



# 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 1,4-diethylbenzene

### 1.2 Other means of identification

Product number -

Other names 1,4-DIETHYLBENZENE (25 ML ); Benzene, 1,4-diethyl-;  
1,4-DIETHYLBENZENE (P-DIETHYLBENZENE)

### 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  
Aspiration hazard, Category 1  
Skin irritation, Category 2  
Serious eye damage, Category 1  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

### 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<br>H304 May be fatal if swallowed and enters airways<br>H315 Causes skin irritation<br>H318 Causes serious eye damage<br>H411 Toxic to aquatic life with long lasting effects   |
| <b>Precautionary statement(s)</b> |  |
| <b>Prevention</b>                 | P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br>P233 Keep container tightly closed.<br>P240 Ground and bond container and receiving equipment.<br>P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.<br>P242 Use non-sparking tools.<br>P243 Take action to prevent static discharges.<br>P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...<br>P264 Wash ... thoroughly after handling.<br>P273 Avoid release to the environment.  |
| <b>Response</b>                   | P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].<br>P370+P378 In case of fire: Use ... to extinguish.<br>P301+P316 IF SWALLOWED: Get emergency medical help immediately.<br>P331 Do NOT induce vomiting.<br>P302+P352 IF ON SKIN: Wash with plenty of water/...<br>P321 Specific treatment (see ... on this label).<br>P332+P317 If skin irritation occurs: Get medical help.<br>P362+P364 Take off contaminated clothing and wash it before reuse.<br>P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P317 Get medical help.<br>P391 Collect spillage. |
| <b>Storage</b>                    | P403+P235 Store in a well-ventilated place. Keep cool.<br>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

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Chemical name      | Common names and synonyms | CAS number | EC number | Concentration |
|--------------------|---------------------------|------------|-----------|---------------|
| 1,4-diethylbenzene | 1,4-diethylbenzene        | 105-05-5   | 203-265-2 | 100%          |

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

**Following skin contact**

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

**Following eye contact**

Rinse with pure water for at least 15 minutes. Consult a doctor.

**Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

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

no data available

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

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary. Monitor for shock and treat if necessary. For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport. Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal. Aromatic hydrocarbons and related compounds

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**SECTION 5: Fire-fighting measures**

**5.1 Suitable extinguishing media**

To fight fire, use carbon dioxide, dry chemical. diethyl benzene

**5.2 Specific hazards arising from the chemical**

no data available

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

Wear self-contained breathing apparatus for firefighting if necessary.

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**SECTION 6: Accidental release measures**

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

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**6.2 Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

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

Methods to reduce hydrocarbons from effluents were studied. mixt of diethylbenzene isomers was one of water pollutants.

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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

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

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure limit values

no data available

#### 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 tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flare resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

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

|  |  |
|--|--|
| Physical state   | Liquid.  |
| Colour   | Colourless (visual observation).   |
| Odour  | Characteristic aromatic; like benzene, like toluene                          |
| Melting point/freezing point                             | -42.83 °C.   |
| Boiling point or initial boiling point and boiling range | 183.7 °C. Atm. press.:101 325 Pa.  |
| Flammability   | no data available  |
| Lower and upper explosion limit/flammability limit       | Lower flammable limit: 0.7% by volume; Upper flammable limit: 6.0% by volume |
| Flash point  | 57 °C. Atm. press.:101 325 Pa.   |
| Auto-ignition temperature                                | 430 °C. Atm. press.:1 atm.   |
| Decomposition temperature                                | no data available  |
| pH   | no data available  |

|  |  |
|--|--|
| <b>Kinematic viscosity</b>                   | dynamic viscosity (in mPa s) = 3.6.<br>Temperature:-42.83°C.;kinematic viscosity (in mm²/s) = 4.186. Temperature:-42.83°C. Remarks:Calculated from value of dynamic viscosity. |
| <b>Solubility</b>                            | Miscible in ethanol, ethyl ether and acetone   |
| <b>Partition coefficient n-octanol/water</b> | log Pow = 4.06. Temperature:25 °C. Remarks:No information available about pH of measurement.   |
| <b>Vapour pressure</b>                       | 1.405 hPa. Temperature:25 °C.;140.52 Pa. Temperature:25 °C.;1.054 Torr. Temperature:25 °C. Remarks:Original value as reported in the OECD SIDS Report.                         |
| <b>Density and/or relative density</b>       | 866 kg/m³. Temperature:20 °C.  |
| <b>Relative vapour density</b>               | >1 (vs air)  |
| <b>Particle characteristics</b>              | no data available  |

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

Flammable liquid when exposed to heat or flame ... Diethyl benzene

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Can react with oxidizing materials. Diethyl benzene

### 10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and fumes. Diethyl benzene

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 - rat (male/female) - > 2 000 mg/kg bw.
- Inhalation: LC50 - rat (male/female) - > 5 mg/L air.
- Dermal: no data available

### 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**

no data available

**STOT-repeated exposure**

no data available

**Aspiration hazard**

no data available

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

- Toxicity to fish: LC50 - *Oryzias latipes* - 1.8 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - *Daphnia magna* - 32 mg/L - 24 h.
- Toxicity to algae: EC50 - *Desmodesmus subspicatus* (previous name: *Scenedesmus subspicatus*) - 1.9 mg/L - 72 h.
- Toxicity to microorganisms: EC50 - activated sludge of a predominantly domestic sewage - > 250 mg/L - 3 h. Remarks: Respiration rate.

**12.2 Persistence and degradability**

1,4-Diethylbenzene at a concn of 0.5 ppmC was completely removed within 5 days from a gas oil mixture added to acclimated fresh-wellwater grab samples from Tuffenwies and Zurich, Switzerland, with a pH of 8.0, at 10 and 25 deg C and microbial populations of 300-400 cells/ml(1). A gas oil mixture with a concn of 0.5 ppm contained 1,4-diethylbenzene, which degraded at a moderate rate in North Sea coastal waters maintained at 20 deg C for 14 days(2).

**12.3 Bioaccumulative potential**

An estimated BCF of 530 was calculated for 1,4-diethylbenzene(SRC), using a log Kow of 4.45(1,SRC) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is high.

**12.4 Mobility in soil**

Using a structure estimation method based on molecular connectivity indices(1), the Koc for 1,4-diethylbenzene can be estimated to be 1600(SRC). According to a classification scheme(2), this estimated Koc value suggests that 1,4-diethylbenzene is expected to have low mobility in soil.

**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: UN2049 (For reference only, please check.)

IMDG: UN2049 (For reference only, please check.)

IATA: UN2049 (For reference only, please check.)

## 14.2 UN Proper Shipping Name

ADR/RID:

DIETHYLBENZENE (For reference only, please check.)

IMDG:

DIETHYLBENZENE (For reference only, please check.)

IATA: DIETHYLBENZENE

(For reference only, please check.)

## 14.3 Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)

IMDG: 3 (For reference only, please check.)

IATA: 3 (For reference only, please check.)

## 14.4 Packing group, if applicable

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

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

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

## 14.5 Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

## 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 |
|--|---------------------------|------------|-----------|
| 1,4-diethylbenzene   | 1,4-diethylbenzene        | 105-05-5   | 203-265-2 |
| 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

Creation Date July 15, 2019

Revision Date July 15, 2019

### 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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