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

Catalogue Number	CS-T-01599
Product Name	Allethrin
CAS No.	584-79-2
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:

Skin irritation (Category 2)
Serious eye damage/eye irritation (Category 2)
Acute toxicity (Category 4)

2.2 Label Elements

Signal Word: Warning

Hazard Statement(s)

Code	Statement
H302	Harmful if swallowed.
H332	Harmful if inhaled.

H400	Not available
H410	Not available
H226	Not available
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Not available
H302+H332	Harmful if swallowed. Harmful if inhaled.
H227	Not available
H317	May cause an allergic skin reaction.
H335	Not available
H371	Not available
H373	Not available

Precautionary Statement(s)

Code	Statement
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
P330	Not available
P391	Not available
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio
P210	Not available
P233	Not available
P240	Not available
P241	Not available

P242	Not available
P243	Not available
P264+P265	Not available
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P303+P361+P353	Not available
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if presen
P316	Not available
P321	Specific treatment (see … on this label).
P332+P317	If skin irritation occurs: Get medical help.
P337+P317	If eye irritation persists: Get medical help.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	Not available
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Not available
P405	Store locked up.
P260	Not available
P272	Not available
P308+P316	Not available
P319	Get medical help if you feel unwell.
P333+P317	Not available
P403	Not available

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : Allethrin
CAS Number : 584-79-2
Molecular Formula : -
Molecular Weight : -
Parent Chemical : -
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. Seek medical attention if symptoms occur or persist.

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. 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. 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 carbon oxides and other irritating/toxic fumes. Additional 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 using non-sparking tools.
- Absorb with inert material (e.g., sand, earth, vermiculite) if applicable.
- Place in suitable, labeled containers for disposal.
- Clean contaminated area with detergent and water; avoid generating dust.

6.4 Reference to other sections
- See Section 8 (Exposure controls/personal protection) and Section 13 (Disposal considerations).

SECTION-7: Handling and storage

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Use 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 in a cool, dry, well-ventilated place.
- Protect from heat and sources of ignition.
- Keep away from 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:
- Use local exhaust ventilation or general ventilation to minimize exposure.

Personal protective equipment (PPE):
Eye/face protection:
- Safety glasses with side shields or chemical splash goggles.

Skin protection:
- Protective gloves (material not specified; select based on risk assessment and compatibility).
- Protective clothing as appropriate.

Respiratory protection:
- If ventilation is inadequate or exposure is likely, use a suitable particulate/organic vapor respirator as appropriate.
Specific respirator type: Not available.

Hygiene measures:
- Remove contaminated clothing and wash before reuse.
- Wash hands and exposed skin after handling.

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
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

Property	Value
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, and other ignition sources. Additional conditions: Not available.

10.5 Incompatible materials
- Not available.

10.6 Hazardous decomposition products
- Carbon oxides and irritating/toxic fumes. Additional decomposition products: Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: IDENTIFICATION AND USE: Allethrins is a clear to amber colored viscous liquid which is miscible with most organic solvents. It is completely soluble with chloroform, ethyl acetate, toluene and dichloromethane and it is stable under normal conditions and use. Allethrins are a mixture of isomers and the product is used as an insecticide. HUMAN EXPOSURE and TOXICITY: Despite their extensive world wide use, there are relatively few reports of human pyrethroid poisoning. In individuals exposed to pyrethroids, dermal; application to the skin has resulted in paresthesia and may be stimulated by increases in heat, sunlight, scratching, humidity, or the application of water. Pyrethroid ingestion can cause sore throat, nausea, vomiting and abdominal pain. Dizziness and fatigue are common, and palpitations, chest tightness and blurred vision have also occurred. Contact allergy to pyrethroids has also been noted. Upper respiratory tract symptoms can include rhinitis, sneezing, scratchy throat, oral mucosa and laryngeal edema; lower respiratory symptoms can include cough, shortness of breath, wheezing and chest pain and an asthma like condition. S-bioallethrin caused an inhibition of human lymphocyte proliferation in 72 hr culture in a concentration dependent manner. Pyrethroids are not cholinesterase inhibitors. Pyrethrins are irritating to the eye. Skin rash on moist areas of the body have been observed. Employees with chronic respiratory and skin diseases may be at increated risk to pyrethrum exposure. Persons sensitive to rag weed may show sensitiziation to pyrethroids. Individuals may be exposed to allethrins during pesticide applications and inhalation exposures may

result when consumers use space spray products, patio foggers, mosquito coils and fly mats. ANIMAL STUDIES: When undiluted and diluted technical allethrin in olive oil were applied to the dorsal skin of rabbits. No differences were noted between treated and control animals. Solutions of different concentrations of allethrin applied to the eyes of rabbits produced eyelid closure, slight conjunctival hyperemia and lacrimation. Allethrin solution applied topically to the backs of male guinea pigs and then rechallenged showed a sporadic pink color on the site of application. Histological examination revealed slight lymphocytic and monocytic infiltration of the dermis in allethrin treated animals. Bioallethrin did not produce any irritation, but produced slight sensitization in guinea pigs. It was also a slight irritant to the skin of rabbits. Rats exposed to allethrin mosquito repellant had significant increases in weights livers and adrenal gland in males, brain and thyroid in females. Changes in liver enzymes were also noted. Allethrin administered in the diets to male Wistar rats a decrease in body weight gain, and increases in liver and kidney weights were observed. Bile ductile proliferation was also noted. ICR mice exposed to a mist of d-allethrin or S-bioallethrin. No significant effects were noted in pregnant ICR mice exposed to d-allethrin or S-Bioallethrin on gestation days 7-12. Allethrin given allethrin by intubation to pregnant albino rabbits there was no evidence of compound related effects. Allethrin was strongly positive at low doses. The mutagenic potential of allethrin was examined in a wide range of tests including in vitro/in vivo gene mutation, DNA damage and repair, and in vitro/in vivo structural aberration the results of the tests were negative. Allethrin was found to be mutagenic in Salmonella typhimurium reversion assay systems in TA 100, TA 104 and TA 97 strains and required metabolic activation. Allethrin did not show evidence of treatment related effects on micronuclei frequency in mouse bone marrow smears. Fish are sensitive to allethrin toxicity when they are exposed to this insecticide in elevated water temperatures/ In plants allethrin is not phototoxic. LD50: 1100 mg/kg (Oral, Rat) (L859) LD50: 480 mg/kg (Oral, Mouse) (L859) LD50: >2500 mg/kg (Dermal, Rat) (L859)

- Skin corrosion/irritation: No data available.
- Serious eye damage/eye irritation: No data available.
- Respiratory or skin sensitization: IDENTIFICATION AND USE: Allethrins is a clear to amber colored viscous liquid which is miscible with most organic solvents. It is completely soluble with chloroform, ethyl acetate, toluene and dichloromethane and it is stable under normal conditions and use. Allethrins are a mixture of isomers and the product is used as an insecticide. HUMAN EXPOSURE and TOXICITY: Despite their extensive world wide use, there are relatively few reports of human pyrethroid poisoning. In individuals exposed to pyrethroids, dermal; application to the skin has resulted in paresthesia and may be stimulated by increases in heat, sunlight, scratching, humidity, or the application of water. Pyrethroid ingestion can cause sore throat, nausea, vomiting and abdominal pain. Dizziness and fatigue are common, and palpitations, chest tightness and blurred vision have also occurred. Contact allergy to pyrethroids has also been noted. Upper respiratory tract symptoms can include rhinitis, sneezing, scratchy throat, oral mucosa and laryngeal edema; lower respiratory symptoms can include cough, shortness of breath, wheezing and chest pain and an asthma like condition. S-bioallethrin caused an inhibition of human lymphocyte proliferation in 72 hr culture in a concentration dependent manner. Pyrethroids are not cholinesterase inhibitors. Pyrethrins are irritating to the eye. Skin rash on moist areas of the body have been observed. Employees with chronic respiratory and skin diseases may be at increated risk to pyrethrum exposure. Persons sensitive to rag weed may show sensitiziation to pyrethroids. Individuals may be exposed to allethrins during pesticide applications and inhalation exposures may result when consumers use space spray products, patio foggers, mosquito coils and fly mats. ANIMAL STUDIES: When undiluted and diluted technical allethrin in olive oil were applied to the dorsal skin of rabbits. No differences were noted between treated and control animals. Solutions of different concentrations of allethrin applied to the eyes of rabbits produced eyelid closure, slight conjunctival hyperemia and lacrimation. Allethrin solution applied topically to the backs of male guinea pigs and then rechallenged showed a sporadic pink color on the site of application. Histological examination revealed slight lymphocytic and monocytic infiltration of the dermis in allethrin treated animals. Bioallethrin did not produce any irritation, but produced slight sensitization in guinea pigs. It was also a slight irritant to the skin of rabbits. Rats exposed to allethrin mosquito repellant had

significant increases in weights livers and adrenal gland in males, brain and thyroid in females. Changes in liver enzymes were also noted. Allethrin administered in the diets to male Wistar rats a decrease in body weight gain, and increases in liver and kidney weights were observed. Bile ductile proliferation was also noted. ICR mice exposed to a mist of d-allethrin or S-bioallethrin. No significant effects were noted in pregnant ICR mice exposed to d-allethrin or S-Bioallethrin on gestation days 7-12. Allethrin given allethrin by intubation to pregnant albino rabbits there was no evidence of compound related effects. Allethrin was strongly positive at low doses. The mutagenic potential of allethrin was examined in a wide range of tests including in vitro/in vivo gene mutation, DNA damage and repair, and in vitro/in vivo structural aberration the results of the tests were negative. Allethrin was found to be mutagenic in Salmonella typhimurium reversion assay systems in TA 100, TA 104 and TA 97 strains and required metabolic activation. Allethrin did not show evidence of treatment related effects on micronuclei frequency in mouse bone marrow smears. Fish are sensitive to allethrin toxicity when they are exposed to this insecticide in elevated water temperatures/ In plants allethrin is not phototoxic.
- Germ cell mutagenicity: IDENTIFICATION AND USE: Allethrins is a clear to amber colored viscous liquid which is miscible with most organic solvents. It is completely soluble with chloroform, ethyl acetate, toluene and dichloromethane and it is stable under normal conditions and use. Allethrins are a mixture of isomers and the product is used as an insecticide. HUMAN EXPOSURE and TOXICITY: Despite their extensive world wide use, there are relatively few reports of human pyrethroid poisoning. In individuals exposed to pyrethroids, dermal; application to the skin has resulted in paresthesia and may be stimulated by increases in heat, sunlight, scratching, humidity, or the application of water. Pyrethroid ingestion can cause sore throat, nausea, vomiting and abdominal pain. Dizziness and fatigue are common, and palpitations, chest tightness and blurred vision have also occurred. Contact allergy to pyrethroids has also been noted. Upper respiratory tract symptoms can include rhinitis, sneezing, scratchy throat, oral mucosa and laryngeal edema; lower respiratory symptoms can include cough, shortness of breath, wheezing and chest pain and an asthma like condition. S-bioallethrin caused an inhibition of human lymphocyte proliferation in 72 hr culture in a concentration dependent manner. Pyrethroids are not cholinesterase inhibitors. Pyrethrins are irritating to the eye. Skin rash on moist areas of the body have been observed. Employees with chronic respiratory and skin diseases may be at increated risk to pyrethrum exposure. Persons sensitive to rag weed may show sensitiziation to pyrethroids. Individuals may be exposed to allethrins during pesticide applications and inhalation exposures may result when consumers use space spray products, patio foggers, mosquito coils and fly mats. ANIMAL STUDIES: When undiluted and diluted technical allethrin in olive oil were applied to the dorsal skin of rabbits. No differences were noted between treated and control animals. Solutions of different concentrations of allethrin applied to the eyes of rabbits produced eyelid closure, slight conjunctival hyperemia and lacrimation. Allethrin solution applied topically to the backs of male guinea pigs and then rechallenged showed a sporadic pink color on the site of application. Histological examination revealed slight lymphocytic and monocytic infiltration of the dermis in allethrin treated animals. Bioallethrin did not produce any irritation, but produced slight sensitization in guinea pigs. It was also a slight irritant to the skin of rabbits. Rats exposed to allethrin mosquito repellant had significant increases in weights livers and adrenal gland in males, brain and thyroid in females. Changes in liver enzymes were also noted. Allethrin administered in the diets to male Wistar rats a decrease in body weight gain, and increases in liver and kidney weights were observed. Bile ductile proliferation was also noted. ICR mice exposed to a mist of d-allethrin or S-bioallethrin. No significant effects were noted in pregnant ICR mice exposed to d-allethrin or S-Bioallethrin on gestation days 7-12. Allethrin given allethrin by intubation to pregnant albino rabbits there was no evidence of compound related effects. Allethrin was strongly positive at low doses. The mutagenic potential of allethrin was examined in a wide range of tests including in vitro/in vivo gene mutation, DNA damage and repair, and in vitro/in vivo structural aberration the results of the tests were negative. Allethrin was found to be mutagenic in Salmonella typhimurium reversion assay systems in TA 100, TA 104 and TA 97 strains and required metabolic activation. Allethrin did not show evidence of treatment related effects on micronuclei frequency in mouse bone marrow smears. Fish are sensitive to allethrin toxicity when they are exposed to this insecticide in elevated water

temperatures/ In plants allethrin is not phototoxic.
- Carcinogenicity: As for every type I pyrethroid, allethrin effects typically include rapid onset of aggressive behavior and increased sensitivity to external stimuli, followed by fine tremor, prostration with coarse whole body tremor, elevated body temperature, coma, and death. Paresthesia can also occur after dermal exposure to allethrin. It is likely to be a human carcinogen by the oral route. (L857)
- Reproductive toxicity: No data available.
- STOT-single exposure: No data available.
- STOT-repeated exposure: IDENTIFICATION AND USE: Allethrins is a clear to amber colored viscous liquid which is miscible with most organic solvents. It is completely soluble with chloroform, ethyl acetate, toluene and dichloromethane and it is stable under normal conditions and use. Allethrins are a mixture of isomers and the product is used as an insecticide. HUMAN EXPOSURE and TOXICITY: Despite their extensive world wide use, there are relatively few reports of human pyrethroid poisoning. In individuals exposed to pyrethroids, dermal; application to the skin has resulted in paresthesia and may be stimulated by increases in heat, sunlight, scratching, humidity, or the application of water. Pyrethroid ingestion can cause sore throat, nausea, vomiting and abdominal pain. Dizziness and fatigue are common, and palpitations, chest tightness and blurred vision have also occurred. Contact allergy to pyrethroids has also been noted. Upper respiratory tract symptoms can include rhinitis, sneezing, scratchy throat, oral mucosa and laryngeal edema; lower respiratory symptoms can include cough, shortness of breath, wheezing and chest pain and an asthma like condition. S-bioallethrin caused an inhibition of human lymphocyte proliferation in 72 hr culture in a concentration dependent manner. Pyrethroids are not cholinesterase inhibitors. Pyrethrins are irritating to the eye. Skin rash on moist areas of the body have been observed. Employees with chronic respiratory and skin diseases may be at increated risk to pyrethrum exposure. Persons sensitive to rag weed may show sensitiziation to pyrethroids. Individuals may be exposed to allethrins during pesticide applications and inhalation exposures may result when consumers use space spray products, patio foggers, mosquito coils and fly mats. ANIMAL STUDIES: When undiluted and diluted technical allethrin in olive oil were applied to the dorsal skin of rabbits. No differences were noted between treated and control animals. Solutions of different concentrations of allethrin applied to the eyes of rabbits produced eyelid closure, slight conjunctival hyperemia and lacrimation. Allethrin solution applied topically to the backs of male guinea pigs and then rechallenged showed a sporadic pink color on the site of application. Histological examination revealed slight lymphocytic and monocytic infiltration of the dermis in allethrin treated animals. Bioallethrin did not produce any irritation, but produced slight sensitization in guinea pigs. It was also a slight irritant to the skin of rabbits. Rats exposed to allethrin mosquito repellant had significant increases in weights livers and adrenal gland in males, brain and thyroid in females. Changes in liver enzymes were also noted. Allethrin administered in the diets to male Wistar rats a decrease in body weight gain, and increases in liver and kidney weights were observed. Bile ductile proliferation was also noted. ICR mice exposed to a mist of d-allethrin or S-bioallethrin. No significant effects were noted in pregnant ICR mice exposed to d-allethrin or S-Bioallethrin on gestation days 7-12. Allethrin given allethrin by intubation to pregnant albino rabbits there was no evidence of compound related effects. Allethrin was strongly positive at low doses. The mutagenic potential of allethrin was examined in a wide range of tests including in vitro/in vivo gene mutation, DNA damage and repair, and in vitro/in vivo structural aberration the results of the tests were negative. Allethrin was found to be mutagenic in Salmonella typhimurium reversion assay systems in TA 100, TA 104 and TA 97 strains and required metabolic activation. Allethrin did not show evidence of treatment related effects on micronuclei frequency in mouse bone marrow smears. Fish are sensitive to allethrin toxicity when they are exposed to this insecticide in elevated water temperatures/ In plants allethrin is not phototoxic. /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 asthmalike 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/
- Aspiration hazard: No data available.

Likely routes of exposure
- IDENTIFICATION AND USE: Allethrins is a clear to amber colored viscous liquid which is miscible with most organic solvents. It is completely soluble with chloroform, ethyl acetate, toluene and dichloromethane and it is stable under normal conditions and use. Allethrins are a mixture of isomers and the product is used as an insecticide. HUMAN EXPOSURE and TOXICITY: Despite their extensive world wide use, there are relatively few reports of human pyrethroid poisoning. In individuals exposed to pyrethroids, dermal; application to the skin has resulted in paresthesia and may be stimulated by increases in heat, sunlight, scratching, humidity, or the application of water. Pyrethroid ingestion can cause sore throat, nausea, vomiting and abdominal pain. Dizziness and fatigue are common, and palpitations, chest tightness and blurred vision have also occurred. Contact allergy to pyrethroids has also been noted. Upper respiratory tract symptoms can include rhinitis, sneezing, scratchy throat, oral mucosa and laryngeal edema; lower respiratory symptoms can include cough, shortness of breath, wheezing and chest pain and an asthma like condition. S-bioallethrin caused an inhibition of human lymphocyte proliferation in 72 hr culture in a concentration dependent manner. Pyrethroids are not cholinesterase inhibitors. Pyrethrins are irritating to the eye. Skin rash on moist areas of the body have been observed. Employees with chronic respiratory and skin diseases may be at increated risk to pyrethrum exposure. Persons sensitive to rag weed may show sensitiziation to pyrethroids. Individuals may be exposed to allethrins during pesticide applications and inhalation exposures may result when consumers use space spray products, patio foggers, mosquito coils and fly mats. ANIMAL STUDIES: When undiluted and diluted technical allethrin in olive oil were applied to the dorsal skin of rabbits. No differences were noted between treated and control animals. Solutions of different concentrations of allethrin applied to the eyes of rabbits produced eyelid closure, slight conjunctival hyperemia and lacrimation. Allethrin solution applied topically to the backs of male guinea pigs and then rechallenged showed a sporadic pink color on the site of application. Histological examination revealed slight lymphocytic and monocytic infiltration of the dermis in allethrin treated animals. Bioallethrin did not produce any irritation, but produced slight sensitization in guinea pigs. It was also a slight irritant to the skin of rabbits. Rats exposed to allethrin mosquito repellant had significant increases in weights livers and adrenal gland in males, brain and thyroid in females. Changes in liver enzymes were also noted. Allethrin administered in the diets to male Wistar rats a decrease in body weight gain, and increases in liver and kidney weights were observed. Bile ductile proliferation was also noted. ICR mice exposed to a mist of d-allethrin or S-bioallethrin. No significant effects were noted in pregnant ICR mice exposed to d-allethrin or S-Bioallethrin on gestation days 7-12. Allethrin given allethrin by intubation to pregnant albino rabbits there was no evidence of compound related effects. Allethrin was strongly positive at low doses. The mutagenic potential of allethrin was examined in a wide range of tests including in vitro/in vivo gene mutation, DNA damage and repair, and in vitro/in vivo structural aberration the results of the tests were negative. Allethrin was found to be mutagenic in Salmonella typhimurium reversion assay systems in TA 100, TA 104 and TA 97 strains and required metabolic activation. Allethrin did not show evidence of treatment related effects on micronuclei frequency in mouse bone marrow smears. Fish are sensitive to allethrin toxicity when they are exposed to this insecticide in elevated water temperatures/ In plants allethrin is not phototoxic.

Symptoms related to the physical, chemical and toxicological characteristics
- IDENTIFICATION AND USE: Allethrins is a clear to amber colored viscous liquid which is miscible with most organic solvents. It is completely soluble with chloroform, ethyl acetate, toluene and dichloromethane and it is stable under normal conditions and use. Allethrins are a mixture of isomers and the product is used as an insecticide. HUMAN EXPOSURE and TOXICITY: Despite their extensive world wide use, there are relatively few reports of human pyrethroid poisoning. In individuals exposed to pyrethroids, dermal; application to the skin has resulted in

paresthesia and may be stimulated by increases in heat, sunlight, scratching, humidity, or the application of water. Pyrethroid ingestion can cause sore throat, nausea, vomiting and abdominal pain. Dizziness and fatigue are common, and palpitations, chest tightness and blurred vision have also occurred. Contact allergy to pyrethroids has also been noted. Upper respiratory tract symptoms can include rhinitis, sneezing, scratchy throat, oral mucosa and laryngeal edema; lower respiratory symptoms can include cough, shortness of breath, wheezing and chest pain and an asthma like condition. S-bioallethrin caused an inhibition of human lymphocyte proliferation in 72 hr culture in a concentration dependent manner. Pyrethroids are not cholinesterase inhibitors. Pyrethrins are irritating to the eye. Skin rash on moist areas of the body have been observed. Employees with chronic respiratory and skin diseases may be at increated risk to pyrethrum exposure. Persons sensitive to rag weed may show sensitiziation to pyrethroids. Individuals may be exposed to allethrins during pesticide applications and inhalation exposures may result when consumers use space spray products, patio foggers, mosquito coils and fly mats. ANIMAL STUDIES: When undiluted and diluted technical allethrin in olive oil were applied to the dorsal skin of rabbits. No differences were noted between treated and control animals. Solutions of different concentrations of allethrin applied to the eyes of rabbits produced eyelid closure, slight conjunctival hyperemia and lacrimation. Allethrin solution applied topically to the backs of male guinea pigs and then rechallenged showed a sporadic pink color on the site of application. Histological examination revealed slight lymphocytic and monocytic infiltration of the dermis in allethrin treated animals. Bioallethrin did not produce any irritation, but produced slight sensitization in guinea pigs. It was also a slight irritant to the skin of rabbits. Rats exposed to allethrin mosquito repellant had significant increases in weights livers and adrenal gland in males, brain and thyroid in females. Changes in liver enzymes were also noted. Allethrin administered in the diets to male Wistar rats a decrease in body weight gain, and increases in liver and kidney weights were observed. Bile ductile proliferation was also noted. ICR mice exposed to a mist of d-allethrin or S-bioallethrin. No significant effects were noted in pregnant ICR mice exposed to d-allethrin or S-Bioallethrin on gestation days 7-12. Allethrin given allethrin by intubation to pregnant albino rabbits there was no evidence of compound related effects. Allethrin was strongly positive at low doses. The mutagenic potential of allethrin was examined in a wide range of tests including in vitro/in vivo gene mutation, DNA damage and repair, and in vitro/in vivo structural aberration the results of the tests were negative. Allethrin was found to be mutagenic in Salmonella typhimurium reversion assay systems in TA 100, TA 104 and TA 97 strains and required metabolic activation. Allethrin did not show evidence of treatment related effects on micronuclei frequency in mouse bone marrow smears. Fish are sensitive to allethrin toxicity when they are exposed to this insecticide in elevated water temperatures/ In plants allethrin is not phototoxic.

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
- No data 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. Do not reuse empty container.

Waste codes:
- Not available.

SECTION 14: Transport information

SECTION 14: Transport information

14.1 UN number
- Not available.

14.2 UN proper shipping name
- Not available.

14.3 Transport hazard class(es)
- Not available.

14.4 Packing group
- Not available.

14.5 Environmental hazards
- Not available.

14.6 Special precautions for user
- Not available.

14.7 Maritime 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: Allethrin
- Catalog No.: CS-T-01599
- CAS No.: 584-79-2

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

Revision information:
- Not available.

Disclaimer:
- 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.

DISCLAIMER

This MSDS is system-generated. Please verify and confirm all data, statements, and values with the Support Team before use or distribution.