



Identification of the substance or mixture and of the company/undertaking

Product identifier.

Alpha-cypermethrin (BSI, draft E-ISO); alpha-cyperméthrine ((f) draft F-ISO)

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

Insecticide

Details of the supplier of the safety data sheet.

SPARCHEM

159, Ashoka Shopping Centre, 2nd Flr.,

L.T. Marg, Mumbai - 400001,

Telephone number: 0091- 22-22642642

E-mail: response@sparchem.com

Emergency telephone number

0091- 22-22642642

Hazards identification

Classification of the substance or mixture

Classification as per Directives 67/548/EEC:

T; R25

Xn; R48/22

Xi; R37

N; R50-53

Classification as per Regulation (EC) No 1272/2008:

Acute Tox. 3 *, H301

STOT RE 2 *, H373 **

STOT SE 3, H335

Aquatic Acute 1, H400

Aquatic Chronic 1, H410

Label elements - Pictogram, Signal Word Code(s)

GHS06

GHS08

GHS09

Hazard statement Code(s)

H301: Toxic if swallowed.

H373: May cause damage to organs through prolonged exposure if swallowed.

H335: May cause respiratory irritation.

H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P264: Wash hands thoroughly after handling.

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

P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P321: Specific treatment-treat symptomatically.

P330: Rinse mouth.

P405: Store locked up.

P260: Do not breathe dust/fume/gas/mist/ vapours/spray.

P314: Get medical advice/attention if you feel unwell.

P261: Avoid breathing dust/fume/gas/mist/ vapours/spray.

P271: Use only outdoors or in a well-ventilated area.

P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P403 + P233: Store in a well-ventilated place. Keep container tightly closed.

P273: Avoid release to the environment.

P391: Collect spillage.

P501: Dispose of contents/container in accordance with local/regional/national/regulation.

Other hazards

Very toxic to aquatic life with long lasting effects. Does not meet the criteria for vPvB in accordance with Annex XIII of REACH.

Composition/information on ingredients

Substances.

Chemical name	CAS No/ EC No	Index No.	Classification (Directives 67/548/EEC)	Classification (Regulation (EC) No 1272/2008)	Con. % w/w
a-cypermethrin	67375-30-8/ 257-842-9	607-422-00-X	T; R25 Xn; R48/22 Xi; R37 N; R50- 53	Acute Tox. 3 *, H301 STOT RE 2 *, H373 ** STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	97.0 (min)

First aid measures

Description of first aid measures

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Keep the person calm and comfortable. Rinse mouth.

IF EYE CONTACT, immediately flush with plenty of water at least for 15 minutes.

IF ON SKIN: Remove contaminated clothing and wash contaminated skin with plenty of soap and water.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

Most important symptoms and effects, both acute and delayed

May cause nausea, vomiting and abdominal pain. Systemic toxicity may ensue following substantial ingestion. Tingling and pruritus with blotchy erythema on the face or other exposed areas, exacerbated by sweating or touching. Lacrimation and transient conjunctivitis may occur. Respiratory tract irritation with cough, mild dyspnoea, sneezing and rhinorrhea may occur. Long-term exposure is no more hazardous than short-term exposure.

Indication of any immediate medical attention and special treatment needed

There is no specific antidote, treatment must be symptomatic. Keep the patient warm and calm. Topical vitamin E (tocopherol acetate) has been shown to reduce skin irritation if applied soon after exposure. Atropine may be of value if hyper salivation is troublesome, 0.6-1.2 mg for an adult, 0.02 mg/kg for a child if ingested. Mechanical ventilation should be instituted if non-cardiogenic pulmonary oedema develops.

Firefighting measures

Extinguishing media

If product is involved in a fire, use water spray, foam, dry powder, carbon dioxide or sand. Keep nearby containers and equipment cool with a water stream.

Special hazards arising from the substance or mixture

May give off toxic fumes if heated to decomposition. Do not breathe fumes. Wear self contained breathing apparatus.

Advice for firefighters

Whenever this product involved in a major fire, firefighters to wear boots, overalls, gloves, eye and face protection and breathing apparatus. Keep containers cool with water spray. Cypermethrin is toxic to fish and water should be used only to cool unaffected stock.

Accidental release measures

Personal precautions, protective equipment and emergency procedures.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Remove ignition sources and need to evacuate the danger area or to consult an expert. When dealing with a spillage do not eat, drink or smoke.

Environmental precautions

Do not discharge into the drains/surface water/groundwater.

Methods and material for containment and cleaning up

Keep spectators away from leaking or spilled product. Prohibit smoking and the use of naked flames in the immediate vicinity. Transfer any product remaining in damaged or leaking containers into a clean, empty drum, and label the drum.

Absorb spillage and cover contaminated areas with lime, damp sawdust, and, earth, or other absorbent material and place in a secure container for safe disposal. Contain a large spillage by a barrier of earth or sandbags. Prevent spreading to other cargo, vegetation, or waterways. Clean contaminated floors and objects thoroughly with plenty of water, observing environmental regulations.

Reference to other sections

Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

Handling and storage

Precautions for safe handling

Wear full protective clothing by those handling concentrates. Adequate washing facilities should be available at all times and should be close to site of handling. Eating, drinking and smoking should be prohibited during handling. Wash hands after use and to remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities

It should be stored in clearly labelled rigid and leak proof containers and away from containers of food and drink. Storage should be under lock and key and secure from access by children and other unauthorized persons. Store in a well-ventilated place. Do not store together with oxidizing & strong alkalies materials.

Specific end use(s)

When opening a container and mixing, protective impermeable boots, clean overalls impermeable gloves, eye protection and a respirator should be worn. Avoid contact to mouth and eyes. Before eating, drinking or smoking, hands and other exposed skin should be thoroughly washed with alkaline soap.

Exposure controls/personal protection

Control parameters

Occupational exposure limit

Exposure limit values are not available.

DNEL and PNEC values

Not available

Exposure controls

Appropriate engineering controls

Mechanical ventilation should be used when handling this product in closed spaces.

Individual protection measures, such as personal protective equipment

General precautions

Do not inhale vapours.

Eye/face protection

Wear safety goggles with imperforated side shield and face shield.

Skin protection

Avoid contact with skin. Wear apron, boots and full protective suit.

Respiratory protection

Wear dust mask. Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure.

Thermal hazards

Whenever this product involved in a major fire, firefighters to wear boots, overalls, gloves, eye and face protection and breathing apparatus.

Environmental exposure controls

Keep away from food, drink and animal feed stuff. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.

Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Off white powder

Odour

Odorless

Odour threshold

Not available

PH

Not available

Melting point/freezing point

83.5-84.5°C

Initial boiling point and boiling range

Not applicable

Flash point

Non-flammable

Evaporation rate

Not available

Flammability (solid, gas)

Not applicable

Upper/lower flammability or explosive limits

Non-explosive

Vapour pressure

<5.0 x 10⁻⁴ Pa at ca 25°C

Relative density

1.2955 (CV = 1.9%)

Solubility(ies)

In water: Milli-RO Water = 0.00263 µg/mL ;

pH 4 Buffer = 0.0658 µg/mL ; pH 7 Buffer = 0.00648 µg/mL ; pH 9 Buffer = 0.0180 µg/mL

In organic Solvents: Acetone = 515 g/L
n-Octanol = 10.2 g/L ; 0-Xylene = 316 g/L
Partition coefficient: n-octanol/water
Log10 Pow = 5.88

Auto-ignition temperature

Not available

Decomposition temperature

Not available

Viscosity

Not applicable

Explosive properties

Non-explosive

Oxidising properties

Non-oxidizer

Other information

Does not dissociate in water

Stability and reactivity

Reactivity

Unstable under alkaline conditions.

Chemical stability

Stable for two years at ambient conditions.

Possibility of hazardous reactions

Reactions with strong alkalis. Incompatible with oxidizing materials.

Conditions to avoid

Avoid excessive heat and flame.

Incompatible materials

Alkaline materials.

Hazardous decomposition products

When handled and stored appropriately, no dangerous decomposition products are known.

Toxicological information

Information on toxicological effects Acute toxicity, oral, dermal, inhalation

Oral LD50: > 50-50 mg/kg bw (Rats)

Dermal LD50: >2000 mg/kg bw (Rats)

Inhalation LC50 : 1.6053 mg/l air (Rats)

Skin Corrosion/Irritation

Slight-irritant to skin of rabbits

serious eye damage/irritation

Minimally-irritating to eye of rabbits

respiratory or skin sensitisation

Non-sensitiser to skin of Guinea pigs

germ cell mutagenicity

Non-mutagenic

Carcinogenicity

Non-carcinogenic

Reproductive toxicity

Non-reprotoxic and teratogenic

STOT-single exposure

STOT SE 3, H335: May cause respiratory irritation.

STOT-repeated exposure

STOT RE 2 *, H373: May cause damage to organs through prolonged or repeated exposure if swallowed.

Aspiration hazard

Chemical pneumonitis resulting from aspiration of the solvent into the lungs is a hazard that occurs when liquid formulations are used.

Ecological information

Toxicity**Cyprinus carpio**

LC50: 0.00084 mg/l

Daphnia magna, 24 hours

EC50: 0.14 mg/l water

Chlorella vulgaris, 72 hours

EC50: 15.26 mg/ml

Bees, 24 hours (oral)

LD50: 0.06 µg/bee

Birds, mallard ducks

LD50 : >10 000 mg/kg

Persistence and degradability

Under aerobic conditions of alpha-cypermethrin half-lives were 27 and 13 weeks for sandy clay loam and clay loam respectively.

Bioaccumulative potential

Cypermethrin is rapidly taken up by fish (accumulation factor approximately 1000); the half-life of residues in rainbow trout was 8 days. In view of the low concentrations of cypermethrin that are likely to arise in water bodies and their rapid decline, it has been concluded that, under practical conditions, residues in fish will not reach measurable levels. This should also apply to alpha-cypermethrin, because the pathway and rate of metabolism are comparable with those of cypermethrin.

Mobility in soil

No indication of a build-up of alpha-cypermethrin residues in the surface soil layers, or any evidence to suggest significant leaching into sub-surface soil layers.

Results of PBT and vPvB assessment

Very toxic to aquatic life with long lasting effects. Does not meet the criteria for vPvB in accordance with Annex XIII of REACH.

Other adverse effects

With recommended application rates it is unlikely that Alpha-cypermethrin or its degradation products will attain levels of environmental significance. Notwithstanding its high toxicity for fish and honey bees, this is only likely to cause a problem in the case of spillage and over spraying.

Disposal considerations

Waste treatment methods

Product Disposal

Avoid exposure, if possible by the use of appropriate protective clothing and masks.

Waste that contains Alpha-cypermethrin should be burnt in an appropriate high-temperature incinerator with effluent scrubbing. Where no incinerator is available, contaminated absorbents or surplus products should be decomposed by hydrolysis at pH 12 or above. Contact with a suitable hydrolysing agent is required to ensure degradation of the active ingredient to a safe level.

Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage to streams, watercourses, open waterways, ditches, fields with drainage systems, or to the catchment areas of boreholes, wells, springs, or ponds.

Package disposal

Decontaminate empty, damaged, or leaking containers with a 10% sodium carbonate solution added at the rate of at least 1 litre per 20-litre drum. Puncture containers to prevent reuse. Dispose of container in accordance with local regulation.

Transport information

UN number

3349

UN proper shipping name

PYRETHROID PESTICIDE, SOLID, TOXIC

Transport hazard class(es)

ADR: 6.1

IMDG: 6.1

ICAO/IATA: 6.1

RID: 6.1

Packing group

III

Environmental hazards

Alpha-cypermethrin designated as marine pollutant

Special precautions for user

Ensure that containers are sound and that labels are securely fixed and undamaged before dispatch. Do not load together with food and animal feed.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not relevant

UN number

3352

Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Alpha-cypermethrin has been classified under Dangerous substances Directive (67/548/EEC) & Regulation No 1272/2008.

Chemical safety assessment

Chemical safety assessment has been performed by World Health Organization for the International Programme on Chemical Safety.

Other information

Indication of changes

Changes have been made in all section.

Abbreviations and acronyms

LD50: Lethal Dose, 50%

LC50: Lethal Concentration, 50%

STOT: Specific Target Organ Toxicity

DNEL: Derived No Effect Level

PNEC: Predicted No Effect Concentration

ADR: International Carriage of Dangerous Goods by Road

IMDG: International Maritime Dangerous Goods

ICAO/IATA: International Civil Aviation Organization /International Airlines Travel Agent

RID: International Carriage of Dangerous Goods by Rail

Key literature references and sources for data

-Our study reports

- World Health Organization for the International Programme on Chemical Safety.

-BCPC, Pesticide Manual

- Document I, Evaluation report according to Directive 98/8/EC)

Text of R-phrases mentioned in Section 3:

R25: Toxic if swallowed.

R37: Irritating to respiratory system.

R48/22: Harmful: danger of serious damage to health by prolonged exposure if swallowed.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Text of the hazard statements mentioned in Section 3:

H301: Toxic if swallowed.

H373: May cause damage to organs through prolonged or repeated exposure if swallowed.

H335: May cause respiratory irritation.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

Training

Training of workers in techniques to avoid contact with substance is essential.

Liability

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