States. Occupational Contact Limits (OSHA) - Table Z-1 Air Pollutant Limits
		C	5 ppm15 mg/m3	Allowable exposure limits for chemical pollutants in California (No 107 Article 8)
		Skin		

## 8.2 Exposure controls

### Appropriate engineering controls

Operate in accordance with industrial health and safety rules of use. Wash your hands before rest and at the end of work.

### Personal protective equipment

#### Eyeface protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

#### Skin protection

Gloves must be checked before use. Remove the gloves in the correct way (do not touch the outer surface of the gloves) and avoid any skin contact with the appliance. After use, carefully operate contaminated gloves in accordance with relevant laws and regulations and effective laboratory procedures and procedures. Clean and blow dry the protective gloves selected for your hands and must comply with the specifications given in Regulation (EU) 2016/425 and the resulting en 374 standard.

#### Body Protection

Flame retardant antistatic protective clothing.

#### Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type AX

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

#### **Control of environmental exposure**

Do not let product enter drains. Risk of explosion.

## **SECTION 9: Physical and chemical properties**

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

a) Appearance	form: Liquid color: Colorless
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	-49.8°C
f) Initial boiling point and boiling range	55.9°C
g) Flash point	-23°C
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	0.7
n) Water solubility	Dissolved in water, alcohol, ether.
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

### **9.2 Other safety information**

no data available

## **SECTION 10: Stability and reactivity**

### **10.1 Reactivity**

no data available

### **10.2 Chemical stability**

The product is chemically stable under standard ambient conditions (room temperature) .

### **10.3 Possibility of hazardous reactions**

Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines! Exothermic reaction with: nitrites Strong acids Acid anhydrides Alcohols Aldehydes Ketones Esters Halogenated hydrocarbon phenols Mercury Risk of ignition or formation of inflammable gases or vapours with: Oxidizing agents

## 10.4 Conditions to avoid

Warming.

## 10.5 Incompatible materials

Aldehydes, Alcohols, Dicyanofurazan, Ketones, phenols, Acids, Halogenated hydrocarbon, Oxidizing agents, Epoxides

## 10.6 Hazardous decomposition products

In the event of fire: see section 5

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# SECTION 11: Toxicological information

## 11.1 Information on toxicological effects

### Acute toxicity

LD50 Oral - Rat - male - 540 mg/kg (OECD Test Guideline 401) LC50 Inhalation - Rat - female - 4 h - 17,11 mg/l (OECD Test Guideline 403) LD50 Dermal - Rabbit - male - 582 mg/kg Remarks: (IUCLID) (ECHA)

### Skin corrosion/irritation

Skin - Rabbit Result: Causes severe burns. (OECD Test Guideline 404) (Regulation (EC) No 1272/2008, Annex VI)

### Serious eye damage/eye irritation

Eyes - Rabbit Result: Causes burns. - 7 Days (Regulation (EC) No. 440/2008, Annex, B.5)

### Respiratory or skin sensitisation

no data available

### Germ cell mutagenicity

Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative Remarks: (ECHA) Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: Micronucleus test Species: Mouse Application Route: inhalation (vapor) Result: negative Remarks: (ECHA)

### Carcinogenicity

no data available

### Reproductive toxicity

no data available

### Specific target organ toxicity - single exposure

May cause respiratory irritation. Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

### Specific target organ toxicity - repeated exposure

no data available

### Aspiration hazard

no data available



#### **Additional Information**

RTECS: HZ8750000 Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Lachrymation To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Toxicity to fish semi-static test LC50 - *Oryzias latipes* - 27 mg/l - 96 h (OECD Test Guideline 203) Toxicity to daphnia and other aquatic invertebrates semi-static test LC50 - *Ceriodaphnia dubia* (water flea) - 4,6 mg/l - 48 h (US-EPA) Toxicity to algae static test EC50 - *Pseudokirchneriella subcapitata* - 54 mg/l - 72 h (OECD Test Guideline 201) Toxicity to bacteria static test EC10 - activated sludge - > 1.000 mg/l - 30 min (ISO 8192) Remarks: (External MSDS)

### **12.2 Persistence and degradability**

Biodegradability aerobic - Exposure time 28 d Result: 68 - 70 % - Readily biodegradable. (OECD Test Guideline 301C) Theoretical oxygen demand 3.620 mg/g Remarks: (IUCLID)

### **12.3 Bioaccumulative potential**

no data available

### **12.4 Mobility in soil**

no data available

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

no data available

### **12.6 Other adverse effects**

no data available

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## **SECTION 13:**

### **13.1 Disposal considerations**

#### **Product**

Hand over the remaining and non-recyclable solution to a licensed company.

#### **Contaminated packaging**

no data available

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## **SECTION 14: Transport information**

#### **DOT (US)**

UN number: 1154

Packing group: II

Class: 3 (8)

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Proper shipping name: DIETHYLAMINE  
Reportable Quantity(RQ): no data available

Poison Inhalation Hazard: no data available

Environmental Hazards: no

#### IMDG

UN number: 1154

Packing group: II

EMS-No: no data available

Proper shipping name: DIETHYLAMINE

#### IATA

UN number: 1154

Packing group: II

Class: 3 (8)

Proper shipping name: DIETHYLAMINE

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## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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## SECTION 16: Other information

### Further information

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