



# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** 2-diethylaminoethanol

### 1.2 Other means of identification

**Product number** -

**Other names** N,N-Diethylethanolamine; Diethylaminoethanol; 2-(Diethylamino)ethanol

### 1.3 Recommended use of the chemical and restrictions on use

**Identified uses** Industrial and scientific research use.

**Uses advised against** no data available

### 1.4 Supplier's details

**Company** Shanghai Yien Chemical Technology Co., Ltd  
**Address** Building 6, 28 Yingong Road, Fengxian District, Shanghai  
Chemical Industry Zone, Shanghai, 201400, China  
**Telephone** +86-400-133-2688

### 1.5 Emergency phone number

**Emergency phone number** +86-400-133-2688

**Service hours** Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Flammable liquids, Category 3  
Acute toxicity - Category 4, Oral  
Acute toxicity - Category 4, Dermal  
Skin corrosion, Sub-category 1B  
Acute toxicity - Category 4, Inhalation

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**





<b>Signal word</b>	Danger
<b>Hazard statement(s)</b>	H226 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
<b>Precautionary statement(s)</b>	
<b>Prevention</b>	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/... P264 Wash ... thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P271 Use only outdoors or in a well-ventilated area.
<b>Response</b>	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower]. P370+P378 In case of fire: Use ... to extinguish. P301+P317 IF SWALLOWED: Get medical help. P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of water/... P317 Get medical help. P321 Specific treatment (see ... on this label). P362+P364 Take off contaminated clothing and wash it before reuse. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P363 Wash contaminated clothing before reuse. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P316 Get emergency medical help immediately. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Storage</b>	P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.
<b>Disposal</b>	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

## 2.3 Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
2-diethylaminoethanol	2-diethylaminoethanol	100-37-8	202-845-2	100%

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## **SECTION 4: First-aid measures**

### **4.1 Description of necessary first-aid measures**

#### **If inhaled**

Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.

#### **Following skin contact**

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

#### **Following eye contact**

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### **Following ingestion**

Rinse mouth. Give one or two glasses of water to drink. Do NOT induce vomiting. Refer for medical attention .

### **4.2 Most important symptoms/effects, acute and delayed**

INHALATION: Irritation of mucous membranes. EYES: Corrosive, causes intense pain. SKIN: Severe irritation. May cause allergic skin reaction. INGESTION: Gastrointestinal irritation. (USCG, 1999)

### **4.3 Indication of immediate medical attention and special treatment needed, if necessary**

#### **Absorption, Distribution and Excretion**

Orally admin to rats, was mainly excreted via kidneys. eliminated within first 24 hr. after 48 hr excreted independently of dose. after 40 days still being eliminated. up to 60% accumulated in liver. cns & spinal cord showed highest concn after 7 days.

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## **SECTION 5: Fire-fighting measures**

### **5.1 Suitable extinguishing media**

Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).

### **5.2 Specific hazards arising from the chemical**

Special Hazards of Combustion Products: Toxic and irritating gases may be generated. Behavior in Fire: Can react with oxidizing materials. (USCG, 1999)

### **5.3 Special protective actions for fire-fighters**

Use water spray, powder, alcohol-resistant foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

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## **SECTION 6: Accidental release measures**

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

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Collect leaking and spilled liquid in sealable containers as far as possible. Wash away remainder with plenty of water.

### **6.2 Environmental precautions**

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Collect leaking and spilled liquid in sealable containers as far as possible. Wash away remainder with plenty of water.

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

Overspread sufficient sodium bisulfate and sprinkle water. Drain into the sewer with abundant water.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

NO open flames, NO sparks and NO smoking. Above 52°C use a closed system and ventilation. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

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

Fireproof. Separated from strong oxidants and strong acids. Cool. Dry.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure limit values

TLV: 2 ppm as TWA; (skin). MAK: 24 mg/m<sup>3</sup>, 5 ppm; peak limitation category: I(1); skin absorption (H); pregnancy risk group: C

#### Biological limit values

no data available

### 8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

#### Skin protection

Protective gloves. Protective clothing.

#### Respiratory protection

Use ventilation, local exhaust or breathing protection.

#### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid.
Colour	Colorless.
Odour	NAUSEATING ODOR
Melting point/freezing point	-68 °C.
Boiling point or initial boiling point and boiling range	162.36 °C. Atm. press.:1 013 hPa.
Flammability	Class II Combustible Liquid: Fl.P. at or above 100°F and below 140°F.
Lower and upper explosion limit/flammability limit	Flammable limits in air, % by volume: Lower: 6.7; Upper: 11.7.
Flash point	51.7 °C. Atm. press.:1 013 hPa.

<b>Auto-ignition temperature</b>	270 °C. Atm. press.:1 013 hPa.
<b>Decomposition temperature</b>	no data available
<b>pH</b>	no data available
<b>Kinematic viscosity</b>	dynamic viscosity (in mPa s) = 4.022. Temperature:25.0°C.
<b>Solubility</b>	Very soluble (NTP, 1992)
<b>Partition coefficient n-octanol/water</b>	log Pow = 0.21. Temperature:23 °C. Remarks:Without adjustment of pH value.
<b>Vapour pressure</b>	2 hPa. Temperature:22.4 °C.
<b>Density and/or relative density</b>	0.88 g/cm <sup>3</sup> . Temperature:20 °C.
<b>Relative vapour density</b>	4.04 (vs air)
<b>Particle characteristics</b>	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

On combustion, forms toxic gases of nitrogen oxides. Reacts with strong acids and strong oxidants.

### 10.2 Chemical stability

Stability During Transport: Stable.

### 10.3 Possibility of hazardous reactions

Flammable; moderate fire hazard2-DIETHYLAMINOETHANOL is an organic compound with both amine and alcohol substituents. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This compound can react with strong oxidizers and acids. (NTP, 1992)

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Strong oxidizers, strong acids.

### 10.6 Hazardous decomposition products

When heated to decomposition it emits toxic fumes of /nitrogen oxides/.

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 - rat (male/female) - ca. 1 320 mg/kg bw. Remarks:Conversion in mg/kg bw based on the density: d=0.885 g/cm<sup>3</sup>.
- Inhalation: LC50 - rat (male/female) - ca. 4.6 mg/L air.
- Dermal: LD50 - rabbit - ca. 1 100 mg/kg bw.

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

The substance is corrosive to the eyes. The substance is severely irritating to the skin and respiratory tract. The substance may cause effects on the nervous system.

**STOT-repeated exposure**

no data available

**Aspiration hazard**

A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20°C.

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**SECTION 12: Ecological information****12.1 Toxicity**

- Toxicity to fish: LC50 - *Leuciscus idus* - 147 mg/L - 96 h. Remarks: Not neutralized.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - *Daphnia magna* - 83.6 mg/L - 48 h. Remarks: Not neutralized.
- Toxicity to algae: EC50 - *Desmodesmus subspicatus* (previous name: *Scenedesmus subspicatus*) - 62.3 mg/L - 72 h.
- Toxicity to microorganisms: EC20 - activated sludge, domestic - > 1 000 mg/L - 30 min. Remarks: Respiration rate.

**12.2 Persistence and degradability**

no data available

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Other adverse effects**

no data available

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**SECTION 13: Disposal considerations****13.1 Disposal methods****Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

**Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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**SECTION 14: Transport information**

## 14.1 UN Number

ADR/RID: UN2686 (For reference only, please check.)

IMDG: UN2686 (For reference only, please check.)

IATA: UN2686 (For reference only, please check.)

## 14.2 UN Proper Shipping Name

ADR/RID: 2-DIETHYLAMINOETHANOL (For reference only, please check.)

IMDG: 2-DIETHYLAMINOETHANOL (For reference only, please check.)

IATA: 2-DIETHYLAMINOETHANOL (For reference only, please check.)

## 14.3 Transport hazard class(es)

ADR/RID: 8 (For reference only, please check.)

IMDG: 8 (For reference only, please check.)

IATA: 8 (For reference only, please check.)

## 14.4 Packing group, if applicable

ADR/RID: II (For reference only, please check.)

IMDG: II (For reference only, please check.)

IATA: II (For reference only, please check.)

## 14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

## 14.6 Special precautions for user

no data available

## 14.7 Transport in bulk according to IMO instruments

no data available

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# SECTION 15: Regulatory information

## 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
2-diethylaminoethanol	2-diethylaminoethanol	100-37-8	202-845-2
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

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# SECTION 16: Other information

### Information on revision

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### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

## References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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