

RESTRICTED

**LIQUID INSECTICIDES (PERMETHRIN-0.5% + TETRAMETHRIN 0.2% + ES BIOALLETHRIN/S-BIOLLETHRIN 0.1%)**

**ASC SPECIFICATION NO.303B**

1. **Description of the Chemical Agents.** The product consists of a ready to use concentrate of Permethrin 0.5%, Esbioallethrin/S-Bioallethrin 0.1% & Tetramethrin 0.2% & as the active ingredients, which in combination acts as an adulticide for the adult mosquitoes. The combination of the product provides a wide spectrum of activity for killing the mosquitoes as well as prevents the development of resistance to a particular agent. These three agents equally remain potent against the vectors for a longer period & kill almost all types of mosquitoes by producing the neurotoxicity. These are as follows:

- a. **Permethrin.** The Permethrin is a pesticide. It kills mosquitoes & other sensitive pests when gets in contact with it. It is generally used in the tropical areas to prevent mosquito-borne diseases such as Dengue fever, Malaria etc.
- b. **ESBIOALLETHRIN/S-BIOLLETHRIN 0.1%.** Esbioallethrin//S-Bioallethrin is a synthetic pyrethroid used as a pesticide against household insects such as mosquitoes. It acts synergistically with other insecticides for controlling mosquitoes.
- c. **Tetramethrin.** Tetramethrin is a potent synthetic pyrethroid insecticide. If released into the air, Tetramethrin can exist as a vapour. The half-life of this vapour is approximately 03 (three) hours. So, it can retain the efficacy for a reasonable duration after fogging.

2. **Side Effects.** Excessive application or contact of Permethrin can cause mild to moderate skin irritation. Esbioallethrin is generally a well-tolerated chemical agent with a low toxicity. Tetramethrin can also cause skin & eye irritation. They wearing of PPE (Personal Protective Equipments) prevents the undesirable and unpleasant effects.

3. **Chemical Specification of liquid Insecicide**

Products Name	:	Liquid Insecticide
Chemical Composition	:	Permethrin 0.5% Tetramethrin 0.2% Esbioallethrin//S-Bioallethrin 0.1%
		} Formulated with suitable inert solvent.
Recomanded Use	:	Mosquito Adulticide
Dilution Information	:	Ready to use; no dilution needed.

4. **Physical and Chemical Properties:**

Water Content/Moisture	:	
Appearance	:	Clear to yellowhis liquid.
Odor	:	Slight to pleasant.
Relative Density	:	0.79-0.83
Solubility	:	Immiscible with water
Boiling Point	:	>100° C.
Assay	:	The amount of each ingredient should be within $\pm$ 15% of the declared content.
Efficacy	:	Must kill 80% of the test insect after 1 hour of application and 100% after 24 hours of application.
Chemical Stability	:	Should be stable under normal storage condition.
Product Presentation	:	Packaged in HDPE/LDPE/Metal container suitable for institutional supply with appropriate label.

5. **Instructions for Handling.** Pesticides are toxic in excessive doses. Liquid Insecticide is poisonous if ingested. Accidental inhalation will produce coughing and shortness breath. The following measures should be taken during dealing with the insecticide:

- a. When handling the chemicals use clean rubber gloves, protective clothings and goggles for the safety.
- b. During accidental contact remove all the clothing and wash/rinse the skin with soap and plenty of water
- c. If comes in contact with the eyes, flush the eyes with normal tap water for 15 minutes and seek medical attention immediately.
- d. Always wash thoroughly the hands, face and body with soap and water after handling of the chemical and before taking the food.
- e. The materials should be kept away from the food and food products to avoid accidental ingestion.
- f. Keep the product away from the heat and open flame.
- g. Keep the product out of reach of children.
- h. The container should be labelled as 'Poison' by red ink, preferably by a sticker.

6. **Labelling & Marking of the Packages.** The chemicals when supplied should be packed in a suitable clean plastic container. Each plastic container should be weighing either 5 litres or 20 litres of chemicals. The following informations should be legibly marked or mentioned on the container's surfaces:

- a. Name of the contents.
- b. Manufacturer's name.
- c. Net weight of the contents: 05 litres/20 litres (**without container**).
- d. Date of production.
- e. Date of expiry.
- f. Dilution instructions.
- g. Detail using instructions.
- h. Probable side effects.
- j. Safety measures & precautions.
- k. DGDP contract no.

7. **Inspection Procedure.** Inspection of the supplied products during acceptance should be carried out by an officer on behalf of DST. The Inspecting officer would draw the representative sample from each consignment and submit the sample to AFFDL, Dhaka cantonment for detail analysis. After receiving the analytical report, AFFDL would be forwarded a report to DST. After the approval by AFFDL, Dhaka cantonment the decision of DST regarding the consignment & the delivery would be final in all respects.

  
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