

73049-31

12/02/2002

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**XENTARI® AS
BIOLOGICAL INSECTICIDE
AQUEOUS SUSPENSION**

Active Ingredient:

<i>Bacillus thuringiensis</i> , subsp. <i>aizawai</i> , strain ABTS-1857, fermentation solids and solubles.....	10.8%
Other Ingredients.....	89.2%
Total:.....	100.0%

Potency: 2,500 Cabbage Looper Units per mg of product or 1.13 billion Cabbage Looper Units per pound of product.

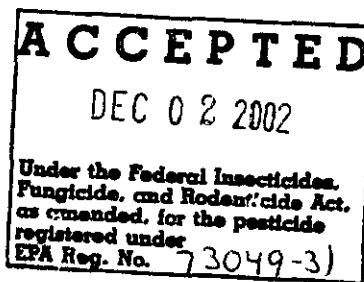
The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN
WARNING
AVISO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail).

Valent BioSciences Corporation
870 Technology Way, Suite 100
Libertyville, IL 60048

EPA Registration No. 73049-31
EPA Est. No. 33762-IA-1



Net Contents: 2.5 gallons

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for treatment.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 - 20 minutes. • Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may contact 1-800-892-0099 for emergency medical treatment and or transport information. For all other information, call 1-800-6-Valent.</p>	

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)
WARNING (AVISO)**

Causes substantial, but temporary eye injury. Do not get in eyes, skin, or on clothing. Wear protective eyewear. Harmful if inhaled. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Waterproof gloves.
- Shoes plus socks.
- Protective eyewear.

Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants.
- Waterproof gloves.
- Shoes plus socks.
- Protective eyewear.

Mixers/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH

standards of at least N-95, R-95 or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

The toxicity of this product to the predatory wasp *Trichogramma pretiosum* is not known.

This product is toxic to the green lacewing and the predatory mite *Metaseiulus occidentalis*.

This product is highly toxic to honey bees exposed to direct treatment. Do not apply this product while bees are actively visiting the treatment area.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls.
- Waterproof gloves.
- Shoes plus socks.
- Protective eyewear.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Storage: Reclose containers of unused XenTari AS. Store in a dry, cool place inaccessible to children and out of sunlight.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal

Plastic Bottle: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Metal can: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

DIRECTIONS FOR USE

Do not apply this product through any type of irrigation system.

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Days to Harvest: There are no restrictions on applying XenTari AS up to the time of harvest. Individual state regulations may vary and should be consulted for allowable pre-harvest application intervals.

Sites: XenTari AS may be used for any labeled pest in both field and greenhouse use. XenTari AS is an insecticide for use against listed caterpillars (larvae) of lepidopterous insects. Close scouting and early attention to infestations is highly recommended. Larvae must eat deposits of XenTari AS to be affected. Always follow these directions:

Treat when larvae are young (early instars) before the crop is damaged.

Larvae must be actively feeding on treated, exposed plant surfaces.

Thorough spray coverage is needed to provide a uniform deposit of XenTari AS at the site of larval feeding. Use overhead and drop nozzles to obtain good spray coverage on both sides

of foliage. Use sufficient spray volume to insure uniform deposition on all plant surfaces.

Under heavy pest population pressure, use the higher label rates, shorten the spray interval, and/or raise spray volume to improve spray coverage.

Repeat applications at an interval sufficient to maintain control, usually 3 to 14 days depending on plant growth rate, moth activity, rainfall after treating, and other factors. If attempting to control a pest with a single spray, make the treatment when egg hatch is predominately complete, but before crop damage occurs.

A spreader-sticker which has been approved for use on growing and harvested crops should be added for hard-to-wet crops such as cabbage, or to improve weather-fastness of the spray deposits.

XenTari AS may be tank mixed with other labeled insecticides to enhance control. Use of the resulting tank mix must be in accordance with the more restrictive label limitations and precautions. No dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Before tank mixing XenTari AS with other labeled products, including spreader stickers, check for tank mix compatibility.

XenTari AS is a non-restricted use pesticide and does not require a restricted use permit for purchase and use.

After ingesting a lethal dose of XenTari AS, larvae stop feeding within the hour, and will die within several hours to 3 days. Mortality varies with larval size (instar), lepidopteran species, and dose consumed. Following ingestion, larvae become sluggish, discolor, then shrivel, blacken and die. Smaller larvae die more quickly.

XenTari AS may be applied in conventional ground or aerial equipment (unless the application rate table allows ground application only) with quantities of water sufficient to provide uniform coverage of infested plant parts. The volume of water needed per acre will depend on crop development, relative humidity, spray equipment, and local practices. Usually, selection of moderate to high spray volume will provide the best results in most equipment. For optimal results, use at least 3 gallons of water per acre by air, except in arid areas, where 5 to 10 gallons are required. Add water to the mix tank and provide moderate agitation. While agitating, add the required amount of XenTari AS. Continue agitation, and add other spray materials, if any. Add remaining water, if any, and agitate until fully mixed. Maintain the suspension with moderate agitation while loading and spraying. Do not mix more XenTari AS than can be used in a 3 day period.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all of these factors when making decisions.

For Smaller Spray Volumes:

If Rate is

- 1 pt./acre or 100 gals.
- 2 pt./acre or 100 gals.
- 4 pt./acre or 100 gals.
- 8 pt./acre or 100 gals.

**Use This Amount
Per Gallon**

- 1 tsp. or 1/6 fluid oz.
- 2 tsp. or 1/3 fluid oz.
- 4 tsp. or 2/3 fluid oz.
- 8 tsp. or 1 1/3 fluid oz.

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APPLICATION RATE

Crop Group (Miscellaneous)	Pests	Pints/acre
Alfalfa (Hay and Seed), Hay and Other Forage Crops	Loopers	1 - 4
	Alfalfa Caterpillar	1 - 4
	European Skipper (Essex Skipper)	1 - 4
	Armyworms	1 - 8
Berries and Small Fruit such as Grape, Strawberry and Blackberry	Grapeleaf Skeletonizer (ground only)	1 - 4
	Grape Leafroller	1 - 4
	Achema Sphinx Moth (Hornworm)	1 - 4
	Saltmarsh Caterpillar (ground only)	1 - 4
	Omnivorous Leafroller (ground only)	1 - 4
	Loopers	1 - 4
	Orange Tortrix	1 - 4
	Oblique Banded Leafroller	1 - 4
	Armyworms	1 - 4
	Tobacco Budworm	1 - 8
	Grape Berry Moth	1 - 8
	Melonworms	1 - 4
	Cutworms	1 - 4
Bulb such as Garlic and Onion (green and bulb)	Loopers	1 - 4
	Omnivorous Leafroller	1 - 4
	Hornworms	1/2 - 4
	Imported Cabbageworm	1/2 - 4
	Diamondback Moth ¹	1/2 - 4
	Green Cloverworm	1 - 4
	Webworm	1 - 4
	Saltmarsh Caterpillar	1 - 4
	Armyworms	1 - 8
	Cutworms	1 - 4
	Cross-striped Cabbageworm	1 - 4
Heliothis	1 - 8	

APPLICATION RATE (Continued)

Crop Group (Miscellaneous)	Pest	Pints/Acre
Curcubit Vegetables such as Melons, Cucumber and Squash	Loopers	1 - 4
	Melonworms	1 - 4
	Rindworm complex	1 - 4
	Armyworms	1 - 8
Flowers, Bedding Plants and Ornamentals (Ground application only)	Loopers	1/2 - 4
	Tobacco Budworm	1/2 - 4
	Omnivorous Looper	1/2 - 4
	Omnivorous Leafroller	1/2 - 4
	Diamondback Moth ¹	1/2 - 4
	Armyworms	2 - 8
	Ello Moth (Hornworm)	1/2 - 4
	Io Moth	1/2 - 4
	Oleander Moth	1/2 - 4
Azalea Caterpillar	1/2 - 4	
Fruiting Vegetables such as Tomato, Bell Pepper and Eggplant	Loopers	1 - 4
	Hornworm	1/2 - 4
	Tomato Fruitworm	1 - 4
	Variegated Cutworm	1 - 4
	Saltmarsh Caterpillar	1 - 4
	Armyworms	1 - 8
Greenhouse/Shadehouse and Outdoor Nursery Crops such as Leafy Herbs, Brassica and Fruiting groups	Loopers	1 - 4
	Heliothis	1 - 8
Herbs, Spices and Mints such as Basil, Chives, Dill, Leek and Peppermint	Looper	1 - 4
	Saltmarsh Caterpillar	1 - 4
	Armyworms	1 - 8

APPLICATION RATE (Continued)

Crop Group (Miscellaneous)	Pests	Pints/Acre
Leafy and Cole Crops such as Lettuce (head and leaf), Kale, Celery, Spinach, Broccoli, Cabbage, Mustard Greens, Brussels Sprout, Cauliflower, Collards, Chinese Cabbage, Endive Kohlrabi and Parsley	Loopers	1 - 4
	Omnivorous Leafroller	1 - 4
	Hornworms	1/2 - 4
	Imported Cabbageworm	1/2 - 4
	Diamondback Moth ¹	1/2 - 4
	Green Cloverworm	1 - 4
	Webworm	1 - 4
	Saltmarsh Caterpillar	1 - 4
	Armyworms	1 - 8
	Cutworms	1 - 4
	Cross-striped Cabbageworm	1 - 4
Heliothis	1 - 8	
Legume Vegetables such as Beans, Peas, Lentil and Soybean	Loopers	1 - 4
	Soybean Looper	1 - 4
	Green Cloverworm	1 - 4
	Velvetbean Caterpillar	1/2 - 4
	Armyworms	1 - 8
	Podworms	1 - 4
Root and Tuber such as Carrot, Potato, Garden Beet and Sugarbeet	Loopers	1 - 4
	Omnivorous Leafroller	1 - 4
	Hornworms	1/2 - 4
	Imported Cabbageworm	1/2 - 4
	Diamondback Moth ¹	1/2 - 4
	Green Cloverworm	1 - 4
	Webworm	1 - 4
	Saltmarsh Caterpillar	1 - 4
	Armyworms	1 - 8
	Cutworms	1 - 4
	Cross-striped Cabbageworm	1 - 4
Heliothis	1 - 8	

APPLICATION RATE (Continued)

Crop Group (Miscellaneous)	Pest	Pints/Acre
Stone Fruit such as Cherries, Plum, Peach, Prune and Nectarine Pome Fruit such as Apple and Pear Tree Nuts such as Almond, Pecan, Walnut and Filbert Pomegranate	Redhumped Caterpillar	1 - 8
	Tent Caterpillars	1 - 8
	Omnivorous Leafroller	1 - 8
	Fall Webworm	1 - 8
	Walnut Caterpillar	1 - 8
	Cankerworms	1 - 8
	Gypsy Moth	1 - 8
	Variegated Leafroller	1 - 8
	Redbanded Leafroller	1 - 8
	Tufted Apple Budmoth	1 - 8
	Fruittree Leafroller	1 - 8
	Oriental Fruit Moth	1 - 8
	Cutworms	1 - 8
	Filbert Leafroller	1 - 8
	Obliquebanded Leafroller	1 - 8
	Codling Moth	1 - 8
Armyworms	1 - 8	
Twig Borer	1 - 8	
Small Grains (Ground application only)	Loopers	1 - 4
	Armyworms ¹	1 - 8
Tropical Fruits	Hornworm	1 - 8
	Leafrollers	1 - 8
	Omnivorous Looper	1 - 8
	Loopers	1 - 8

¹For best results, use a ground applicator, a minimum of 50 gallons total mix per acre, 50-100 psi and 3-7 nozzles per bed.

APPLICATION RATE

Other Crops:	Pests	Pints/Acre
Asparagus	Armyworms ¹	1 - 8
Avocado	Amorbia Moth	1 - 8
	Omnivorous Leafroller	1 - 8
	Omnivorous Looper	1 - 8
	Orange Tortrix	1 - 8
	Spanworm	1 - 8
Banana	Banana Skipper	1 - 4
Citrus	Fruittree Leafroller	1 - 8
	Orangedog	1 - 4
	Citrus Cutworm ³	1 - 8
Corn (Sweet and Field and Sorghum)	Armyworms ¹	1 - 8
	Headworms	1 - 4
	European Corn Borer	1 - 8
Cotton	Tobacco Budworm ²	1 - 8
	Cotton Bollworm ²	1 - 8
	Loopers	1 - 4
	Saltmarsh Caterpillar	1 - 4
	Armyworms ¹	1 - 8
Hops	Loopers	1 - 4
	Armyworms ¹	1 - 8
Kiwi Fruit	Omnivorous Leafroller	1 - 8
Malanga	Saltmarsh Caterpillar	1 - 4
	Armyworms ¹	1 - 8
Peanut	Loopers	1 - 4
	Velvetbean Caterpillar	1 - 4
	Green Cloverworm	1 - 4
	Podworms ¹	1 - 4
Pineapple	Gummosos-Batrachedra comosae (Hodges)	1/2 - 2
	Thecla-Thecla basilides (Geyr)	1/2 - 2

APPLICATION RATE (Continued)

Other Crops	Pests	Pints/Acre
Rape	Looper	1 - 4
	Armyworms ¹	1 - 8
	Heliothis	1 - 8
Safflower	Loopers	1 - 4
	Saltmarsh Caterpillar	1 - 4
	Armyworms ¹	1 - 8
Sunflower (Ground application only)	Loopers	1 - 4
	Head Moth	1 - 4
Tobacco	Tobacco Budworm	1 - 4
	Hornworms	1/2 - 4
	Loopers	1 - 4
Turf	Sod Webworm	2 - 8

¹XenTari AS may be used to control small armyworms and/or podworms (1st and 2nd instar) when populations are light and full coverage sprays are applied. Repeat treatment as necessary. If mature worms or heavy populations are present a contact insecticide should be used to enhance control.

²Use to control light to moderate populations of newly hatched worms in integrated pest management conditions. Repeat treatments at 4 to 5-day intervals as long as necessary and results are acceptable. Use in combination with ovicidal rates of labeled ovicides, for bollworm and tobacco budworm.

³Apply to light to moderate populations of newly-hatched worms.

APPLICATION RATE

XenTari AS for Trees and Forests⁴ (For all states except California)

Crop	Pest	pints/100 gallons ⁵
Forest, Shade, Sugar	Gypsy Moth	1/2 - 4
Maple Trees and	Bagworm	1/2 - 4
Ornamentals	Redhumped Caterpillar	1/2 - 4
	Spring & Fall Cankerworm	1/2 - 4
(Ground Application	Fall Webworm	1/2 - 4
Only)	Elm Spanworm	1/2 - 4
	Tent Caterpillars	1/2 - 4
	California Oakworm	1/2 - 4
	Pine Butterfly	1/2 - 4
	Spruce Budworms	1/2 - 4
	Saddle Prominent Caterpillar	1/2 - 4
	Douglas Fir Tussock Moth	1/2 - 4
	Western Tussock Moth	1/2 - 4
	Fruittree Leafroller	1/2 - 4
	Blackheaded Budworm	1/2 - 4
	Mimosa Webworm	1/2 - 4
	Jack Pine Budworm	1/2 - 4
	Saddleback Caterpillar	1/2 - 4
	Greenstriped Mapleworm	1/2 - 4
	Hemlock Looper	1/2 - 4

⁴Forest, Shade, Sugar Maple Trees and Ornamentals.

⁵Rate for hydraulic sprayer. For mist blowers, mix the applicable amount (pts.) in 10 gallons of water

Note: Inclusion of a suitable spreader-sticker approved for forest insect control is recommended to improve coverage, rain fastness and/or resist wash-off.

NOTICE TO BUYER

Seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

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