

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

VectoBac[®] 12AS

BIOLOGICAL LARVICIDE AQUEOUS SUSPENSION

ACTIVE CONSTITUENT: *Bacillus thuringiensis* subsp. *israelensis*
Strain AM65-52 fermentation solids and soluble

GROUP **11** INSECTICIDE

For specific control of first to early fourth instar mosquito (Family Culicidae) larvae as per Directions for Use table.

GENERAL INSTRUCTIONS INSECTICIDE RESISTANCE WARNING

GROUP **11** INSECTICIDE

For insecticide resistance management, VectoBac 12AS is a Group 11 insecticide.

Some naturally occurring insect biotypes resistant to VectoBac 12AS and other Group 11 insecticides may exist through normal genetic variability in any insect population. The resistant individuals can eventually dominate the insect population if VectoBac 12AS or other Group 11 insecticides are used repeatedly. The effectiveness of VectoBac 12AS on resistant individuals could be significantly reduced. Since occurrence of resistant individuals is difficult to detect prior to use, Valent BioSciences accepts no liability for any losses that may result from the failure of VectoBac 12AS to control resistant insects.

VectoBac 12AS may be subject to specific resistant management strategies. For further information contact your local supplier, Sumitomo representative or local agricultural department agronomist.

Mixing:

Stir or shake the product thoroughly before using. VectoBac 12AS may be applied either undiluted or diluted with water. **DO NOT** mix with alkaline or dirty water.

For Ground Application, VectoBac 12AS may be applied either undiluted or diluted with water. The volume of application must be sufficient to provide uniform coverage of the target area and will be influenced by weather, application equipment and mosquito habitat.

For diluted applications, half fill the spray vat with water and start agitation. Pour the required amount into the vat, continue filling with water. Apply in a total volume determined by calibration of the application equipment being used (a guide for practical volumes of application range from 2 to 150 L/ha).

For undiluted applications, apply 0.3 to 1.2 L/ha of VectoBac 12AS through airblast, mist blower, etc, spray equipment.

For Aerial Application, VectoBac 12AS may be applied either undiluted or diluted with water.

For undiluted applications, apply 0.6 to 1.2 L/ha of VectoBac 12AS through fixed wing or helicopter aircraft equipped with either conventional boom and nozzle systems or rotary atomisers. For diluted applications, fill the mix tank with the desired quantity of water. Start the mechanical or hydraulic agitation to provide moderate circulation before adding the VectoBac 12AS. VectoBac 12AS suspends readily in water and will stay suspended over normal application periods. Brief recirculation may be necessary if the spray mixture has sat for several hours or longer.

Avoid excessive recirculation during application of undiluted VectoBac 12AS, as this may change physical properties.

Larvicidal activity, due to destruction of the midgut epithelium, occurs within 12 hours of ingestion. Because 4th instar larvae do not feed prior to pupation, application has to be made in the early stages of the life cycle. When more than 50% of the larval population is in the late 4th instar stage, the use of this product is not recommended. **DO NOT** mix with alkaline or dirty water.

PRECAUTIONS

Keep away from foodstuffs.

STORAGE AND DISPOSAL

Keep out of reach of children.

This product is a biological larvicide containing crystals of protein and bacterial spores. Activity can be impaired unless protected from high temperatures at all times.

VectoBac 12AS must be kept in its original, properly labelled container, well sealed and stored in a cool, dry and well ventilated place. When transporting, keep shaded. Avoid standing containers in direct sunlight in the field or on airstrips. **DO NOT** leave in car boot or other enclosed space on a sunny day. **DO NOT STORE AT 30°C OR ABOVE.**

VectoBac 12AS remains potent for two years from

VectoBac 12AS

date of manufacture, if stored at temperatures less than 24°C; three years from date of manufacture in refrigerated storage. Triple rinse containers before disposal. Add rinsings to tank mix or dispose of rinsate in a disposal pit. This pit must be away from aquatic areas and in a suitable area specifically marked and set up for the purpose. **DO NOT** dispose of undiluted chemicals on-site.

Destroy empty containers by breaking, crushing or puncturing them. Dispose of the containers at a local authority landfill that does not burn its refuse. If there is no local authority landfill readily available in your area, bury the containers at a depth of 500 mm or more at an approved disposal site. **DO NOT** burn empty containers or product.

SAFETY DIRECTIONS

Avoid contact with eyes and skin. **DO NOT** inhale spray mist. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

FIRST AID

If poisoning occurs contact a doctor or Poisons Information Centre (ph: 13 11 26).

SAFETY DATA SHEET

Additional information is listed in the Safety Data Sheet (SDS) available from Sumitomo Chemical Australia Pty Ltd.

IMPORTANT NOTICE

These goods are to be used only for the purpose and as specified on the label, and are not suitable for any other purpose. To the fullest extent permitted by law, we do not accept or bear any liability on any basis for any loss, damage, cost or expense, arising in any way, directly or indirectly, in connection with the goods.

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THIS PRODUCT IS NOT CONSIDERED TO BE A DANGEROUS GOOD UNDER THE AUSTRALIAN CODE FOR THE TRANSPORT OF DANGEROUS GOODS BY ROAD OR RAIL

IN A TRANSPORT EMERGENCY DIAL 000 POLICE OR FIRE BRIGADE

SPECIALIST ADVICE IN AN EMERGENCY ONLY ALL HOURS - AUSTRALIA WIDE 1800 024 973

DIRECTIONS FOR USE

DO NOT allow diluted spray to remain in the tank for more than 48 hours.

SITUATION	INSECT PEST	RATE OF TREATMENT	CRITICAL COMMENTS
Stagnant and standing ponds, flood and irrigation water, ditches	eg. <i>Aedes notoscriptus</i> , <i>Culex annulirostris</i> (common banded mosquito), <i>Culex australicus</i> , <i>Anopheles annulipes</i> (common Australian anopheline)	300 mL to 600 mL per hectare	1. Use for control of 1 st to early 4 th instar. 2. Use lower rate when 1 st to 3 rd instar larvae predominate; higher rate when late 3 rd to early 4 th instar larvae predominate.
Tidal water and salt marshes, storm water retention areas	eg. <i>Aedes vigilax</i> (saltmarsh mosquito), <i>Culex sitiens</i> (saltwater culex)	600 mL to 1.2 L per hectare	3. May be applied by ground or by air, undiluted or diluted with water. 4. Reapply as needed.
Water with moderate to high organic content, sewage settling ponds, etc.	eg. <i>Culex quinquefasciatus</i> (brown house mosquito)	1.2 L per hectare	

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION

WITHHOLDING PERIOD

NOT REQUIRED WHEN USED AS DIRECTED.

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