



TURFTHOR 0.5 G

For systemic control of insect pests of turfgrass and landscape ornamentals

Active Ingredient:	By Wt.
Imidacloprid	0.5%
Other Ingredients:	99.5%
TOTAL:	100.0%

EPA Reg. No. 83923-10 EPA Est. 81824-NC-001

STOP – Read the label before use

KEEP OUT OF REACH OF CHILDREN

CAUTION

(PRECAUCION AL USUARIO: Si usted no puede leer o entender ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.)

(TO THE USER: If you cannot read and understand English, do not use this product until the label has been fully explained to you.)

For product use information call 1-866-FOR-THOR (367-8467).

NET WEIGHT: As marked on container

Manufactured by:
ENSYSTEX IV, Inc.
 Fayetteville, NC 28303

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 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 to 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 to 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.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-369-4352 for emergency medical treatment information.	
NOTE TO PHYSICIAN	
No specific antidote is available. Treat the patient symptomatically.	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed or absorbed through skin. Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust or vapor. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Environmental Hazards

This pesticide is highly 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 disposing of equipment washwaters.

The properties and characteristics of this chemical are similar to those of agrochemicals that have been detected in groundwater. Using this chemical in areas where the soil is permeable, and particularly where the water table is shallow (close to the ground surface), may result in contamination of the surrounding groundwater.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Consult your State or Tribe for requirements specific to that jurisdiction.

Do not apply more than 80 pounds (0.4 pounds of active ingredient) of TURFTHOR 0.5 G per acre per year for any type(s) or combination(s) of applications.

Do not apply in greenhouses or nurseries.

Not for use on sod farm turf or grass grown for commercial seed production.

Not for use on bearing fruit or nut trees.

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep out of reach of children and animals. Store in a cool dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed. Handle and open container in a manner so as to prevent spillage. Store in original container, preferably in a locked storage area.

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: Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Completely empty bag into application equipment. 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.

In Case of Spill: Contain it and keep unauthorized persons away. Avoid non-target contamination. Do not walk through spilled material. Dispose of as directed above. Contact Ensystex IV at 1-866-367-8467 or Chemtrec at 1-800-424-9300 for any assistance.

APPLICATION FOR TURF PESTS

TURFTHOR 0.5 G controls or suppresses a wide range of soil inhabiting turfgrass insect pests. TURFTHOR 0.5 G is not for use on turfgrass grown for sale (sod farms), commercial seed production or for research.

Application Sites

Permitted sites include lawns, grounds and landscapes at and/or around residences including multi-unit, commercial, office and shopping buildings and complexes, recreational areas, playgrounds, athletic fields, golf courses, cemeteries, airports and parks.

Application Timing

The active ingredient in TURFTHOR 0.5 G, imidacloprid, has sufficiently long-lasting residual activity that applications can be made prior to egg laying by the target pest(s). Optimum control of turf pests will be achieved when application is made prior to egg hatch followed by sufficient irrigation or rainfall to move the active ingredient through the thatch and down into the underlying soil. Applications can be timed based on past experiences at the site or in the area, current results of adult monitoring/trapping or other methods.

If necessary, consult resources in horticulture in your area (such as your Cooperative Extension Service) to determine appropriate application timing.

Post Application Watering and Mowing

Optimum control is achieved if irrigation or rainfall occurs within 24 hours after application. Uniformity of application may be adversely affected if turf is mowed prior to irrigation/rainfall occurring.

Application Precautions and Preparations

Do not apply to turf that is frozen, waterlogged or is saturated with water. Turf in this condition will not allow the necessary vertical distribution of the active ingredient down into the soil.

TURFTHOR 0.5 G can be mixed with other dry granular insecticides, miticides, fungicides, herbicides and fertilizers. Follow the label directions of all the products mixed, making sure not to exceed the labeled application rate of any individual product in the mixture.

Application Equipment and Methods

Apply TURFTHOR 0.5 G to turf using properly calibrated granular application equipment designed to distribute the active ingredient to the target area(s) at the indicated rate(s). Drop-type and rotary-type granular spreaders can be used to apply Turfthor 0.5 G.

Turf Application Use Rates

Use Rate Table for TURFTHOR 0.5 G for Turf Applications	
Use Rate	Pounds per acre / Pounds per 1,000 sq. feet
A	60 ⇒ 80 pounds per acre / 1.4 ⇒ 1.8 pounds per 1,000 sq. ft.
B	80 pounds per acre / 1.8 pounds per 1,000 sq. ft.

Turf Pests Controlled by Turfthor 0.5 G

Use Rate A: Larvae of Annual bluegrass weevil, Asiatic garden beetle, Billbug, Black turfgrass ateniensis, Cutworms (suppression only), European chafer, European Crane Fly, Green June beetle, Japanese beetle, Northern masked chafer, Oriental beetle, *Phyllophaga* spp., Southern masked chafer

Use Rate B: Chinch bug (suppression only), Mole Crickets

Application Rates Against Specific Turf Pests

Grubs, billbugs, annual bluegrass weevil and European crane fly: Optimum control is obtained when application is made prior to egg hatch.

Chinch bugs: To maximize suppression, make application prior to the hatch of the first instar nymphs.

Mole crickets: Make application prior to or during the period of peak egg hatch. Apply an adjuvant at the same time TURFTHOR 0.5 G is applied if adults or large nymphs are present and tunneling at the time of application.

BROADCAST APPLICATION FOR ORNAMENTAL PESTS

TURFTHOR 0.5 G, broadcast on the ground, controls a wide range of insects on trees (including non-bearing fruit), shrubs, evergreens, flowers, foliage plants, ground covers and interior plantscapes. Non-bearing trees are perennial plants that will not produce a harvestable agricultural commodity within the next 12 months. TURFTHOR 0.5 G is not for use on plants being grown for sale, fruit, nut or commercial seed production or for research purposes.

TURFTHOR 0.5 G is a systemic insecticide meaning it will be translocated by the plant's vascular system from the roots up into the body of the plant. This means optimum effectiveness of TURFTHOR 2.5 G is realized when TURFTHOR 2.5 G is applied on the ground above the root zone of the plant to be protected. Watering after application can speed movement of the active ingredient into the plant's vascular system. Combining TURFTHOR 0.5 G with a nitrogen containing fertilizer may further accelerate or otherwise enhance the uptake of the active ingredient into the plant.

Translocation of soil directed applications made to woody stemmed plants can be delayed by up to 60 days. Optimum levels of control are realized when applications are performed sufficiently prior to anticipated pest infestations.

Application Sites

For use on ornamental plants including but not limited to trees (including non-bearing fruit), shrubs, evergreens, flowers, ground covers, bedding plants and foliage plants. Permitted sites include landscapes, ornamental gardens, lawns, grounds, golf courses and interior plantscapes at and/or around residences including multi-unit, commercial, office and shopping buildings and complexes, recreational areas, playgrounds, athletic fields, golf courses, cemeteries, airports and parks, public and private wooded and forested areas.

Application Precautions and Preparations

Avoid application to areas in which penetration to the root zone is unlikely to occur such as areas that are waterlogged, saturated or frozen.

TURFTHOR 0.5 G can be mixed with other granular insecticides, miticides, fungicides, herbicides and fertilizers. Follow the label directions of all the products mixed, making sure not to exceed the labeled application rate of any individual product in the mixture.

If necessary, consult resources in horticulture in your area (such as your Cooperative Extension Service) to determine appropriate application timing.

Post Application Watering

Optimum control is achieved if irrigation or rainfall occurs within 24 hours after application.

Application Equipment and Methods

Apply TURFTHOR 0.5 G to the ground around ornamentals using properly calibrated granular application equipment designed to distribute the active ingredient to the target area(s) at the indicated rate(s). Drop-type and rotary-type granular spreaders can be used to apply Turfthor 0.5 G.

Broadcast Application Use Rate

Use Rate Table for TURFTHOR 0.5 G for Ornamental Applications	
1.4 ⇒ 1.8 pounds per 1,000 sq. ft.	
60 ⇒ 80 pounds per acre	

Ornamental Pests Controlled by Broadcast Application

White grub larvae such as Japanese beetle larvae, Chafers, *Phyllophaga* spp., Asiatic garden beetle, Oriental beetle

RESTRICTIONS

Do not graze treated areas or use clippings from treated areas for feed or forage.

Do not allow runoff or puddling of irrigation water applied following application.

IMPORTANT READ BEFORE USE

NOTICE: Read the entire Directions for Use, Conditions of Sale, Disclaimer of Warranties and Limitations of Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

CONDITIONS OF SALE: The Directions for Use of this product are believed to be adequate and must be followed carefully. However, because of manner of use and other factors beyond the control of Ensysyex IV, Inc., it is impossible for Ensysyex IV to eliminate all risks associated with the use of this product such as ineffectiveness or unintended consequences. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Ensysyex IV harmless for any claims relating to such factors.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable laws, Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the Directions for Use under normal conditions of use. ENSYSTEX IV MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, under abnormal conditions or under conditions not reasonably foreseeable by (or beyond the control of) seller or Ensysyex IV, Inc., and buyer assumes the risk of any such use.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, Ensysyex IV shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ENSYSTEX IV AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ENSYSTEX IV, THE REPLACEMENT OF THE PRODUCT.

This Conditions of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement.

TURFTHOR is a registered trademark of Ensysyex IV, Inc.

Revised 03/08

EPA 20080808

Material Safety Data Sheet

TURFTHOR 0.5G

Emergency Phone 1-800-424-9300 (Chemtrec)

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TURFTHOR 0.5G

CHEMICAL NAME: Imidacloprid

CHEMICAL FAMILY: Neo-nicotinoid

COMPANY: Ensysstex IV, Inc.

ADDRESS: 2713 Breezewood Ave., Fayetteville, NC 28303

DAYTIME PHONE: 1-866-367-8467 (1-866-FOR-THOR)

2. COMPOSITION / INFORMATION ON INGREDIENTS

Imidacloprid 0.5% CAS# 138261-41-3

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling.

POTENTIAL HEALTH EFFECTS:

Eye: Causes eye irritation. Do not get in eyes.

Skin: Harmful if absorbed through skin. Avoid contact with skin and clothing.

Ingestion: Harmful if swallowed. Do not take internally.

4. FIRST AID MEASURES

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-369-4352 for emergency medical treatment information.

INHALATION: Move 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 further treatment advice..

EYE CONTACT: Hold eye open and rinse slowly and gently with water for 15 to 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.

SKIN CONTACT: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION: 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 to an unconscious person.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Any extinguishing media may be used on nearby fires.

FIRE FIGHTING INSTRUCTIONS: In the event of fire, wear self-contained breathing apparatus. Keep out of smoke. Fight fire from an upwind position. Cool closed containers exposed to fire with water spray. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated.

6. ACCIDENTAL RELEASE MEASURES

GENERAL: Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces. Store in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed.

SPILL: Vacuum, shovel or sweep up granules and place in container for disposal in accordance with applicable local regulations. Use recommended protective equipment while carefully sweeping up spilled material. Avoid contamination of water bodies during cleanup and disposal. Do not allow material to enter streams, sewers, or other waterways.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: No special handling precautions are required, but dry indoor storage is recommended. Good housekeeping procedures should be followed to minimize dust generation and accumulation.

STORAGE CONDITIONS: Do not contaminate water, food, or feed by storage or disposal. Store in a cool, dry place in a low moisture environment, preferably in a locked storage area. Store in an area where the average temperature does not exceed 100°F.

WORK / HYGENIC PROCEDURES: 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 Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. As soon as practical, wash thoroughly and change into clean clothing.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EYE / FACE PROTECTION: Wear tightly fitting safety goggles.

HAND PROTECTION: Wear suitable chemical resistant gloves.

BODY PROTECTION: Wear long-sleeved shirt and long pants and shoes plus socks.

RESPIRATORY PROTECTION: When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in

accordance with the appropriate regulatory standards and/or Industry recommendations.

Otherwise, refer to label for actual regulatory personal protection requirements.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Grey solid granules

BULK DENSITY: 55-60 lbs / cubic foot

10. STABILITY AND REACTIVITY

Stable product under normal conditions. Hazardous decomposition products include hydrogen chloride (HCl), hydrogen cyanide (hydrocyanic acid), carbon dioxide (CO₂) and nitrogen oxides (NO_x).

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL TOXICITY: Male/female rat: LD50: > 4,820 mg/kg

ACUTE DERMAL TOXICITY: Male/female rabbit: LD50: > 2,000 mg/kg

ACUTE INHALATION TOXICITY: Male/female rat: LC50: > 5.09 mg/l Exposure time = 4 hours.

SKIN IRRITATION: Rabbit: non-irritant

EYE IRRITATION: Rabbit: Mild eye irritation

SENSITIZATION: Guinea pig: Non-sensitizing

The non-acute information below pertains to the technical-grade active ingredient.

SUBCHRONIC TOXICITY: In a 3-week dermal toxicity study, rabbits treated with imidacloprid showed no local or systemic effects at levels up to and including 1000 mg/kg, the limit dose. In a 4-week inhalation study, rats exposed to high concentrations of imidacloprid exhibited decreased body weight gains and changes in clinical chemistries and organ weights.

CHRONIC TOXICITY: In chronic dietary studies in rats and dogs exposed to imidacloprid, the target organs were the thyroids and/or liver.

REPRODUCTIVE TOXICITY: In a two-generation reproduction study in rats, imidacloprid was not a primary reproductive toxicant. Offspring exhibited reduced body weights at the high dose and in conjunction with maternal toxicity.

DEVELOPMENTAL TOXICITY: In developmental toxicity studies in rats and rabbits, there was no evidence of an embryotoxic or teratogenic potential for imidacloprid. In both species, developmental effects were observed only at high doses and in conjunction with maternal toxicity.

NEUROTOXICITY: In acute and subchronic neurotoxicity screening studies in rats, imidacloprid produced slight neurobehavioral effects in each study at the highest dose tested. There were no correlating morphological changes observed in the neural tissues. In a one-generation developmental neurotoxicity screening study in rats, offspring exposed to imidacloprid showed decreased motor activities. These effects occurred at the highest dose tested and in conjunction with maternal toxicity. There were no correlating morphological changes observed in the neural tissues.

MUTAGENICITY: The imidacloprid mutagenicity studies, taken collectively, demonstrate that the active ingredient is not genotoxic or mutagenic.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL PRECAUTIONS: Highly toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

ECOLOGICAL INFORMATION: This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

13. DISPOSAL CONSIDERATIONS

GENERAL DISPOSAL GUIDANCE: 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: Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke.

14. TRANSPORT INFORMATION

Not regulated by the U.S. Department of Transportation.

15. REGULATORY INFORMATION

UNITED STATES

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT): None.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): None.

SAFE DRINKING WATER ACT (SDWA): None.

SECTION 16. OTHER INFORMATION

NFPA Health -1 Flammability -1 Reactivity -1 Others -none

0=minimal hazard, 1=slight hazard, 2=moderate hazard, 3=severe hazard, 4=extreme hazard

Revised 08/08