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

Catalogue Number	CS-EJ-0043
Product Name	Cyphenothrin
CAS No.	39515-40-7
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.
H332	Harmful if inhaled.
H372	Not available
H400	Not available

H410	Not available
H370	Not available
H330	Not available

Precautionary Statement(s)

Code	Statement
P260	Not available
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Not available
P271	Use only outdoors or in a well-ventilated area.
P273	Not available
P301+P317	Not available
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P317	Not available
P319	Get medical help if you feel unwell.
P330	Not available
P391	Not available
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio
P308+P316	Not available
P321	Specific treatment (see … on this label).
P405	Store locked up.
P284	Not available
P316	Not available
P320	Not available
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : Cyphenothrin
CAS Number : 39515-40-7

Molecular Formula : C24H25NO3
Molecular Weight : 375.5
Parent Chemical : Cyphenothrin
Synonyms : Not available
Concentration : Not available

SECTION 4: First aid measures

SECTION 4: First-aid measures

4.1 Description of first aid measures
General advice:
- Remove contaminated clothing and shoes. Wash contaminated clothing before reuse.
- If symptoms persist or are severe, seek medical attention.

Inhalation:
- Move person to fresh air.
- If breathing is difficult, seek medical attention.

Skin contact:
- Wash with plenty of soap and water.
- Seek 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 with water.
- Do NOT induce vomiting unless directed by medical personnel.
- Seek medical attention.

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

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

SECTION 5: Firefighting measures

SECTION 5: Fire-fighting measures

5.1 Extinguishing media
Suitable extinguishing media:
- Water spray, alcohol-resistant foam, dry chemical, carbon dioxide (CO2).
Unsuitable extinguishing media:
- Not available.

5.2 Special hazards arising from the substance or mixture
- Combustion may produce irritating and/or toxic fumes.

- Specific hazardous decomposition products: Not available.

5.3 Advice for firefighters
- Wear self-contained breathing apparatus (SCBA) and full protective gear.
- Use water spray to cool unopened containers.
- Prevent fire-fighting water from entering drains or waterways.

SECTION 6: Accidental release measures

SECTION 6: Accidental release measures

6.1 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.

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

6.3 Methods and material for containment and cleaning up
- Contain spill.
- Collect spilled material using inert absorbent material.
- Place in suitable, closed container for disposal.
- Clean contaminated area with detergent and water; avoid generating dust.

6.4 Reference to other sections
- See Section 8 for personal protective equipment.
- See Section 13 for disposal considerations.

SECTION-7: Handling and storage

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Use only with adequate ventilation.
- Avoid contact with skin, eyes, and clothing.
- Avoid breathing dust/vapors/mist.
- Do not eat, drink, or smoke when using this product.
- Wash hands thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities
- Store in tightly closed container.
- Store in a cool, dry, well-ventilated place.
- Protect from heat and direct sunlight.
- Incompatible materials: Not available.

7.3 Specific end use(s)
- Pesticide standard / laboratory use. Additional information: Not available.

SECTION 8: Exposure controls / personal protection

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Occupational exposure limits:
- Not available.
Biological limit values:
- Not available.

8.2 Exposure controls
Engineering controls:
- Provide adequate ventilation.
- Use local exhaust where dusts/vapors/mists may be generated.

Personal protective equipment (PPE):
Eye/face protection:
- Safety glasses with side shields or chemical splash goggles.
Skin protection:
- Protective gloves (material not specified).
- Protective clothing to prevent skin contact.
Respiratory protection:
- If ventilation is inadequate, use an appropriate respirator.
Thermal hazards:
- Not available.

Environmental exposure controls:
- Avoid release to the environment; contain and collect spillage.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Test	Result
Appearance	No data available
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

Property	Value
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

10.1 Reactivity
- No data available.

10.2 Chemical stability
- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
- No data available.

10.4 Conditions to avoid
- Heat, flames, sparks.
- Avoid generation of dust.

10.5 Incompatible materials
- Not available.

10.6 Hazardous decomposition products
- Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- Acute toxicity: IDENTIFICATION AND USE: Cyphenothrin is a type II pyrethroid. It is used as fumigant, insecticide, and veterinary medicine. HUMAN STUDIES: The symptoms of poisoning caused by pyrethroids are characterized by ataxia, loss of coordination, hyperexcitation, convulsions, and paralysis. Depending on the type of pyrethroid, repetitive discharges and/or conduction block are observed in various regions of the nervous system. Type II pyrethroids such as cyphenothrin contain a cyano group at the alpha-carbon cause nerve membrane depolarization and block leading to paralysis. The action is ascribed to modification of nerve membrane sodium channels which result in very slow gating kinetics. ANIMAL STUDIES: Tremors and convulsions have been noted in animals at 30 mg/kg and higher. There was no statistically significant increased incidence of neoplasms in oral studies for 104 weeks in mice. In developmental studies in rabbits there were no reproductive or teratogenic effects noted. Cyphenothrin was negative in genotoxicity studies with Salmonella typhimurium strains TA-1535, TA-1537, TA-1538, TA-98 and TA-100 and Escherichia coli WP-2 uvrA in the presence and absence of metabolic activation. ECOTOXICITY STUDIES: The histopathological effects of several doses of cyphenothrin were observed in adult guppies (Lebistes reticulatus) at 34.8, 46.5, 53.5 or 60 ug cyphenothrin/L for 96-hr and their gills were examined. The most common changes at all cyphenothrin doses were the lifting of the epithelial layer from gill lamellae and some necrosis. Degeneration of secondary lamellae due to edema, the shortening of secondary lamellae, and club-shaped lamellae were also observed. /LABORATORY ANIMALS: Developmental or Reproductive Toxicity/ S-2703 forte (95.7% cyphenothrin); 0, 50, 125 mg/kg/day administered subcutaneously on days 6-18 of gestation and 250 mg/kg/day on days 6-10 of gestation ; 15 New Zealand White female rabbits/dose; observations- Maternal effects: a significant decrease in body weight was shown in the two high dose groups, no reproductive or teratogenic effects attributable to test substance were noted; Fetal effects: no physiological or developmental effects were observed at any dose level; Maternal NOEL = 50 mg/kg (based on decreased body weight), Developmental NOEL = 250 mg/kg based on no effects).
- Skin corrosion/irritation: No data available.
- Serious eye damage/eye irritation: No data available.
- Respiratory or skin sensitization: No data available.
- Germ cell mutagenicity: IDENTIFICATION AND USE: Cyphenothrin is a type II pyrethroid. It is used as fumigant, insecticide, and veterinary medicine. HUMAN STUDIES: The symptoms of poisoning caused by pyrethroids are characterized by ataxia, loss of coordination, hyperexcitation, convulsions, and paralysis. Depending on the type of pyrethroid, repetitive discharges and/or conduction block are observed in various regions of the nervous system. Type II pyrethroids such as cyphenothrin contain a cyano group at the alpha-carbon cause nerve membrane depolarization and block leading to paralysis. The action is ascribed to modification of nerve membrane sodium channels which result in very slow gating kinetics. ANIMAL STUDIES: Tremors and convulsions have been noted in animals at 30 mg/kg and higher. There was no statistically significant increased incidence of neoplasms in oral studies for 104 weeks in mice. In developmental studies in rabbits there were no reproductive or teratogenic effects noted. Cyphenothrin was negative in genotoxicity studies with Salmonella typhimurium strains TA-1535, TA-1537, TA-1538, TA-98 and TA-100 and Escherichia coli WP-2 uvrA in the presence and absence of metabolic activation. ECOTOXICITY STUDIES: The histopathological effects of several doses of cyphenothrin were observed in adult guppies (Lebistes reticulatus) at 34.8, 46.5, 53.5 or 60 ug cyphenothrin/L for 96-hr and their gills were examined. The most common changes at all cyphenothrin doses were the lifting of the epithelial layer from gill lamellae and some necrosis. Degeneration of secondary lamellae due to edema, the shortening of secondary lamellae, and club-shaped lamellae were also observed.
- Carcinogenicity: /LABORATORY ANIMALS: Chronic Exposure or Carcinogenicity/ S-2703F (94.6-94.9% cyphenothrin); 0, 100, 300, 1,000 ppm in diets; 80 mice/sex/dose; dose concentrations were justified with results

from a 13 week (see Rec. # 119963) preliminary dietary study that showed some deaths at doses of 1000 and 2000 ppm; in the main study 19% of the males and 24% of the females survived until the end of week 104; survival was unaffected by treatment; observations- no treatment-related clinical signs were noted; absolute and bodyweight-relative kidney weights were lower but not significantly different among male animals which received 300 or 1000 ppm when compared to controls; no treatment related changes were observed in clinical chemistries, at necropsy or histopathological examinations; no statistically significant increased incidence of neoplasms associated with treatment were observed; ... NOEL (M/F)= 1000 ppm (based on no treatment-related effects). /LABORATORY ANIMALS: Chronic Exposure or Carcinogenicity/ S- 2703 forte (94.2% cyphenothrin); 0, 3, 10, 30, 60 mg/kg in gelatin capsules /for 52 weeks/; 4 dogs/sex/dose; observations- one high dose female death; high dose animals clinical signs included tremors, convulsions, pale or reddened oral mucosa and conjunctiva, decreased spontaneous movement, salivation, emesis, and diarrhea, in the 30 mg/kg animals tremors, pale oral mucosas, and decreased spontaneous movements were noted, the 10 mg/kg animals exhibited vomiting and reddened oral mucosas and conjunctivas; a slight decrease in food consumption was noted in the high dose animals; no other treatment related effects were noted in any other parameter; no abnormal macroscopic or microscopic observations; NOEL (M/F) = 3 mg/kg (based on clinical signs); Possible adverse health effects: Tremors and convulsions at 30 mg/kg and higher.
- Reproductive toxicity: IDENTIFICATION AND USE: Cyphenothrin is a type II pyrethroid. It is used as fumigant, insecticide, and veterinary medicine. HUMAN STUDIES: The symptoms of poisoning caused by pyrethroids are characterized by ataxia, loss of coordination, hyperexcitation, convulsions, and paralysis. Depending on the type of pyrethroid, repetitive discharges and/or conduction block are observed in various regions of the nervous system. Type II pyrethroids such as cyphenothrin contain a cyano group at the alpha-carbon cause nerve membrane depolarization and block leading to paralysis. The action is ascribed to modification of nerve membrane sodium channels which result in very slow gating kinetics. ANIMAL STUDIES: Tremors and convulsions have been noted in animals at 30 mg/kg and higher. There was no statistically significant increased incidence of neoplasms in oral studies for 104 weeks in mice. In developmental studies in rabbits there were no reproductive or teratogenic effects noted. Cyphenothrin was negative in genotoxicity studies with Salmonella typhimurium strains TA-1535, TA-1537, TA-1538, TA-98 and TA-100 and Escherichia coli WP-2 uvrA in the presence and absence of metabolic activation. ECOTOXICITY STUDIES: The histopathological effects of several doses of cyphenothrin were observed in adult guppies (Lebistes reticulatus) at 34.8, 46.5, 53.5 or 60 ug cyphenothrin/L for 96-hr and their gills were examined. The most common changes at all cyphenothrin doses were the lifting of the epithelial layer from gill lamellae and some necrosis. Degeneration of secondary lamellae due to edema, the shortening of secondary lamellae, and club-shaped lamellae were also observed. /LABORATORY ANIMALS: Developmental or Reproductive Toxicity/ S-2703 forte (95.7% cyphenothrin); 0, 50, 125 mg/kg/day administered subcutaneously on days 6-18 of gestation and 250 mg/kg/day on days 6-10 of gestation ; 15 New Zealand White female rabbits/dose; observations- Maternal effects: a significant decrease in body weight was shown in the two high dose groups, no reproductive or teratogenic effects attributable to test substance were noted; Fetal effects: no physiological or developmental effects were observed at any dose level; Maternal NOEL = 50 mg/kg (based on decreased body weight), Developmental NOEL = 250 mg/kg based on no effects).
- STOT-single exposure: No data available.
- STOT-repeated exposure: /LABORATORY ANIMALS: Subchronic or Prechronic Exposure/ S-2703 forte (95.2% cyphenothrin); 0, 100, 300, 1,000 ppm (averaged intake (M) 0, 5, 15, 48, and (F) 0, 6, 18, 59 mg/kg/day, respectively) in diets; dose concentrations selection based on results of 13 week study; 80 rats/sex/dose; observations- no treatment related increase in mortalities, demonstration of clinical signs or consistent dose-dependent changes in water consumption, ophthalmology, urinalysis, hematology or clinical chemistry occurred; in the oncogenicity portion of the study slightly decreased body weight gain and food consumption was noted in the 1000 ppm level females, NOEL (M/F) >1000 ppm (based on no treatment related effects). /LABORATORY ANIMALS: Chronic Exposure or Carcinogenicity/ S-2703F (94.6-94.9% cyphenothrin); 0, 100, 300,

1,000 ppm in diets; 80 mice/sex/dose; dose concentrations were justified with results from a 13 week (see Rec. # 119963) preliminary dietary study that showed some deaths at doses of 1000 and 2000 ppm; in the main study 19% of the males and 24% of the females survived until the end of week 104; survival was unaffected by treatment; observations- no treatment-related clinical signs were noted; absolute and bodyweight-relative kidney weights were lower but not significantly different among male animals which received 300 or 1000 ppm when compared to controls; no treatment related changes were observed in clinical chemistries, at necropsy or histopathological examinations; no statistically significant increased incidence of neoplasms associated with treatment were observed; ... NOEL (M/F)= 1000 ppm (based on no treatment-related effects).
- Aspiration hazard: No data available.

Likely routes of exposure
- Spilling on the head, face and eyes can result in pain, lacrimation, photophobia, congestion, and edema of the conjunctiva and eyelids. Ingestion cases epigastric pain, nausea, vomiting, headache, dizziness, anorexia, fatigue, tightness in chest, blurred vision, paresthesia, palpitations, coarse muscular fasciculations, and disturbances of conciousness. In servere poisonings, convulsive attacks with opisthotonos and loss of conciousness have occurred. (T10)

Symptoms related to the physical, chemical and toxicological characteristics
- IDENTIFICATION AND USE: Cyphenothrin is a type II pyrethroid. It is used as fumigant, insecticide, and veterinary medicine. HUMAN STUDIES: The symptoms of poisoning caused by pyrethroids are characterized by ataxia, loss of coordination, hyperexcitation, convulsions, and paralysis. Depending on the type of pyrethroid, repetitive discharges and/or conduction block are observed in various regions of the nervous system. Type II pyrethroids such as cyphenothrin contain a cyano group at the alpha-carbon cause nerve membrane depolarization and block leading to paralysis. The action is ascribed to modification of nerve membrane sodium channels which result in very slow gating kinetics. ANIMAL STUDIES: Tremors and convulsions have been noted in animals at 30 mg/kg and higher. There was no statistically significant increased incidence of neoplasms in oral studies for 104 weeks in mice. In developmental studies in rabbits there were no reproductive or teratogenic effects noted. Cyphenothrin was negative in genotoxicity studies with Salmonella typhimurium strains TA-1535, TA-1537, TA-1538, TA-98 and TA-100 and Escherichia coli WP-2 uvrA in the presence and absence of metabolic activation. ECOTOXICITY STUDIES: The histopathological effects of several doses of cyphenothrin were observed in adult guppies (Lebistes reticulatus) at 34.8, 46.5, 53.5 or 60 ug cyphenothrin/L for 96-hr and their gills were examined. The most common changes at all cyphenothrin doses were the lifting of the epithelial layer from gill lamellae and some necrosis. Degeneration of secondary lamellae due to edema, the shortening of secondary lamellae, and club-shaped lamellae were also observed.

SECTION 12: Ecological information

SECTION 12: Ecological information

12.1 Toxicity
- No data available.

12.2 Persistence and degradability
- No data available.

12.3 Bioaccumulative potential
- No data available.

12.4 Mobility in soil

- No data available.

12.5 Results of PBT and vPvB assessment
- Not available.

12.6 Endocrine disrupting properties
- No data available.

12.7 Other adverse effects
- Not available.

SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product:
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- Do not discharge to drains or the environment.
Contaminated packaging:
- Dispose of as unused product.
Waste code:
- Not available.

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: Not available
- Transport in bulk according to IMO instruments: Not available

SECTION 15: Regulatory information

SECTION 15: Regulatory information

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

15.2 Chemical safety assessment
- No data available.

SECTION 16: Other information

SECTION 16: Other information

Product identifier:

- Product name: Cyphenothrin
- CAS No.: 39515-40-7
- Catalog No.: CS-EJ-0043

Supplier:
- Clearsynth Labs Ltd., Mumbai, India

Emergency phone:
- +91-22-245045900

Revision information:
- Not available.

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- The information provided is believed to be accurate based on available data, but no warranty is expressed or implied. Users must determine suitability for their particular purpose and comply with applicable regulations.

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