



MATERIAL SAFETY DATA SHEET

PRODUCT : Bifenthrin 3% + Chlorpyrifos 30% EC

PRODUCT DESIGNATION : Insecticide

Section 1. Product & Company Identification

Common Name : Bifenthrin 3% + Chlorpyrifos 30% EC

Grade : Formulation

Active Ingredient : Pyriproxyfen + Bifenthrin

Chemical Name of Active Ingredient (IUPAC) : **Chlorpyrifos**-o,o-Diethyl-o-(3,5,6-trichloro-2-pyridyl)phosphorothioate
Bifenthrin:- (2-methyl[1,1'-biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate

Chemical Family of A. I. : Insecticide

CAS No. : **Chlorpyrifos**- 2921-88-2
Bifenthrin- 82657-04-3

Molecular Formula of A. I. : **Chlorpyrifos** – $C_9H_{11}Cl_3NO_3PS$
Bifenthrin:- $C_{23}H_{22}ClF_3O_2$

Molecular Mass : **Chlorpyrifos** – 350.6g/mol
Bifenthrin:- 422.88 g/mol

Manufacturer & Supplier : **M/s PERFECT SOLUTIONS.**
Office Add: B-371, Paschim Vihar, New Delhi - 110063 (India)
Factory Add: 15/1, 15/2, 15/3 Industrial Estate, Vidisha - 464001 (M.P)

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Section 2. Composition / Information on Ingredients

Name of Components	Concentration% w/w
Chlorpyrifos a.i	30.00% w/w
Bifenthrin a.i	03.00 w/w
Inert Ingredients	67.00% w/w



TOTAL

100.00% w/w

Section 3. Hazards Identification

Emergency overview: Harmful! Harmful if swallowed. Irritating to eyes. Avoid contact with skin and eyes. Keep locked up and out of the reach of children.

Routes of entry: Ingestion, inhalation, contact with skin and eyes.

Health hazards: Inhalation: This product may be harmful if inhaled. Product is unlikely to cause any discomfort or irritation unless inhaled in large quantities. Skin Contact: This product causes skin numbness but further symptoms are not available. In addition product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but all should disappear once exposure has ceased. Eye Contact: This product is an eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage. Ingestion: Harmful if ingested.

Environmental hazards: Toxic to fish and aquatic arthropods. Toxic to bees.

Section 4. First Aid Measures

General: Have the product container, label or Material Safety Data Sheet with you when going for treatment. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given

Skin contact: If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

Eye contact: If skin contact occurs, remove contaminated clothing and wash skin thoroughly. If irritation occurs seek medical advice.

Ingestion: Rinse mouth with water. If swallowed, DO NOT induce vomiting. Give a glass of water. Seek medical advice.

Inhalation: Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Note to physician: No specific antidote. Treat symptomatically.



Section 5. Fire Fighting Measures

Flash point: Not highly flammable.

Flammable limits: Not determined.

Autoignition temperature: Not determined.

Hazardous combustion products: Carbon monoxide, carbon dioxide, chlorine, fluorine, hydrogen chloride and hydrogen fluoride.

Extinguishing media: Water fog (or if unavailable fine water spray), foam, dry agent (carbon dioxide, dry chemical powder).

Media to be avoided: None known.

Fire-fighting instructions: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire.

Protective equipment for firefighters: On burning will emit toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.

Section 6. Accidental Release Measures

Personal precautions: Isolate and post spill area. Keep out unprotected persons and animals. Wear prescribed protective clothing and equipment. Avoid breathing vapors. Work up wind or increase ventilation.

Environmental precautions: DO NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

Method for cleaning up: Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services.

Section 7. Handling & Storage



Handling: Read the label before use. Avoid skin and eye contact and breathing in vapour.

Keep out of reach of children

Storage: Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight. Store in a locked room or place away from children, animals, food, feedstuffs, seed and fertilizers. where there is a potential for exposure to the material. Do not dilute concentrate in food or drink container.

Section 8. Exposure Control, Personal Protection

Exposure limits: No exposure limits have been established for this material.

Engineering controls: Use in a well ventilated areas. Use with local exhaust ventilation or while wearing organic vapor / particulate respirator. Keep containers closed when not in use.

Personal protective equipment (PPE): Ventilation: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised. Eye Protection: Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

Skin Protection: Prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: PVC, nitrile, neoprene. Respirator: If inhalation risk exists, wear a properly fitted half-face or full-face air purifying respirator which is approved for pesticides. Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

User safety recommendations: Avoid contact with eyes and skin. Avoid inhaling spray mist. When preparing spray, wear cotton overalls buttoned to the neck and wrist and washable hat, elbow-length PVC gloves and goggles. When using the prepared spray with hand held application equipment in bananas and grapes, wear cotton overalls buttoned to the neck and wrist and elbow length PVC gloves. Wash hands after use. After each day's use, wash gloves, goggles and contaminated clothing.

Section 9. Physical and Chemical Properties



Appearance / state	: Liquid
Color	: Brown in color
Odor	: Aromatic
Melting point	: Not Applicable
Specific gravity	: 1.035 at 20°C
pH	: 4.6
Corrosivity	: Non-corrosive
Viscosity	: NA
Flash Point	: Flammable

Section 10. Stability & Reactivity

Chemical stability : Stable under normal conditions.

Conditions to avoid : Avoid direct sunlight. Avoid heat and fire.

Hazardous decomposition products : Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen.

Incompatible materials : Avoid oxidizing agents.

Hazardous reactions : Hazardous polymerization will not occur.

Section 11. Toxicological Information

Oral LD50 : rat 98 mg/kg

Skin Contact, Dermal LD50 : rat > 2000 mg/kg.

Inhalation, (4 hr) LC50 : for rat 2.18 mg/l.

Eye Irritation : Moderate-Irritating to eyes

Skin Irritation : Non-Irritating to skin

Sensitization : Non- Sensitizing (guinea pig)

Section 12. Ecological Information

Toxicity to birds- >2000 mg/kg bobwhite Quail

Toxicity to bees- toxic to bees

Toxicity to Daphnia- Highly toxic to Daphnia



Section 13. Disposal Consideration

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

Section 14. Transport Information

IMDG Classification

Shipping name : Environmentally hazardous Substance, Liquid ,n.o.s.
Class : 9
Packing group : III
UN number : 3082
Marine pollutant : Yes

Section 15. Regulatory Information

Hazard symbols:

Xn Harmful

Xi Irritant

Risk phrases:R22 Harmful if swallowed.

R36 Irritating to eyes.

R65 Harmful: May cause lung damage if swallowed.

Safety phrases:

S1/2 Keep locked up and out of the reach of children.

S13 Keep away from food, drink and animal foodstuffs.

S24/25 Avoid contact with skin and eyes.

S36/37 Wear suitable protective clothing and gloves.



Section 16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons in receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations(s) containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.

Safety Division : PERFECT SOLUTIONS, SAFETY DIVISION