

## Chemical Safety Data Sheet MSDS / SDS

## Resmethrin SDS

Revision Date:2024-04-25 Revision Number:1

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

Product name: Resmethrin

CAS: 10453-86-8

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

Relevant identified uses: For R&amp;D use only. Not for medicinal, household or other use.

Uses advised against: none

**Company Identification**

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

**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

**GHS label elements, including precautionary statements**

Pictogram(s)



Signal word

Warning

**Hazard statement(s)**

H302 Harmful if swallowed

H410 Very toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

**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 which do not result in classification**

no data available

**SECTION 3: Composition/information on ingredients**

**Substance**

Chemical name:	Resmethrin
Common names and synonyms:	Resmethrin
CAS number:	10453-86-8
EC number:	233-940-7
Concentration:	100%

**SECTION 4: First aid measures****Description of necessary 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/effects, 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 immediate medical attention and special treatment needed, if necessary**

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

## SECTION 5: Firefighting measures

### Suitable 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)

### Special protective actions for fire-fighters

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

## 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.

## **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.

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

### **Control parameters**

#### **Occupational Exposure limit values**

no data available

#### **Biological limit values**

no data available

### **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.

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

#### **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

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

Physical state:	Resmethrin is a colorless crystals or waxy solid. Insoluble in water. Used as an insecticide.
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
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:	3.32E-07mmHg at 25°C
Density and/or relative density:	1.111g/cm <sup>3</sup>
Relative vapour density:	no data available
Particle characteristics:	no data available

## 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.

## 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.

## 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  $3.1 \times 10^5$ (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.

## **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

**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.

## 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/>

### **Other Information**

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

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any