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

Catalogue Number	CS-T-41598
Product Name	Resmethrin
CAS No.	10453-86-8
Category	Pesticide Standards
Synonyms	Not available
Brand	Clearsynth Labs Ltd.
Identified uses	Laboratory Chemicals
Uses advised against	Not available
Company	Clearsynth Labs Ltd. Mumbai, India
Emergency Phone #	+91-22-245045900
REACH No.	Not available

SECTION 2: Hazards identification

Disclaimer: This is sample MSDS. Please email **sales@clearsynth.com** for more details.

2.1 Classification of the substance or mixture-Regulation (EC) No 1272/2008:

Acute toxicity (Category 4)

2.2 Label Elements

Signal Word: Warning

Hazard Statement(s)

Code	Statement
H302	Harmful if swallowed.
H400	Not available
H410	Not available
H361	Not available

H371	Not available
H373	Not available

Precautionary Statement(s)

Code	Statement
P264	Wash hands thoroughly after handling.
P270	Not available
P273	Not available
P301+P317	Not available
P330	Not available
P391	Not available
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio
P203	Not available
P260	Not available
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P316	Not available
P318	Not available
P319	Get medical help if you feel unwell.
P405	Store locked up.

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : Resmethrin
CAS Number : 10453-86-8
Molecular Formula : C22H26O3
Molecular Weight : 338.44
Parent Chemical : Resmethrin
Synonyms : Not available
Concentration : Not available

SECTION 4: First aid measures

SECTION 4: First-aid measures

Description of first aid measures

- General advice: Remove contaminated clothing and shoes. Seek medical attention if symptoms persist or are severe. Show this SDS to medical personnel.
- Inhalation: Move person to fresh air. Keep at rest. If breathing is difficult, seek medical attention.
- Skin contact: Wash with plenty of soap and water. Get medical attention if irritation develops or persists.
- Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.
- Ingestion: Rinse mouth. Do NOT induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention.

Most important symptoms/effects, acute and delayed
- Not available.

Indication of immediate medical attention and special treatment needed
- Treat symptomatically. No data available.

SECTION 5: Firefighting measures

SECTION 5: Fire-fighting measures

Suitable extinguishing media
- Water spray, alcohol-resistant foam, dry chemical, carbon dioxide.

Unsuitable extinguishing media
- Not available.

Specific hazards arising from the chemical
- Combustible/organic material. Thermal decomposition may produce irritating and/or toxic fumes/gases. Specific decomposition products: Not available.

Special protective equipment and precautions for firefighters
- Wear self-contained breathing apparatus (SCBA) and full protective gear. Use water spray to cool unopened containers exposed to heat.

Further information
- Prevent fire-fighting water from entering drains or watercourses.

SECTION 6: Accidental release measures

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
- Avoid breathing dust/vapors/mist. Avoid contact with skin and eyes. Use appropriate personal protective equipment (see Section 8). Ensure adequate ventilation.

Environmental precautions
- Avoid release to the environment. Prevent entry into drains, surface waters, and soil.

Methods and material for containment and cleaning up
- Contain spill. Collect using non-sparking tools and place in a suitable, labeled container for disposal. Clean spill area with inert absorbent material. Dispose of waste in accordance with local regulations.

Reference to other sections
- See Sections 8 and 13.

SECTION-7: Handling and storage

SECTION 7: Handling and storage

Precautions for safe handling
- Handle in accordance with good industrial hygiene and safety practice.
- Avoid contact with skin, eyes, and clothing.
- Avoid breathing dust/vapors/mist.
- Use only with adequate ventilation.
- Keep container tightly closed when not in use.

Conditions for safe storage, including any incompatibilities
- Store in a cool, dry, well-ventilated place.
- Keep away from heat, sparks, open flames, and incompatible materials.
- Protect from moisture. Store in original container with label intact.
- Incompatible materials: Not available.

Specific end use(s)
- Pesticide standard / laboratory use. Not for food, drug, or household use.

SECTION 8: Exposure controls / personal protection

SECTION 8: Exposure controls/personal protection

Control parameters
- Occupational exposure limits: Not available.

Appropriate engineering controls
- Use local exhaust ventilation or general ventilation to maintain exposure below applicable limits (if established). Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment (PPE)
- Eye/face protection: Safety glasses with side shields or chemical splash goggles.
- Skin protection: Protective gloves (chemical-resistant). Wear protective clothing to prevent skin contact.
- Respiratory protection: If ventilation is inadequate or aerosol/dust is generated, use a NIOSH/EN-approved respirator appropriate for the hazard.
- Hygiene measures: Wash hands thoroughly after handling. Remove contaminated clothing and wash before reuse.

Environmental exposure controls
- Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Test	Result
Appearance	No data available

Test	Result
IR spectrum	No data available
pH	No data available
Solubility	No data available

Property	Value
a) Physical State	No data available
b) Color	No data available
c) Odor	No data available
d) pH	No data available
e) Vapour Pressure	No data available
f) Viscosity	No data available
g) Initial Boiling Point and boiling range	No data available
h) Melting Point / Freezing Point	No data available
i) Auto Ignition Temperature	No data available
j) Flash Point	No data available
k) Explosion Limit, Lower	No data available
l) Explosion Limit, Upper	No data available
m) Decomposition Temperature	No data available
n) Loss on Drying	No data available
o) Relative Density	No data available
p) Solubility (in DMSO)	No data available
q) Oxidizing Properties	No data available

SECTION 10: Stability and reactivity

SECTION 10: Stability and reactivity

Reactivity
- No data available.

Chemical stability
- Stable under recommended storage conditions.

Possibility of hazardous reactions
- No data available.

Conditions to avoid
- Heat, sparks, open flame, and other ignition sources. Excessive heat. Conditions generating dust/aerosols.

Incompatible materials
- Not available.

Hazardous decomposition products
- Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: LC50 (rat) > 9,490 mg/m3/4h LD50: > 5000 mg/kg (Oral, Rat) (A561) LD50: 10 000 mg/kg (Dermal, Rat) (A561)
- Skin corrosion/irritation: /LABORATORY ANIMALS: Subchronic or Prechronic Exposure/ Resmethrin was applied twice a week for 3 weeks to the shaved skin of 4 groups of 10 male New Zealand White rabbits. Cotton cloth treated with resmethrin at 0.247 mg/cu m was applied over 1 mL of liquid (imitating sweat) to rabbits in the first group. In the second group, cotton cloth treated with resmethrin was applied without the sweat, and in the third group, the cotton cloth was fixed to skin that had been pretreated with 10 g of technical grade resmethrin. In the fourth group, untreated cotton cloth was fixed over skin pretreated with pyrax powder containing 1% resmethrin at the rate of 1 g/kg of body weight. The 3 control groups received cotton cloth treated with acetone, cotton cloth treated with acetone over 1 mL of the sweat, and untreated cotton cloth over 1 g pyrax powder/kg, respectively. No significant changes were noted, on day 24 of the test in rabbit body weights and organ-to-body weight ratios of liver, lung, kidney, testis, and spleen. Average dermal irritation scores for resmethrin-treated rabbits were not significantly higher than those for the control groups and did not increase during the test. No significant trends compared with the controls were seen in clinical chemistry values (serum-glutamic oxaloacetic dehydrogenase, alkaline phosphatase, blood-urea nitrogen) on days 5, 12, 19, and 24 of the test. There were no compound-related lesions of the skin or any of the other tissues and organ examined at the termination of the study.
- Serious eye damage/eye irritation: No data available.
- Respiratory or skin sensitization: /SIGNS AND SYMPTOMS/ Synthetic pyrethroids are neither cutaneous sensitizers nor irritants. Although these compounds do not cause signs of inflammation (edema, erythema, vesiculation), they do produce paresthesias after contact. Typically, symptoms begin several hours after cutaneous exposure, peak in the evening, and resolve by the following day. /Synthetic pyrethroids/
- Germ cell mutagenicity: No data available.
- Carcinogenicity: Cancer Classification: Likely to be Carcinogenic to Humans
- Reproductive toxicity: No data available.
- STOT-single exposure: No data available.
- STOT-repeated exposure: /SIGNS AND SYMPTOMS/ The clinical manifestations of inhalation exposure to pyrethrins can be local or systemic. Localized reactors confined to the upper respiratory tract include rhinitis, sneezing, scratchy throat, oral mucosal edema, and even laryngeal mucosal edema. Localized reaction of the lower respiratory tract include cough, shortness of breath, wheezing, and chest pain. An asthma-like reaction occurs with acute exposures in sensitized patients. Hypersensitivity pneumonitis characterized by chest pain, cough, dyspnea, & bronchospasm may occur in an individual chronically exposed. /Pyrethrum and synthetic pyrethroids/ /LABORATORY ANIMALS: Subchronic or Prechronic Exposure/ Resmethrin was applied twice a week for 3 weeks to the shaved skin of 4 groups of 10 male New Zealand White rabbits. Cotton cloth treated with resmethrin at 0.247 mg/cu m was applied over 1 mL of liquid (imitating sweat) to rabbits in the first group. In the second group, cotton

cloth treated with resmethrin was applied without the sweat, and in the third group, the cotton cloth was fixed to skin that had been pretreated with 10 g of technical grade resmethrin. In the fourth group, untreated cotton cloth was fixed over skin pretreated with pyrax powder containing 1% resmethrin at the rate of 1 g/kg of body weight. The 3 control groups received cotton cloth treated with acetone, cotton cloth treated with acetone over 1 mL of the sweat, and untreated cotton cloth over 1 g pyrax powder/kg, respectively. No significant changes were noted, on day 24 of the test in rabbit body weights and organ-to-body weight ratios of liver, lung, kidney, testis, and spleen. Average dermal irritation scores for resmethrin-treated rabbits were not significantly higher than those for the control groups and did not increase during the test. No significant trends compared with the controls were seen in clinical chemistry values (serum-glutamic oxaloacetic dehydrogenase, alkaline phosphatase, blood-urea nitrogen) on days 5, 12, 19, and 24 of the test. There were no compound-related lesions of the skin or any of the other tissues and organ examined at the termination of the study.
- Aspiration hazard: No data available.

Likely routes of exposure
- Following oral exposure, severe fine tremor, marked reflex hyperexcitability, sympathetic activation can occur. Nausea, vomiting and abdominal pain commonly occur and develop following ingestion. Sudden bronchospasm, swelling of oral and laryngeal mucous membranes, and anaphylactoid reactions have been reported after inhalation. Hypersensitivity reactions characterized by pneumonitis, cough, dyspnea, wheezing, chest pain, irritability to sound and touch, and bronchospasm may occur too. Dermatitis is the main effect of a dermal exposure resmethrin. (T36)

Symptoms related to the physical, chemical and toxicological characteristics
- Both type I and type II pyrethroids exert their effect by prolonging the open phase of the sodium channel gates when a nerve cell is excited. They appear to bind to the membrane lipid phase in the immediate vicinity of the sodium channel, thus modifying the channel kinetics. This blocks the closing of the sodium gates in the nerves, and thus prolongs the return of the membrane potential to its resting state. The repetitive (sensory, motor) neuronal discharge and a prolonged negative afterpotential produces effects quite similar to those produced by DDT, leading to hyperactivity of the nervous system which can result in paralysis and/or death. Other mechanisms of action of pyrethroids include antagonism of gamma-aminobutyric acid (GABA)-mediated inhibition, modulation of nicotinic cholinergic transmission, enhancement of noradrenaline release, and actions on calcium ions. They also inhibit calium channels and Ca2+, Mg2+-ATPase. (T10, T18, L857)

SECTION 12: Ecological information

SECTION 12: Ecological information

Toxicity
- No data available.

Persistence and degradability
- No data available.

Bioaccumulative potential
- No data available.

Mobility in soil
- No data available.

Other adverse effects
- Not available.

Additional information
- Avoid release to the environment.

SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

Waste treatment methods
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- Do not discharge to drains or the environment.
- Incineration or disposal via a licensed waste contractor may be appropriate.

Contaminated packaging
- Empty containers may retain residues. Do not reuse container. Dispose of as regulated waste in accordance with applicable requirements.

SECTION 14: Transport information

SECTION 14: Transport information

UN number
- Not available.

UN proper shipping name
- Not available.

Transport hazard class(es)
- Not available.

Packing group
- Not available.

Environmental hazards
- Not available.

Special precautions for user
- Handle and transport in accordance with applicable regulations. Keep container tightly closed and protected from physical damage.

Transport in bulk according to Annex II of MARPOL and the IBC Code
- Not available.

SECTION 15: Regulatory information

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
- Not available.

Chemical inventories
- Not available.

Other regulatory information
- Not available.

SECTION 16: Other information

SECTION 16: Other information

Product identification
- Product name: Resmethrin
- CAS No.: 10453-86-8
- Catalog No.: CS-T-41598
- Category: Pesticide Standards
- Molecular weight: 338.44

Supplier information
- Supplier: Clearsynth Labs Ltd., Mumbai, India
- Emergency phone: +91-22-245045900

Revision information
- Revision date: Not available.
- Version: Not available.

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