

## Chemical Safety Data Sheet MSDS / SDS

## D-Phenothrin

Revision Date:2024-12-21 Revision Number:1

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

## Product identifier

Product name : D-Phenothrin  
CBnumber : CB9699395  
CAS : 26046-85-5  
EINECS Number : 247-431-2  
Synonyms : D-phenothrin,m-phenoxybenzyl (1R-trans)-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

## SECTION 2: Hazards identification

## Classification of the substance or mixture

Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

## Label elements

## Pictogram(s)

□

Signal word : Warning

## Hazard statement(s)

H410 Very toxic to aquatic life with long lasting effects

## Precautionary statement(s)

## Prevention

P273 Avoid release to the environment.

## Response

P391 Collect spillage.

**Storage**

none

**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.

**Other hazards**

no data available

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## SECTION 3: Composition/information on ingredients

**Substance**

Product name	: D-Phenothrin
Synonyms	: D-phenothrin,m-phenoxybenzyl (1R-trans)-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate
CAS	: 26046-85-5
EC number	: 247-431-2
MF	: C23H26O3
MW	: 350.45

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## SECTION 4: First aid measures

**Description of first aid measures****If inhaled**

Fresh air, rest.

**Following skin contact**

Remove contaminated clothes. Rinse and then wash skin with water and soap.

**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.

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

no data available

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

Emergency and supportive measures: Treat bronchospasm and anaphylaxis if they occur. Observe patients with a history of large ingestions for at least 4-6 hours for any signs of CNS depression or seizures. Pyrethrins and pyrethroids

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## SECTION 5: Firefighting measures

## **Extinguishing media**

Use carbon dioxide, foam, or dry chemical /on fires involving pyrethroids/. Pyrethrum

## **Specific Hazards Arising from the Chemical**

no data available

## **Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

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# SECTION 6: Accidental release measures

## **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.

## **Environmental precautions**

Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

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

SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a POTW is acceptable only after review by the governing authority. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must meet Hazardous Material Criteria for disposal.

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# SECTION 7: Handling and storage

## **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.

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

Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs. Keep in a well-ventilated room. Ventilate well. Store in closed drum in cool, dry place.

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# SECTION 8: Exposure controls/personal protection

## **Control parameters**

## **Occupational Exposure limit values**

no data available

#### Biological limit values

no data available

#### Exposure controls

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

#### Individual protection measures

##### Eye/face protection

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

##### Skin protection

Wear fire/flammable 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

### Information on basic physicochemical properties

Physical state	PALE YELLOW-TO-YELLOW-BROWN LIQUID.
Colour	Colorless liquid
Odour	Faint characteristic odor
Melting point/freezing point	no data available
Boiling point or initial boiling point and boiling range	437°C at 760 mmHg
Flammability	Combustible. Liquid formulations containing organic solvents may be flammable.
Lower and upper explosion limit/flammability limit	no data available
Flash point	186.6°C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	pH = 5.16 at 20 deg C
Kinematic viscosity	no data available
Solubility	Soluble in xylene and acetone
Partition coefficient n-octanol/water	log Kow = 7.54 (est)
Vapour pressure	1.9×10 <sup>-5</sup> Pa (21.4 °C)
Density and/or relative density	1.12 g/cm <sup>3</sup>
Relative vapour density	no data available
Particle characteristics	no data available

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## SECTION 10: Stability and reactivity

### Reactivity

no data available

### Chemical stability

Stable under irradiation, in most organic solvents, and on inorganic mineral diluents.

### Possibility of hazardous reactions

Combustible. Liquid formulations containing organic solvents may be flammable.

### Conditions to avoid

no data available

### Incompatible materials

Incompatible with alkaline materials.

### Hazardous decomposition products

When heated to decomposition it emits acrid smoke and fumes. (+)-cis,trans-Phenothrin

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 Rat oral greater than 500 mg/kg
- Inhalation: LC50 Rat (Sprague Dawley) inhalation >1210 mg/cu m/4 hr Racemic
- Dermal: LD50 Rat percutaneous >2000 mg/kg

### 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

### **Toxicity**

Toxicity to fish: LC50; Species: *Lepomis macrochirus* (Bluegill); Conditions: freshwater, static; Concentration: 18 ug/L for 96 hr (95% confidence interval: 13.9-23.2 ug/L) /94.6% purity

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: *Daphnia magna* (Water flea, neonate); Conditions: freshwater, static; Concentration: 27.2 ug/L for 5 hr; Effect: mortality /10% purity; Sumithrin, Anvil 10+10 ULV synergized formulation

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **Persistence and degradability**

AEROBIC: Although environmental biodegradation data specific to phenothrin were not available(SRC, 2009), the pyrethroid class of insecticides is readily degraded by environmental microorganisms(1,2). Residues of trans-phenothrin fell to <10 ppb (initial concentration not specified) within 45 days in an aerobic soil(2). Pyrethroids are metabolized by both hydrolytic and oxidative processes(2).

### **Bioaccumulative potential**

An estimated BCF of 230 was calculated for phenothrin(SRC), using a log Kow of 6.01(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, provide the compound is not metabolized by the organism(SRC).

### **Mobility in soil**

The Koc of phenothrin is estimated as  $1.2 \times 10^5$ (SRC), using a log Kow of 6.01(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that phenothrin is expected to be immobile in soil.

### **Other adverse effects**

no data available

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## SECTION 13: Disposal considerations

### **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

#### **UN Number**

ADR/RID: no data available

IMDG: no data available

IATA: no data available

#### **UN Proper Shipping Name**

ADR/RID: no data available

IMDG: no data available

IATA: no data available

#### **Transport hazard class(es)**

ADR/RID: no data available

IMDG: no data available

IATA: no data available

#### **Packing group, if applicable**

ADR/RID: no data available

IMDG: no data available

IATA: no data available

#### **Environmental hazards**

ADR/RID: Yes

IMDG: Yes

IATA: Yes

#### **Special precautions for user**

no data available

#### **Transport in bulk according to IMO instruments**

no data available

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## SECTION 15: Regulatory information

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

#### **European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

#### **EC Inventory**

Listed.

#### **United States Toxic Substances Control Act (TSCA) Inventory**

Not Listed.

#### **China Catalog of Hazardous chemicals 2015**

Not Listed.

#### **New Zealand Inventory of Chemicals (NZIoC)**

Not Listed.

#### **PICCS**

Not Listed.

#### **Vietnam National Chemical Inventory**

Listed.

#### **IECSC**

Not Listed.

#### **Korea Existing Chemicals List (KECL)**

Not Listed.

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## SECTION 16: Other information

### **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/>



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