

# SAFETY DATA SHEETS

According to the UN GHS revision 9

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

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## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** Dipentene

### 1.2 Other means of identification

**Product number** -  
**Other names** dycom;Nesol;Unitene

### 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).

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## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Flammable liquids, Category 3  
Skin irritation, Category 2  
Skin sensitization, Category 1  
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word** Warning  
**Hazard statement(s)** H226 Flammable liquid and vapour  
H315 Causes skin irritation

H317 May cause an allergic skin reaction  
H410 Very toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

**Prevention**

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.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.

**Response**

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.  
P302+P352 IF ON SKIN: Wash with plenty of water/...  
P321 Specific treatment (see ... on this label).  
P332+P317 If skin irritation occurs: Get medical help.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P333+P317 If skin irritation or rash occurs: Get medical help.  
P391 Collect spillage.

**Storage**

P403+P235 Store in a well-ventilated place. Keep cool.

**Disposal**

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
Dipentene	Dipentene	138-86-3	205-341-0	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**

Liquid irritates eyes; prolonged contact with skin causes irritation. Ingestion causes irritation of gastrointestinal tract. (USCG, 1999)

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

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Turpentine, terpenes, and related compounds

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

### **5.1 Suitable extinguishing media**

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Behavior in Fire: Containers may explode. (USCG, 1999)

### **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**

If a spill occurs, clean it up promptly. Don't wash it away. Instead, sprinkle the spill with sawdust, vermiculite, or kitty litter. Sweep it into a plastic garbage bag, and dispose of it as directed on the pesticide product label.

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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 in a flammable liquid storage area or approved cabinet away from ignition sources and corrosive and reacting materials. ... Store in tightly closed containers in a cool, well ventilated area away from heat and incompatible materials.

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

## Occupational Exposure limit values

<b>Component</b>	Dipentene			
<b>CAS No.</b>	138-86-3			
	<b>Limit value - Eight hours</b>		<b>Limit value - Short term</b>	
	<b>ppm</b>	<b>mg/m<sup>3</sup></b>	<b>ppm</b>	<b>mg/m<sup>3</sup></b>
<b>Sweden</b>	25	150	50 (1)	300 (1)
	<b>Remarks</b>			
<b>Sweden</b>	(1) 15 minutes average value			

### 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/flame 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

<b>Physical state</b>	Dipentene is a colorless liquid with an odor of lemon. Flash point 113°F. Density about 7.2 lb /gal and insoluble in water. Hence floats on water. Vapors heavier than air. Used as a solvent for rosin, waxes, rubber; as a dispersing agent for oils, resins, paints, lacquers, varnishes, and in floor waxes and furniture polishes.
<b>Colour</b>	PALE YELLOW OR GREENISH-YELLOW LIQUID
<b>Odour</b>	ACQUIRES TEREBINTHINATE ODOR UPON OXIDATION
<b>Melting point/freezing point</b>	-96°C(lit.)
<b>Boiling point or initial boiling point and boiling range</b>	178°C
<b>Flammability</b>	no data available
<b>Lower and upper explosion limit/flammability limit</b>	Lower flammable limit: 0.7% by volume; Upper flammable limit: 6.1% by volume (at 302 deg F (150 deg C))
<b>Flash point</b>	45°C(lit.)
<b>Auto-ignition temperature</b>	458° F (USCG, 1999)
<b>Decomposition</b>	no data available

<b>temperature</b>	
<b>pH</b>	no data available
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	SLIGHTLY SOL IN WATER; SOL IN 3 VOL ALCOHOL; MISCIBLE WITH CARBON DISULFIDE, GLACIAL ACETIC ACID
<b>Partition coefficient n-octanol/water</b>	log Kow = 4.57
<b>Vapour pressure</b>	<3 mm Hg ( 14.4 °C)
<b>Density and/or relative density</b>	0.84
<b>Relative vapour density</b>	4.7 (vs air)
<b>Particle characteristics</b>	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Flammable. Insoluble in water.

### 10.2 Chemical stability

Oil readily undergoes deterioration

### 10.3 Possibility of hazardous reactions

Flammable when exposed to heat or flame. DIPENTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Forms explosive mixture with air. Contact with oxidizers may cause fire and explosion hazard.

### 10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 Mouse oral 5.6-6.6 g/kg
- Inhalation: LC50 Rat inhalation 20 mg/L/1 hr
- 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

Evaluation: There is inadequate evidence in humans for the carcinogenicity of d-limonene. There is sufficient evidence in experimental animals for the carcinogenicity of d-limonene. Overall evaluation: In making its overall evaluation of the carcinogenicity to humans of d-

limonene, the Working Group concluded that d-limonene produces renal tubular tumors in male rats by a non-DNA reactive alpha-2u-globulin associated response. Therefore, the mechanism by which d-limonene incr the incidence of renal tubular tumors in male rats is not relevant to humans. d-Limonene is not classifiable as to its carcinogenicity to humans (Group 3). d-Limonene

#### **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; Species: *Oncorhynchus mykiss* (Rainbow trout); Conditions: static; Concentration: 80 ppm for 96 hr (95% confidence limit: 71.4-88.7 ppm) /92% AI formulated product
- Toxicity to daphnia and other aquatic invertebrates: EC50; Species: *Daphnia magna* (Water flea) age <24 hr; Conditions: static; Concentration: 17 ppm for 48 hr (95% confidence limit: 11-33 ppm); Effect: intoxication, immobilization /4.0% AI formulated product
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

### **12.2 Persistence and degradability**

AEROBIC: Organisms isolated from soil and water were unable to oxidize limonene in laboratory experiments(1). Limonene was listed as a compound difficult to biodegrade and was classified in level 3 (difficult to biodegrade) in a 5 tiered rating system on ease of biodegradability(2). The concentration of limonene between the influent and effluent of aerated treatment lagoons was found to decrease significantly which the author ascribed to a biological removal process although complete documentation was not provided(3). Other studies have indicated that limonene is readily biodegradable under aerobic conditions. Limonene, present at 100 mg/L, reached 73% of its theoretical BOD in 2 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(4). Terpene-acclimated inocula prepared from soil obtained from a coniferous forest and hardwood forest in North Carolina degraded limonene with a half-life of approximately 9-20 hours at 23 deg C following a lag period of 15-23 hours(5). Degradation by unacclimated inocula did not begin until after a 182-hour lag period(5).

### **12.3 Bioaccumulative potential**

An estimated BCF of 480 was calculated for limonene(SRC), using a log Kow of 4.57(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is high, provided the compound is not metabolized by the organism(SRC).

### **12.4 Mobility in soil**

Using a structure estimation method based on molecular connectivity indices(1), the Koc for limonene can be estimated to be 1,100(SRC). According to a classification scheme(2), this estimated Koc value suggests that limonene is expected to have low mobility in soil(SRC).

### **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: UN2052 (For reference only, please check.)      IMDG: UN2052 (For reference only, please check.)      IATA: UN2052 (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: DIPENTENE (For reference only, please check.)      IMDG: DIPENTENE (For reference only, please check.)      IATA: DIPENTENE (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
Dipentene	Dipentene	138-86-3	205-341-0
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			Listed.

(China IECSC)	
Korea Existing Chemicals List (KECL)	Listed.

## 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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