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ACCEPTED
MAR 17 1968
Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under
EPA Reg. No. 58200-9

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 - LEFT COLUMN
MATERIAL SAFETY DATA

SECTION I: IDENTIFICATION

Product Name:	ClandoSan® 618
Description	Dried granular chitin-protein material that is isolated from crustacean exoskeletons, especially crab and shrimp shells, and blended with agricultural grade urea and an organic buffer.

SECTION II: PHYSICAL & CHEMICAL CHARACTERISTICS

Boiling Point:	N/A
Vapor Pressure (mm HG):	N/A
Vapor Density (air=1):	N/A
Solubility in Water:	Insoluble
Melting Point:	N/A
Appearance and Odor:	Tan granule with faint fishlike ammonia odor, accentuated after irrigation.
Bulk Density:	34-45 lbs./cu. ft.
Evaporation Rate:	N/A

SECTION III: FIRE & EXPLOSION HAZARD

Flash Point:	N/A
Flammability Limits:	N/A
LEL:	N/A
UEL:	N/A
Extinguisher Media:	
Special Fire Fighting Procedures:	None Known
Unusual Fire and Explosion Hazard:	None Known

SECTION IV: REACTIVITY DATA

Incompatibility (Materials to Avoid):	None Known
Hazardous Decomposition Products:	N/A
Hazardous Polymerization:	None Known

SECTION V: HEALTH HAZARD DATA

Routes of Entry:	Inhalation, skin contact, ingestion
Carcinogens:	None Known
Emergency First Aid Procedures	
Eye Contact:	In case of contact with eyes,

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	immediately flush eyes with plenty of water. Get medical attention if irritation persists.
Inhalation:	Seek medical assistance and remove to fresh air.
Ingestion:	Induce vomiting and get medical assistance.

SECTION VI: PROTECTIVE MEASURES

Respiratory Protection:	Not Required
Protective Gloves:	Not Required
Eye Protection:	Avoid contact with eyes. Use eye protection when handling this product.

PRODUCT DESCRIPTION

ClandoSan® 618 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® 618 product is composed of a blend of the crustacean chitin-protein complex with agricultural grade urea and an organic buffer and contains no artificial or synthetic substances, additives, fibers, or preservatives and no halogenated hydrocarbons or any other materials derived from petrochemical sources.

The ClandoSan® 618 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® 618 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

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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.

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 control of all plant-pathogenic nematodes.

APPLICATION METHODS:

PRE-PLANT SOIL INCORPORATION

ClandoSan® 618 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® 618 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® 618 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® 618 can be applied to the following:

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

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greenhouse and conservatory plants,
public display plantings, bulb,
corm, 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. These
analyses are routinely provided by IGENE Biotechnology, Inc.
as a service to customers.

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

RATE CONVERSION CHART

CLANDOSAN® 618
TONS PER ACRE

CLANDOSAN® 618
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® 618 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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For homeowner use: one 50 pound bag of ClandoSan® 618 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® 618 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® 618 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® 618 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. In determining your soil fertility requirements, you must take into account the amount of urea nitrogen which will be applied through the use of this product. Total Kjeldahl nitrogen equals approximately 10.4 pounds per 100 pounds of product (4.6 pounds from urea, 2.8 pounds from the chitin-protein complex and 3.0 pounds from inert ingredients). Phosphorus as phosphoric acid (P_2O_5) equals 2.3 pounds per 100 pounds of product and potassium as potash (K_2O) equals

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1.3 pounds per 100 pounds of product. 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® 618 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. These analysis are routinely provided by IGENE Biotechnology, Inc. as a service to customers.

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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