

**NOTICE OF PESTICIDE:**  REGISTRATION  
 REREGISTRATION  
(Under the Federal Insecticide, Fungicide,  
and Rodenticide Act, as amended)

Conditional  
NAME OF PESTICIDE PRODUCT  
ClandoSan 1500

NAME AND ADDRESS OF REGISTRANT (Include ZIP code)

IGI<sup>TM</sup> Biotechnology, Inc.  
9110 Red Branch Road  
Columbia, MD 21045

**NOTE:** Changes in labeling formula differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above U.S. EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby Registered/Reregistered under the Federal Insecticide, Fungicide, and Rodenticide Act.

A copy of the labeling accepted in connection with this Registration/Reregistration is returned herewith.

Registration is in no way to be construed as an indorsement or approval of this product by this Agency. In order to protect health and the environment, the Administrator, on his 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 this 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 conditionally registered in accordance with FIFRA section 3(c)(7)(A) provided that you:

1. Submit/cite all data required for registration/reregistration of your product under FIFRA section 3(c)(7) when the Agency requires all registrants of similar products to submit such data.
2. Add the phrase "EPA Registration No. 58200-11" to your label before you release the product for shipment.
3. Submit five (5) copies of your final printed labeling before you release the product for shipment. Refer to the A-79 enclosure for a further description of final printed labeling.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 3(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Susan Lewis  
Acting Product Manager (31)  
Fungicide-Pesticide Branch  
Registration Division (4750)

Enclosures

ATTACHMENT IS APPLICABLE

**BEST AVAILABLE COPY**

SIGNATURE OF APPROVING OFFICIAL

DATE

**IGI®**

**IGENE Biotechnology, Inc.**

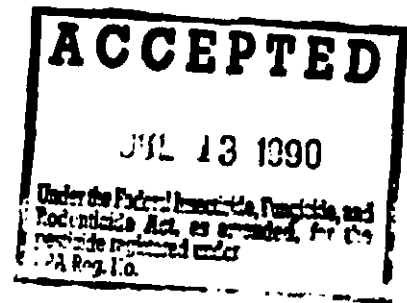
**CLANDOSAN®  
1500**

**CHITIN NEMATICIDE**

**FOR ORNAMENTALS AND LAWN AND TURF GRASSES  
[FOR AGRICULTURAL CROPS]**

**U.S. PATENT NO. 4,536,207  
OTHER U.S. AND FOREIGN PATENTS PENDING**

**EPA EST. 33560-TN-1  
EPA REG. NO. 58200-0**



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**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION: Avoid contact with eyes. Use eye protection when handling this product.**

**STATEMENT OF PRACTICAL TREATMENT:**

**In case of contact with eyes, immediately flush eyes with plenty of water. Get medical attention if irritation persists.**

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**ACTIVE INGREDIENTS:**

**Chitin (Poly-N-acetyl-D-glucosamine)-Protein . . . . 17.3%**

**INERT INGREDIENTS:**

**Organic Buffer, Urea and Minerals . . . . . 82.7%**

**1989 IGENE Biotechnology, Inc.  
The IGI logo and ClandoSan® 1500 are trademarks  
of IGENE Biotechnology, Inc.**

**FRONT PANEL (CONTINUED)**

**NET WEIGHT 50 LBS.  
(22.7 Kg)**

**IGI®**

**IGENE Biotechnology, Inc.  
9110 Red Branch Road  
Columbia, Maryland 21045  
1-800-346-6421**

**BACK PANEL - RIGHT COLUMN**

**DIRECTIONS FOR USE**

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

For biological control of all plant-pathogenic nematodes.

**APPLICATION METHODS:**

**PRE-PLANT SOIL INCORPORATION**

ClandoSan® 1500 should be tilled, on a broadcast or band basis, or otherwise thoroughly mixed into soil 2-4 weeks before planting to stimulate proliferation of actinomyces and other soil microorganisms, which are responsible for the "earthy aroma" of freshly plowed fields.

For broadcast and band application under field, home garden and nursery conditions, the product should be tilled to a depth of 6-8 inches below the surface where plant roots commonly extend and where plant pathogenic nematodes tend to proliferate. The same equipment may be used for both band and broadcast applications.

For bulk soil treatment in greenhouse, home garden and nursery situations, soil should be sieved to remove large particles and crop debris and then blended with ClandoSan® 1500 in an appropriate mixer to assure homogenization with little or no segregation of particles.

**POST-PLANT SURFACE APPLICATION**

For post-plant surface application to lawns, turfgrasses, sod farms, golf course greens and fairways, ClandoSan® 1500 can be distributed at any point in the growing season using conventional applicators, and should be immediately irrigated to assure adequate subsurface penetration.

**USE SITES\*:**

ClandoSan® 1500 can be applied to the following:

**BACK PANEL - RIGHT COLUMN (CONTINUED)**

<b>Fruits and Nuts</b>	Includes caneberries, bushberries, vine fruits, strawberries, cranberries, pome fruits, stone fruits, nut crops -- tree and shrub (e.g., pecan, filbert) and other temperate fruits
<b>Tropical and Subtropical Fruits and Nuts</b>	Citrus, banana, and plantain, palm fruits and nuts (e.g., date, coconut), pineapple, and other fruits and nuts
<b>Beverage Crops</b>	Includes cocoa, coffee, tea, chicory, mint
<b>Vegetables</b>	Includes leaf/stem, root, seed and pod, fruiting vegetables, and cucurbits, including commercial annual (e.g., tomato, bean) and commercial perennial (e.g., asparagus, rhubarb); annual legumes (e.g., crotalaria, soybean)
<b>Greenhouse (Commercial)</b>	Includes nursery/seed crop/medical crop/tobacco
<b>Fiber Crops</b>	Includes cotton, flax, and other
<b>Grain and Edible Seed Crops</b>	Including corn, rice, wheat, barley, rye, oats, sorghum, alfalfa, other grains, other nongrains (e.g., squash, pumpkin), buckwheat, sesame, peanut, and sunflower
<b>Seed sprout crops</b>	Includes mung bean, red clover, soybean, alfalfa, and non-legume crops such as wheat, radish, and black mustard
<b>Other Agricultural Crops</b>	Crops for smoking and chewing; and oil crops.
<b>Ornamental Plants</b>	Including annual garden plants, temperate perennial non-food garden herbs, commercial greenhouse crops, (including nursery/seed crops/medical crops/tobacco) houseplants, home and retail

**BACK PANEL - RIGHT COLUMN (CONTINUED)**

greenhouse and conservatory plants, public display plantings, bulb, corn, and tuber ornamentals, subtropical/tropical garden evergreen plants, groundcovers and aquatic plants; ornamental trees, shrubs, and vines; and forest tree nurseries.

Lawn and Turf

Including cool season winter grasses, summer grasses, and ornamental bunch grasses.

**\*DO NOT USE ON CROPS WHICH MAY BE ADVERSELY AFFECTED BY HIGH RATES OF UREA NITROGEN.**

**APPLICATION RATES:**

For all uses, a single annual application is sufficient for nematode control. For best results, soil analysis for nematode typing and counts of adult forms and larvae should be undertaken both before and after each crop season.

For broadcast application: recommended application rates are approximately 1 to 3 tons per treated acre on a broadcast basis (or 4.5 to 14.0 pounds per 100 square feet).

**RATE CONVERSION CHART**

**ClandoSan® 1500  
TONS PER ACRE**

**ClandoSan® 1500  
APPROXIMATE LBS. PER 100 SQ. FT.**

1.0	4.5
1.5	7.0
2.0	9.0
2.5	11.5
3.0	14.0

**1 ACRE: 43,560 SQ. FT.**

For bulk soil application: apply on a 0.1 to 0.3% weight/weight basis (i.e., 1 to 3 lbs. ClandoSan® 1500 for 1000 lbs. of soil, 1 to 3 grams per kilogram of soil, or 2.5 to 7.4 lbs. per cubic yard of soil).

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**BACK PANEL - RIGHT COLUMN (CONTINUED)**

**For homeowner use:** one 50 pound bag of ClandoSan® 1500 will cover approximately 1,000 square feet at an application rate of 1 ton per treated acre on a broadcast basis. For bulk soil treatment, apply approximately 1.5 to 4.4 ounces ClandoSan® 1500 per cubic foot.

**For band application to all crops other than lawn and turfgrasses:** row spacings can be used to determine the amount of ClandoSan® 1500 recommended for **band application.** Band widths should be equal to one-half the distance between rows and the bands should be centered directly over the centerline of the intended planting row. As a result, only one-half of available acreage is treated when band application is used and recommended application rates per acre for band application are equal to one-half the rates recommended for broadcast application. Recommended application rates on this basis are as follows:

Distance Between Rows (inches)	18	24	30	36	48
Band Width (inches)	9	12	15	18	24

Approximate Pounds of ClandoSan® 1500 Per 100 Feet of Banded Row, at equivalent of:

1 ton per treated acre	3.5	4.5	5.5	7.0	9.0
3 tons per treated acre	11.0	14.0	16.0	20.5	27.5

Application rates will vary according to the characteristics of the soil, types of plant-pathogenic nematodes, and extent of infestation. Acid soils (i.e., lower pH) or soils with a severe degree or type of infestation (i.e., root-knot nematode) will require the higher rates of application within the specified ranges. **DO NOT ADJUST RATES OF APPLICATION IN ORDER TO MEET FERTILIZER REQUIREMENTS FOR YOUR SOIL.**

<b><u>Typical Analysis</u></b>	
Total Carbon (%)	34.1
Total Nitrogen (%)	12.5
Carbon:Nitrogen Ratio	2.7
Kjeldahl "Protein" (%)	78.1
Mineral Ash (% at 550°c)	18.1

**BACK PANEL - RIGHT COLUMN (CONTINUED)**

The optimum soil temperature conditions for application of this product range from 40° to 95° F at a soil depth of 6 to 8 inches.

ClandoSan® 1500 has been shown to have controlled or slow release effects in soils and may not require reapplication at optimal rates which are recommended for first time use. For best results, soil analysis for nematode typing and counts of adult forms and larvae should be undertaken both before and after each crop season.

**ENVIRONMENTAL HAZARD**

Do not apply directly to water. Do not contaminate water when disposing of equipment washwater.

**STORAGE AND DISPOSAL**

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

**STORAGE:** Avoid exposure to extreme conditions such as heat, moisture, sunlight or contaminating substances.

**DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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### PRODUCT DESCRIPTION

ClandoSan® 1500 is the registered trademark of IGENE Biotechnology, Inc. for a dried, granular chitin-protein material that is isolated from the tough polymer matrix of crustacean exoskeletons, especially crab and shrimp shells, and processed into pellets or granules by patented and patent pending processes developed by IGENE Biotechnology, Inc.

The commercial ClandoSan® 1500 product is composed of a blend of the crustacean chitin-protein complex with agricultural grade urea and an organic buffer

The ClandoSan® 1500 product acts in soils as a biological control agent to stimulate the growth of normal soil microorganisms, such as fungus-like actinomyces, bacteria, and fungi which produce chitinase and other enzymes and destroy plant pathogenic nematodes and their eggs. ClandoSan® 1500 does not have a direct adverse effect on plant-pathogenic nematodes either in vitro or in sterilized or irradiated soils.

### LIMITED WARRANTY

To the best of manufacturer's knowledge and belief, the information contained herein is correct. The data outlined and statements made are intended only as a source of

BACK PANEL - LEFT COLUMN (CONTINUED)

information. Appropriate tests under user's operating conditions should be run before use. Manufacturer makes no warranties, express or implied, including warranties of merchantability or fitness for a particular use. The parties agree that the buyer's exclusive remedy shall be a refund of the purchase price of the product. In no event shall manufacturer be liable for any incidental, consequential or special damages suffered or incurred by user or its officers, employees, subsidiaries, affiliates, representatives or customers, as a result of the use of the product, whether under theories of warranty, negligence, or strict liability. Manufacturer disclaims all liability for results and for any damages, injury or patent infringement with respect to the use of the product or any material supplied by the manufacturer, whether under theories of warranty, negligence, or strict liability.

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IGENE Biotechnology, Inc.

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