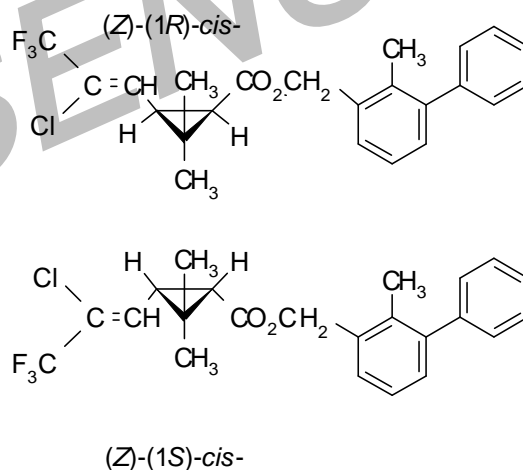


Material Safety Data Sheet

Product Name: Bifenthrin 95%TC

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name:	Bifenthrin
Formulation:	97%TC
CAS:	82657-04-3
Chemical Name:	(2-methyl[1,1'-biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-trifluoro- 1-propenyl)-2,2-dimethylcyclopropanecarboxylate
Molecular Weight:	422.9
Chemical Formulation:	C ₂₃ H ₂₂ ClF ₃ O ₂
Chemical Structure:	



Uses:	Control of a broad range of foliar pests, including Coleoptera, Diptera, Heteroptera, Homoptera, Lepidoptera and Orthoptera; and Acarina on crops such as cereals, citrus, cotton, fruit, grapes, ornamentals and vegetables.
Manufacturer:	Nanjing Essence Fine-Chemical Co., Ltd
Address:	9th Floor, Nanhu Road 58#, Nanjing, China
Telephone Number:	+86 25 86518999
Fax Number:	+86 25 86455985
Website:	www.essencechem.com

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average by Weight</u>
Bifenthrin	82657-04-3	95%

SECTION 3. HAZARDS IDENTIFICATION

Eye Contact:	Practically non-irritating.
Skin Contact:	This product is practically non-toxic.
Inhalation:	The product is harmful by inhalation.
Chronic:	No data available on this formulation.

SECTION 4. FIRST AID MEASURES

Eye Contact:	Flush with water for at least 15 minutes. If irritation occurs and persists, obtain medical attention.
Skin Contact:	If on skin or clothing, remove any contaminated clothing at once, and wash skin thoroughly with soap and water. See a doctor if irritation persists.
Inhalation:	Remove to fresh air. If breathing discomfort occurs, contact a medical doctor.
Swallowing:	If poisoning occurs, contact a doctor or Poisons Information Centre. Do not induce vomiting or give anything by mouth to an unconscious person.

SECTION 5. FIRE FIGHTING MEASURES

Flash point:	165°C
Extinguishing Media:	Foam, CO ₂ or dry chemical. Soft stream water fog only if necessary. Contain all runoff.
Fire / explosion hazards:	Slightly combustible. This material may support combustion at elevated temperatures.
Fire fighting procedures:	Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapors generated.
Hazardous decomposition products:	Carbon monoxide, carbon dioxide, chlorine, fluorine, hydrogen chloride and hydrogen fluoride.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Clean-up Procedure:	Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8, "Exposure Controls/Personal Protection". Keep unprotected
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persons and animals out of the area. Keep material out of lakes, streams, ponds and sewer drains. Dike to confine spill and absorb with a noncombustible absorbent such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label contents for disposal. To clean and neutralize spill area, tools and equipment, wash with a suitable solution of caustic or soda ash, and an appropriate alcohol (i.e., methanol, ethanol or isopropanol). Follow this by washing with a strong soap and water solution. Absorb, as above, any excess liquid and add to the drums of waste already collected. Repeat if necessary. Dispose of drummed waste according to the method outlined in Section 13, "Disposal Considerations".

SECTION 7. HANDLING AND STORAGE

General procedures

Store in a cool, dry, well-ventilated place. Do not use or store near heat, open flame or hot surfaces. Store in original containers only. Keep out of reach of children and animals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Use local exhaust at all process locations where vapor or mist may be emitted. Ventilate all transport vehicles prior to unloading.

Eye/face Protection:

For splash, mist or spray exposure, wear chemical protective goggles or a face shield.

Respiratory:

For splash, mist or spray exposure wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides. Respirator use and selection must be based on airborne concentrations.

Protective clothing

Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items – such as shoes, belts and watchhands -that become contaminated should be removed and destroyed. Launder all work clothing-before reuse (separately from household laundry).

Gloves	Wear chemical protective gloves made of materials such as rubber, neoprene, or PVC. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.
Comments	Personal protective recommendations for mixing or applying this product are prescribed on the product label. Information stated above provides useful, additional guidance for individuals whose use or handling of this product is not guided by the product label.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Viscous liquid; crystalline or waxy solid
Odor:	Mild chemical odor.
Melting Point:	60-70°C
Vapor Pressure:	0.024 mPa (25 °C)
Vapor Density:	1.210 (25 °C)
Flash point:	165°C
Solubility in Water:	In water <1µg/l. Soluble in acetone, chloroform, dichloromethane, diethyl ether, and toluene. Slightly soluble in heptane and methanol.

SECTION 10. STABILITY AND REACTIVITY

Stability:	Stable under normal condition.
Conditions to Avoid:	Excessive heat and fire.
Hazardous Polymerization:	Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Oral:	Acute oral LD50 for rats 54.5 mg/kg.
Skin:	Acute percutaneous LD50 for rabbits >2000 mg/kg. Non-irritant to skin; virtually non-irritating to eyes (rabbits). No skin sensitisation (guinea pigs).

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity:	Fish LC50 (96 h) for bluegill sunfish 0.00035, rainbow trout 0.00015 mg/l. Daphnia LC50 (48 h) 0.00016 mg/l. Low solubility in water and high affinity for soil contribute to produce little impact in aquatic systems under field conditions.
Terrestrial Toxicity:	Birds Acute oral LD50 for bobwhite quail 1800, mallard

ducks 2150 mg/kg. Dietary LC50 (8 d) for bobwhite quail 4450, mallard ducks 1280 mg/kg diet.

Bees LD50 (oral) 0.1 ug/bee; (contact) 0.01462 ug/bee.

SECTION 13. DISPOSAL CONSIDERATIONS

Product Disposal: Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

Container Disposal: Non-returnable containers which held this material should be cleaned, prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple-rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

SECTION 14. TRANSPORT INFORMATION

UN:2588

SECTION 15. REGULATORY INFORMATION

Oral: Acute oral LD50 for rats 54.5 mg/kg.
Skin: Acute percutaneous LD50 for rabbits >2000 mg/kg.
Non-irritant to skin; virtually non-irritating to eyes (rabbits).
No skin sensitisation (guinea pigs).

SECTION 16. OTHER INFORMATION

All information contained in this Material Safety Data Sheet is furnished free of charge and is intended for your evaluation. In our opinion the information is, as of the date of this Material Safety Data Sheet, reliable, however, it is your responsibility to determine the suitability of the information for your use. You are advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional or variable conditions or circumstances exist or because of applicable or government regulations. Therefore, you should use this information only as a supplement to other information gathered by you, and you must make

independent determinations of the suitability and completeness of the information from all sources to assure both proper use of the material described herein and the safety and health of employees.

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