

## Chemical Safety Data Sheet MSDS / SDS

**RESMETHRIN**Revision Date:2023-09-23 Revision Number:1

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name : RESMETHRIN  
CBnumber : CB9311222  
CAS : 10453-86-8  
EINECS Number : 233-940-7  
Synonyms : Resmethrin,seco

**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

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**SECTION 2: Hazards identification****Classification of the substance or mixture**

Acute toxicity - Category 4, Oral  
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)**

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Signal word : Warning

**Hazard statement(s)**

H302 Harmful if swallowed  
H410 Very toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

P273 Avoid release to the environment.  
P391 Collect spillage. Hazardous to the aquatic environment  
P501 Dispose of contents/container to.....

### Prevention

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

### Response

P301+P317 IF SWALLOWED: Get medical help.

P330 Rinse mouth.

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	: RESMETHRIN
Synonyms	: Resmethrin,seco
CAS	: 10453-86-8
EC number	: 233-940-7
MF	: C22H26O3
MW	: 338.44

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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

Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]: Inhalation of material may be harmful. Contact may cause burns to skin and eyes. Inhalation of Asbestos dust may have a damaging effect on the lungs. Fire may produce irritating, corrosive and/or toxic gases.

Some liquids produce vapors that may cause dizziness or suffocation. Runoff from fire control may cause pollution. (ERG, 2016)

### **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**

Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. For UN3508, be aware of possible short circuiting as this product is transported in a charged state. (ERG, 2016)

### **Advice for firefighters**

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

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## SECTION 6: Accidental release measures

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

Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

### **Environmental precautions**

Do NOT let this chemical enter the environment. Do NOT wash away into sewer. 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**

NO open flames. 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. Store in an area without drain or sewer access.... /Store/ under dry conditions.

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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 safety goggles.

#### Skin protection

Protective gloves.

#### Respiratory protection

Use ventilation (not if powder), local exhaust or breathing protection.

#### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Physical state	neat
Colour	Waxy off-white to tan solid
Odour	Chrysanthemate odor
Melting point/freezing point	56.5 deg C (pure (1-RS)-trans isomer)
Boiling point or initial boiling point and boiling range	418.3°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	206.8°C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available

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Kinematic viscosity	no data available
Solubility	Very sol in xylene and aromatic petroleum hydrocarbons; solubility in kerosene 10%
Partition coefficient n-octanol/water	log Kow = 5.43
Vapour pressure	$< 1 \times 10^{-5}$ Pa (25 °C)
Density and/or relative density	1.111g/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

Decomposes on heating. This produces irritating fumes.

### Chemical stability

Stable to heat and to oxidation. Decomposes rapidly on exposure to air and light (more slowly than pyrethrins). Unstable in alkaline media.

### Possibility of hazardous reactions

Liquid formulations containing organic solvents may be flammable. A pyrethroid derivative.

### Conditions to avoid

no data available

### Incompatible materials

Incompatibility: Strong oxidizers. Pyrethrins

### Hazardous decomposition products

When heated to decomp it emits acrid and irritating fumes.

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 Rat oral 1400 mg/kg
- Inhalation: LC50 Rat inhalation >9490 mg/cu m/4 hr
- Dermal: LD50 Rat percutaneous >3000 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**

Cancer Classification: Likely to be Carcinogenic to Humans

### **Reproductive toxicity**

no data available

### **STOT-single exposure**

The substance is irritating to the eyes and skin.

### **STOT-repeated exposure**

no data available

### **Aspiration hazard**

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

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## SECTION 12: Ecological information

### **Toxicity**

Toxicity to fish: LC50; Species: *Lepomis macrochirus* (Bluegill, weight 0.6 g); Conditions: freshwater, static, 18 deg C, pH 7.4, hardness 44 mg/L CaCO<sub>3</sub>; Concentration: 17.4 ug/L for 24 hr (95% confidence interval: 6.1-49.7 ug/L) /84% purity, technical material

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: *Daphnia magna* (Water flea, age <24 hr); Conditions: freshwater, static; Concentration: 110 ug/L for 48 hr; Effect: intoxication, immobilization /40% purity

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **Persistence and degradability**

AEROBIC: Although environmental biodegradation data specific to resmethrin are not available, the pyrethroid class of insecticides is readily degraded by environmental microorganisms(1,2). Pyrethroids are metabolized by both hydrolytic and oxidative processes(2). Both (+) cis and (+) trans undergo isomerization during the formation of metabolites by ester cleavage and oxidation(2).

### **Bioaccumulative potential**

An estimated BCF of 98 was calculated for resmethrin(SRC), using a log Kow of 5.43(1) and a regression derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is moderate(SRC).

### **Mobility in soil**

The Koc of resmethrin is estimated at 3.1X10<sup>5</sup>(SRC), using a measured log Kow of 5.43(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that resmethrin is expected to be immobile in soil(SRC).

### **Other adverse effects**

no data available

## 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: UN3082 (For reference only, please check.)

IMDG: UN3082 (For reference only, please check.)

IATA: UN3082 (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (For reference only, please check.)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (For reference only, please check.)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: 9 (For reference only, please check.)

IMDG: 9 (For reference only, please check.)

IATA: 9 (For reference only, please check.)

### 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.)

### 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**

Listed.

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

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?>  
Chemical Book



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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/>

## **Other Information**

Carrier solvents used in commercial formulations may change physical and toxicological properties. See ICSCs 0229 and 0239.

### **Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.