



U.S. ENVIRONMENTAL PROTECTION AGENCY
 Office of Pesticide Programs
 Biopesticides and Pollution Prevention Division (7511P)
 1200 Pennsylvania Ave., N.W.
 Washington, D.C. 20460

EPA Reg. Number:

73771-13

Date of Issuance:

9/8/2023

NOTICE OF PESTICIDE:

Registration
 Reregistration
 (under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

VLS-2002-03

Name and Address of Registrant (include ZIP Code):

Verdesian Life Sciences U.S., LLC
 1001 Winstead Drive, Suite 480
 Cary, NC 27513

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Biopesticides and Pollution Prevention Division prior to use of the label in commerce. In any correspondence on this product, always refer to the above EPA Registration Number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA or the Act).

Registration is in no way to be construed as an endorsement or recommendation of this product by the U.S. Environmental Protection Agency (EPA). In order to protect health and the environment, the Administrator, on his or her motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under the Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration or registration review of your product when EPA requires all registrants of similar products to submit such data.

Signature of Approving Official:

Andrew Bryceland, Team Lead
 Biochemical Pesticides Branch
 Biopesticides and Pollution Prevention Division (7511M)
 Office of Pesticide Programs

Date:

9/8/2023

2. Make the following labeling change before you release this product for shipment:
 - Revise the EPA Registration Number to read, “EPA Reg. No. 73771-13.”
3. Submit one (1) copy of the final printed labeling for the record before you release this product for shipment.

Should you wish to add/retain a reference to your company’s website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should EPA find or if it is brought to our attention that a website contains statements or claims substantially differing from statements or claims made in connection with obtaining a FIFRA section 3 registration, the website will be referred to EPA’s Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6. A stamped copy of the labeling is enclosed for your records. Please also note that the record for this product currently contains the following acceptable Confidential Statement of Formula (CSF):

- Basic CSF dated 03/15/2022

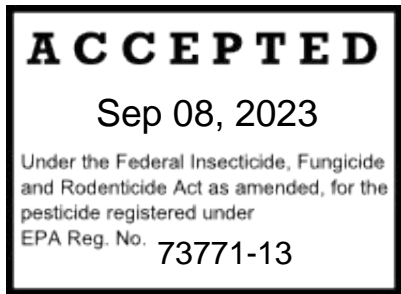
If you have any questions, please contact Gina Burnett via email at Burnett.gina@epa.gov.

Sincerely,



Andrew Bryceland, Team Lead
Biochemical Pesticides Branch
Biopesticides and Pollution
Prevention Division (7511M)
Office of Pesticide Programs

Enclosure



VLS-2002-03

Biochemical Plant Growth Regulator

[ABN: Take Off ST]

ACTIVE INGREDIENT

(2S)-5-Oxopyrrolidine-2-carboxylic Acid*.....

% w/w

25.0%

OTHER INGREDIENTS.....

75.0%

Total

100.0%

*equivalent to 2.4 lbs (2S)-5-Oxopyrrolidine-2-carboxylic Acid per US gal.

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • Call poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
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.
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 by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOTLINE NUMBER	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE: Call PROSAR at 1-866-303-6952 or 1-651-632-8946, if calling from outside of the U.S. FOR 24-HOUR CHEMICAL EMERGENCY: Spill, leak, fire, exposure or accident, call CHEMTREC 1-800-424-9300 or 1-703-527-3887, if calling from outside of the U.S.</p>	

[See [Back] [Side] Panel for Precautionary Statements]

EPA Reg. No. 73771-NEW1

EPA Est. No. XXXXX-XX-X

Manufactured For:
 Verdesian Life Sciences U.S., LLC,
 1001 Winstead Drive, Suite 480
 Cary, NC 27513
 Ph. 559-635-3087

NET CONTENTS:

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Wear the appropriate personal protective equipment (PPE).

PERSONAL PROTECTIVE EQUIPMENT (PPE)

All mixers, loaders, applicators and other handlers must wear

- long-sleeved shirt and long pants
- waterproof gloves
- shoes plus socks
- protective eyewear

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.

USERS SAFETY RECOMMENDATIONS

- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should 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

For terrestrial uses: 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 disposing of equipment washwater or rinsate.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 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, notifications, 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 interval (REI). The requirements in this box only apply to uses of this product that are covered by the WPS.

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

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 wear: coveralls, shoes plus socks, chemical resistant gloves made of any waterproof material, and protective eyewear.

GENERAL INFORMATION

VLS-2002-03 is a liquid formulation containing 25 percent (2S)-5-oxopyrrolidine-2-carboxylic acid. (2S)-5-Oxopyrrolidine-2-carboxylic acid is a biochemical plant growth regulator that promotes nitrogen assimilation.

DIRECTIONS FOR USE

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

RESTRICTIONS

This product can be applied by handheld sprayer or as a commercial seed treatment. All other application methods are prohibited.

APPLICATION TO CROPS

VLS-2002-03 must be applied using properly calibrated, hand-held ground application equipment (backpack sprayer) only, as appropriate for the type of crop treated. Use sufficient water volume to obtain thorough uniform coverage of all plant surfaces.

Additives: The addition of a wetting agent or spreader/sticker may enhance efficacy of VLS-2002-03.

Crop Specific Directions:

Application Rate to Use	Vegetable Crops
6-12 oz/A	Garlic and Onions: Apply at bulb initiation to ½ inch diameter, from seedling stage and again approximately 6-8 weeks after 1" diameter. Carrots: Apply at crop emergence. Reapply at 15-30 day intervals up to harvest. Artichokes: Apply at seedling stage. Reapply at 15-30 day intervals. Tomatoes, Cantaloupes and other Melons: Apply after transplanting, thinning or at second to fourth true leaf stage.

Application Rate to Use	Tree, Vine and Fruit Crops
6-12 oz/A	<p>Strawberries: Apply after transplanting. Reapply at 15-30 day intervals up to harvest.</p> <p>Bush Berries, Caneberries, Kiwi, Olives, Citrus, Avocados and Figs: Apply pre-bloom. Reapply at 15-30 day intervals up to harvest.</p> <p>Cranberries: Apply 20 days pre-bloom. Reapply at 15-30 day intervals up to harvest.</p> <p>Pomegranates: Apply at first flush. Reapply at 15-30 day intervals up to harvest.</p> <p>General Nut Crops: Apply at bud break. Reapply at 15-30 day intervals up to nut fill.</p> <p>Pistachios: Apply at leaf out. Reapply at pre-bloom, 3 weeks post bloom and 6 weeks post bloom.</p> <p>Stone Fruits: Apply at bud break or pink bud. Reapply at fruit set or jacket fall, fruit thinning and two to three weeks prior to harvest.</p> <p>Pome Fruits: Apply at green tip or bud break. Reapply at 15-30 day intervals up to harvest.</p> <p>Hops: Apply at 1 inch to 4 inches of shoot growth. Reapply at 8 to 10 inches of shoot prior to bloom and during bloom.</p> <p>Grapes (Table, Wine, Raisin): Table Grapes: Apply at 4-6 inches of shoot growth and then at bloom. Wine and Raisin Grapes: Apply 4-6 inches of shoot grow and then at approximately 5-25% bloom. Reapply at bunch pre-closing, veraison and two to three weeks prior to harvest.</p> <p>Dates: Apply at onset of bloom. Reapply at 15-30 day intervals.</p>

Application Rate to Use	FIELD CROPS
6-12 oz/A	<p>Garbanzo Beans: Apply after crop emergence at fourth to sixth true leaf stage. Reapply at 30 day intervals.</p> <p>Beans (Not for Greenhouses): Apply after sowing, thinning or at second to fourth true leaf stage and reapply at 15 to 30 day intervals.</p> <p>Cotton: Apply in furrow. Reapply at pin head square.</p> <p>Forage Crops: Apply after sowing thinning or at second to fourth true leaf stage and reapply at 15 to 30 day intervals.</p> <p>Alfalfa hay and Alfalfa for Seed: Apply after sowing, thinning or at second to fourth true leaf stage and make 1-2 subsequent applications after cutting.</p> <p>Barley, Grass (Seed), Oats, Rice, Rye, Sugar Cane and Wheat: Apply after emergence usually at first herbicide timing and reapply at 4-6 inches crop height and with the fungicide program. Reapply at 10 to 15 day intervals.</p> <p>Corn: Apply at planting in seed row. Reapply at V4 through V6 stages.</p> <p>Sugar Beets: Apply after sowing thinning or at second to fourth true leaf stage and reapply at 10 to 15 day intervals.</p> <p>Asparagus: Apply at 2-3 feet height and reapply at 10 to 15 day intervals.</p> <p>Sunflower, Safflower and Other Crops Grown for Seed: Apply pre-bloom and reapply at 10 to 15 day intervals.</p> <p>Tobacco: Apply after transplanting and reapply at 15 to 30 day intervals.</p> <p>Forestry and Nursery: Apply every 2 to 4 weeks during active growing periods.</p>

SEED TREATMENT APPLICATION

This product can be applied to seeds with most seed treating equipment commonly used in the commercial seed treatment industry, and is not for use in agricultural establishments covered by the WPS (40 CFR Part 170).

Follow seed application recommendations listed below for specific seed size/type.

Specific Recommendations by Crop	Application Rate	Minimum Total Slurry Volume
Alfalfa	0.016 fl oz (0.48 mL)/100 lbs (45.4 kg)	6 fl oz (180 mL)
Canola	0.004 fl oz (0.12 mL)/100 lbs (45.4 kg)	8 fl oz (240 mL)
Cereals (Barley, Rice, Rye, and Wheat)	0.004 fl oz (0.12 mL)/100 lbs (45.4 kg)	8 fl oz (240 mL)
Corn	0.016 fl oz (0.48 mL)/80,000 seeds	6 fl oz (180 mL)
Cotton	0.004 fl oz (0.12 mL)/100 lbs (45.4 kg)	8 fl oz (240 mL)
Soybeans	0.008 fl oz (0.24 mL)/140,000 seeds	4 fl oz (120 mL)
Sugar Beets	0.004 fl oz (0.12 mL)/100 lbs (45.4 kg)	8 fl oz (240 mL)

Example: Take Off ST Application Rate = 0.016 fl oz diluted in 6 fl oz of water per 100 lbs of seed.

Compatibility – This product is compatible with most common foliar pesticides and nutrients. It is recommended that a small-scale jar test for compatibility is recommended before tank mixing with other products.

User assumes full responsibility to ensure product, equipment and plant compatibilities.

Note: Tank mix environments where the pH is less than 2.5 reduce the efficacy of the product and as such should be avoided.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a cool, dry place.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions for use of this product are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of VERDESIAN LIFE SCIENCES (VERDESIAN). To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

VERDESIAN warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions for Use**, subject to the inherent risks, referred to above.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, VERDESIAN makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. To the extent consistent with applicable law, VERDESIAN disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product. No agent of VERDESIAN is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at VERDESIAN's election, the replacement of product.

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