

7969-99

4-15-2003

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

APR 15 2003

T. R. Nelson, Ph.D.
Manager, Regulatory Affairs
BASF Corporation, Agricultural Products
P.O. Box 13528
Research Triangle Park, NC 27709-3528

Subject: Basamid Granular
EPA Reg. No. 7969-99
Amendment dated December 13, 2002

Dear Dr. Nelson:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act as amended is acceptable provided the following change is made:

Under Personal Protective Equipment, change "Waterproof Gloves" to "Chemical resistant gloves made of any waterproof material."

One copy of the label stamped "Accepted with comments" is enclosed for your records.

Please submit one copy of the final printed label before you release the product for shipment.

If you have any questions, please call Robert Westin at (703) 305-5721.

Sincerely,

A handwritten signature in cursive script that reads "Mary L. Waller".

Mary L. Waller
Product Manager (21)
Fungicide Branch
Registration Division (7505C)

Enclosure

BASF

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ACCEPTED
with COMMENTS
In EPA Letter Dated:

APR 15 2008

Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.

7969-99

Basamid Granular

soil fumigant

For pre-planting control of most weeds, nematodes, and soil diseases

Active Ingredient:

Tetrahydro-3,5,-dimethyl-2H-1,3,5-thiadiazine-2-thione 99%

Inert ingredients 1%

Total 100.0%

EPA Reg. No. 7969-99

EPA Est. No. 39578-TX-1

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 this label, find someone to explain it to you in detail.)

See inside booklet for complete **Precautionary Statements, Directions For Use, Statement of Practical Treatment, and Conditions of Sale and Warranty.**

Net contents: 50-pound bag (22.68 kilograms)
15-pound jug (6.8 kilograms)
7.5-pound jug (3.4 kilograms)

BASF Corporation
26 Davis Drive, Research Triangle Park, NC 27709

MADE IN GERMANY

Precautionary Statements

Hazards to Humans and Domestic Animals

WARNING. May be fatal if swallowed. Do not breathe vapor or dust. Do not get in eyes, on skin, or on clothing. Prolonged exposure may cause irritation to skin, eyes, and mucous membranes. The gases released during the degradation of this product in the soil are irritating to the skin, eyes, and mucous membranes. Do not drink alcoholic beverages before, during, or after working with this product. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

FIRST AID	
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.
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 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.
HOT LINE NUMBER	
<p>Have the product container label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF corporation for emergency medical treatment: 1-800-832-HELP (4357)</p>	

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant footwear plus socks
- Waterproof gloves

In greenhouses and other enclosed areas: respirator with an organic-vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE prefilter.

Wash thoroughly with soap and water after handling. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not re-use them. Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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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.

Engineering Controls Statement

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.

Environmental Hazards

This product is toxic to fish. 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 apply where runoff is likely to occur. Do not contaminate the water when disposing of equipment washwaters. Apply this product only as specified in the label.

Endangered Species Concerns

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of federal law.

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 state or tribe, consult the agency responsible for pesticide regulation.

All applicable directions, restrictions, precautions and **Conditions of Sale and Warranty** are to be followed. This labeling must be in the user's possession during application.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR 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 in this labeling about personal protective equipment, notification to workers, and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS).

Entry Restrictions

Greenhouses: Entry (including early entry that would otherwise be permitted under the WPS) by any person — other than a correctly trained and equipped handler who is performing a WPS-defined handling task — is **PROHIBITED** in the entire greenhouse (entire enclosed building/structure) from the start of application until **24 hours** after application **AND** until one of the WPS ventilation criteria for air exchanges, mechanical ventilation, or passive ventilation has been met. In addition, if tarps are used for the application, non-handler entry is prohibited while tarps are being removed and until one of the WPS ventilation criteria has been met.

Outdoors: Entry (including early entry that would otherwise be permitted under the WPS) by any person — other than a correctly trained and equipped handler who is performing a WPS-defined handling task — is **PROHIBITED** from the start of application until **24 hours** after application. In addition, if tarps are used for the application, non-handler entry is prohibited while tarps are being removed.

NOTIFICATION: Notify workers of the application by warning them orally and by posting fumigant warning signs. The signs must bear the skull and cross bones symbol and state (1) **"DANGER/ PELIGRO,"** (2) **"DO NOT ENTER/ NO ENTRE,"** (3) the date and time of

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fumigation, (4) "[product name] Fumigant in use." and (5) name, address and telephone number of the applicator. Post the fumigant warning sign instead of the WPS sign for this application, but follow all WPS requirements pertaining to location, legibility, size, and timing of posting and removal.

Greenhouses: Post the fumigant warning signs outside all entrances to the greenhouse.

Outdoors: Post the fumigant warning signs at entrances to treated areas.

PPE FOR ENTRY DURING THE ENTRY-RESTRICTED PERIOD: PPE for handler entry that is permitted by the WPS is listed in the **Hazards to Humans and Domestic Animals** section of this labeling.

Storage and Disposal

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

Pesticide Storage: Store this product in a dry, cool place below 95° F (35° C) — it will decompose at higher temperatures. This material reacts nonviolently with moisture, releasing fumigant vapors. Keep the container tightly sealed when not in use. Do not re-use the empty container. Keep this product and its vapors away from desirable plants, seeds, fertilizers, insecticides, and other agricultural chemicals as plant injury or loss may result from contamination.

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

Container Disposal:

- **Plastic Containers:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, 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.

In Case of Emergency

In case of large-scale spillage regarding this product, call:

CHEMTREC 800-424-9300
 BASF Corporation 800-832-HELP

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment.
- Your local poison control center (hospital).
- BASF Corporation (800-832-HELP)

Steps to be taken in case material is released or spilled:

Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal. Remove contaminated clothing, and wash affected skin areas with soap and water. Wash clothing before re-use. Keep the spill out of all sewers and open bodies of water.

I. General Information

Basamid® Granular soil fumigant is intended for pre-planting control of most weeds, nematodes, and soil diseases in the following areas:

- compost piles
- golf greens/tees
- potting soils
- seed and propagating beds
- soil heaps or piles
- soil media
- for establishing or renovating turf sites, ornamental sites, and field nurseries (forest, nonbearing and ornamental trees, shrubs, bedding plants, ground cover, and Christmas tree seedlings)
- nonbearing crops

Weeds controlled: When properly applied, this product will eliminate many weeds such as crabgrass henbit, pigweed, foxtail, purslane, mustard, witchweed, and many other plants and weed seeds.

Nematodes controlled: This product will also control root-knot stubby root, reinform, ectoparasitic root, (i.e., *Meloidogyne* sp., *Pratylenchus* sp., *Hoplolaimus* sp., *Tylenchorrhynchus* sp., *Rotylenchulus* sp., *Paratylenchus* sp., *Xiphinema* sp., *Tylenchus* sp.) and other nematodes.

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Diseases controlled: This product will also control root rots, damping off, and wilt diseases caused by *Aphanomyces* sp., *Fusarium* sp., *Phytophthora cactorum*, *Pythium* sp., *Rhizoctonia* sp., *Thielaviopsis basicola*, *Verticillium albo-atrum*, and soil-borne *Stramonitium gladioli* and corm rot of gladiolus caused by *Fusarium* sp.

Important Notes to User

Read the entire label carefully before use.

- 1) Avoid using **Basamid Granular** when the soil temperature is extremely high (over 90° F/32° C, 2" deep). Pest control will be impaired under such conditions. This product is toxic to all growing plants.
- 2) Do not apply within 3-4 feet of growing plants or closer than the drip line of trees and large shrubs. If slopes are treated with this product, take precautions to prevent the chemical from washing downward to growing plants. Vapors from soil treated with this product in greenhouses and cold frames may injure growing plants. Data are not complete on use in propagating beds composed of materials other than soil or soil and peat mixtures. Clean equipment thoroughly with detergent and water after using with this or with other pesticides before using for other purposes.
- 3) Fumigation may slow the rate of nitrification (the conversion of nitrates from ammonia by bacterial action). Therefore, certain ammonia-sensitive plants may exhibit growth inhibition when planted in fumigated soils containing high amounts of ammonia nitrogen. To lessen this hazard, at least half, and preferably all, of the nitrogen fertilizer added immediately before or soon after fumigation should be in the form of nitrate nitrogen. This hazard may also be reduced by delaying planting until several months after fumigation, such as fall fumigation before a spring-planted crop. If a nitrate form of nitrogen such as sodium or calcium nitrate is not readily available, ammonium nitrate used sparingly will supply the nitrogen needed without risk. Phosphorus, potassium, and other plant nutrients should be used according to soil needs.

Mode of Action

When **Basamid® Granular soil fumigant** is correctly incorporated into moist soil, the active ingredient is transformed into substances that possess soil-sterilizing properties.

The gas that is formed diffuses upward through spaces in the soil, killing the living organisms it contacts. As with other sterilizing materials, the effectiveness of **Basamid Granular** depends primarily on the concentration used, the length of time that it takes effect, and the physiological state of the organisms to be controlled. Encysted nematodes and dormant weed seeds will not be controlled. A fungus in its resting state, nematodes protected within roots, for example, developing fungal mycelium, free-living nematodes or freshly germinating weed seeds. Therefore, all plant residues should be removed from the area to be treated. Also, the soil to be treated must be moist before, during, and after application.

The necessary concentration and the length of time required for the effect as well as the state of the organisms to be controlled depends upon:

- soil moisture and content
- soil temperature
- soil type and structure

Crop Tolerance

All crops listed on the label are tolerant to areas that have been treated with **Basamid Granular** following dissipation of the gases. The aim of soil sterilization is to ensure or increase crop yield (turf, ornamentals, seedlings, etc.). Data have shown that certain subsequent crops are positively influenced by a **Basamid Granular** treatment, because pathogens, weeds, etc. will not have time to multiply and compete with the crop for nutrients. However, the presence of **Basamid Granular** is toxic to all growing plants. Perform the Safety Germination Test to ensure the absence of gases.

Cultivation

After the gas activity period has elapsed, under optimum conditions and soil temperatures of 55-77° F (10-25° C), the soil should be loosened and thoroughly aerated 4-12 days after treatment, however, never deeper than the original incorporation depth.

Cleaning Equipment

Clean application equipment thoroughly using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions before and after applying this product.

II. Application Instructions

Preparation

- A. The area intended for treatment should be in seedbed condition with a fine tilth, free of clods. Do not apply **Basamid Granular** to dry or improperly tilled soil. Repeated cultivation before treating will improve control of perennial weeds. Ditching around the site will prevent weed seeds, nematodes, and fungi from washing into the treated area and contaminating it.
- B. For optimal effect, the soil to be fumigated must have sufficient moisture for good plant growth (at least 50% field capacity) for 5-14 days (depending on temperature) before the treatment. The weed seeds in such an optimally moist soil become ready to germinate, and are most reliably controlled in this condition. Heavy soils may need to be irrigated twice to achieve a uniform moisture in the treated zone. Weed seeds or seeds bearing nematodes must be mechanically hoed or plowed into the soil 1-2 weeks before fumigating so that the emerging weeds and nematodes are subject to fumigation.
- C. If root-knot nematodes must be controlled, delay application until the root-knot infested root residues have begun to rot (at least 2-3 weeks after the crop has been harvested) and the remaining plant refuse has been tilled into the soil.
- D. Do not apply farmyard manure, peat, other organic fertilizers, burnt lime, or lime nitrogen just before, along with, or just after this product. (see also **Important notes to user**).
- E. Converting the active ingredient into the gaseous phase depends primarily on soil temperature and moisture. The soil temperature must be above 43° F (6° C) and remain at least this high during the entire fumigation period. The best conditions prevail at soil temperatures of 54-64° F (12-18° C) (e.g., in late summer and autumn). Do not apply **Basamid Granular** if the ambient air temperature exceeds 103° F (39° C). If the soil temperature falls below 43° F (6° C), the gas may sink into deeper soil layers when there is danger of frost which can cause crop injury later if the soil is not aerated deeply enough. If the soil temperature is too high, the gases escape too rapidly from the soil and cannot develop their full activity. Soil moisture should be kept at 50% field capacity (60-80% for sand; 30-40% for clay).
- F. After incorporation, the soil must be kept uniformly moist for 5-7 days. As soon as possible after incorporation, the soil should be sealed to retain the concentration of gases in the soil which can be achieved by:
 - compacting the soil surface after incorporation with a roller attached behind the incorporating implement.
 - moistening the surface (3/16-3/8") after incorporation so a crust forms. Surface compaction and sealing with water can be combined if conditions warrant. When the soil is above 59° F (15° C), too rapid an escape of the gases is impeded by sealing with water or light rolling which increases the effectiveness of **Basamid Granular**. Repeat the water seal as necessary.
 - lightly moistening the soil on the third and fourth days after the treatment in case the weather dries out the soil surface to avoid surface cracks.
 - in difficult situations (e.g., heavy soils with high pest pressures or where potential for extensive sheet or till erosion exists), best results may be obtained by tarping the treated areas.

Application Rates

The application rates in **Table 1** are based on an incorporation depth of 8". When the infestation extends to greater depths, an additional 5-6.5 ounces of **Basamid Granular** per 100 square feet are needed per 4" of soil depth. For specific use recommendations, see section **VII. Site-Specific Information**.

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Application Equipment for New Fields

Apply **Basamid® Granular soil fumigant** evenly over moist, properly prepared soils using scoops, shakers, drop-type fertilizer spreaders, or other suitable equipment. Immediately after application, incorporate the material into the soil to the desired depth and seal the soil surface.

Method of Application

When using a bagged product:

- 1) Wear the required personal protective equipment (refer to **Precautionary Statements**)
- 2) Pour the contents of the bag into a drop-type fertilizer or granular product spreader.

or

When using product from a jug:

- 1) Attach a sprinkler cap to the jug.
- 2) Distribute the product onto the soil or pour the contents of the container into a drop-type fertilizer or granular product spreader.

then

- 3) Apply **Basamid Granular** evenly over the soil. Do not store this product in an open spreader overnight.
- 4) Immediately after spreading, incorporate the granules into the soil as uniformly as possible to the desired depth which is best done with an L-shaped tine rototiller or spading machine.
- 5) Following this, roll the soil surface to impede fumigant escape.
- 6) The treatment is more successful if the incorporation and sealing is followed by thoroughly wetting the soil. **The soil must be kept wet (but not waterlogged) for at least 72 hours or tarped with polyethylene sheeting.**

The small package size (7.5 pounds) will treat 900-1,200 square feet. Keep the package tightly capped or sealed when not in use.

Maintaining Soil Moisture Levels in Sandy Loam and Loamy Soils

Before using **Basamid Granular**, be aware that the three most critical factors for a successful fumigation program are:

- soil preparation (fine tilth)
- soil temperature (medium to warm)
- soil moisture (water)

Fumigation timing will usually determine the success rate of controlling pests.

Seven-Day Fumigation System

The following 7-day system will allow nursery managers to completely activate the granules of **Basamid® Granular soil fumigant** and therefore maximize the toxicant's contact in the soil.

But, for fumigants to be successful, soil moisture is needed to activate the soilborne pests, etc.

When used according to label directions and the following 7 steps, **Basamid Granular's** effectiveness as a preplant soil fumigant, is a proven alternative to the gas or liquid fumigants used by nursery managers.

Day One

- After incorporating **Basamid Granular**, measure and record the soil temperature 4" deep.
- Roll the soil surface. Irrigate with a minimum of 1" (or less) of water over 4 hours (1.5-1.75" over 6 hours).

Day Two

- Irrigate with a minimum of 0.75" of water in 2 applications; once (0.375") in the morning, and once (0.375") in the afternoon.
- Keep the soil surface wet, but not waterlogged.

Day Three

- Irrigate with a minimum of 0.5" of water in 2 applications; once (0.25") in the morning, and once (0.25") in the afternoon to ensure that all granules are activated. This liquid phase will ensure contact of the soil particles with **Basamid Granular** throughout the incorporated profile. Contact with the soil particles is a critical factor to the success of **Basamid Granular**.

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Day Four

- Irrigate with a minimum of 0.25" of water in 2 applications: once in the morning, and once in the afternoon.

Day Five

- Irrigate with a minimum of 0.125" of water to ensure that the surface area has not dried out and no cracks appear in the treated area to ensure that no gases escape as they move up through the soil.

Day Six

- Irrigate with a minimal amount of water to keep the surface sealed and free of cracks.

Day Seven

- Irrigate with a minimal amount of water to keep the surface sealed and free of cracks.

No additional water is needed after **Day Seven**.

To release any remaining gases, break the soil crust and aerate before planting. Conduct a germination test before planting or sowing a new crop.

Cultivation Before Planting

Before seeding, planting, or transplanting, all the gaseous residues must be gone from the soil. For this reason, the soil surface is to be thoroughly loosened with disk, power rotary tiller or hand implement, but no earlier than 5-7 days after the application. If the soil temperature rises above 65° F (18° C), a waiting period of 2-3 days after loosening the soil is usually sufficient time for the gases to escape from the soil. Cooler conditions require a longer waiting period (See **Table 2**).

The soil must not be loosened to the original depth of incorporation as unfumigated soil may be transported from lower layers to the top layers. A slight new infestation can spread very quickly in decontaminated soil and jeopardize the success of the treatment. At temperatures below 50° F (10° C), fumigation should not be terminated by tillage for 2-4 weeks.

Replanting

Replanting of treated areas is only possible after a certain waiting period (see **Table 2**). This span between treatment and replanting depends on the temperature, moisture, and structure of the soil.

Do not use **Basamid® Granular soil fumigant** when soil temperatures are below 43° F (6° C).

Aerate the soil with a power rotary tiller or a hand implement above the depth of original incorporation before planting. At higher soil temperatures (i.e., above 65° F/18° C), aeration can begin no earlier than 5-7 days after treatment; at lower soil temperatures, aeration can begin no earlier than 12 days after treatment. Do not plant any crop until all fumigant odors have dissipated from the soil and can no longer be detected. As an added precaution, conduct a lettuce seed germination test as follows:

Plant a few lettuce or cress seeds in the treated soil (at a minimum of 5 days after treatment, or 5 days before the waiting period ends). These seeds should germinate in about 3 days. For comparison, plant a few seeds in an untreated area. If the plants from the treated area are normal, it is safe to plant the crop.

Fall soil treatment is recommended if early spring planting is necessary. The waiting period can be shortened by repeated hoeing, digging, or other tillage of the soil. The waiting period is longer when this product is used on soils with high concentrations of organic matter. Tree cuttings can be planted on nursery soils in the spring following a fall application of this product, as long as the germination test does not show delayed germination.

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Table 1. Basamid Application Rates Based on an 8" Incorporation Depth

Weeds, Nematodes, and Diseases		Rate per 100 square feet	Rate per 1,000 square feet	Rate per acre	Rate per cubic yard of substrate
To control soil borne pathogens ¹		9.375-13 ounces	6-8 pounds	255-350 pounds	4-5 ounces
To control germinating weed seed ²		13 ounces	8 pounds	350 pounds	5 ounces
To control ectoparasitic root nematodes ³	in light soils	8.16 -9.75 ounces	5-6 pounds	222-265 pounds	3-4 ounces
	in heavy soils	9.75-13 ounces	6-8 pounds	265-350 pounds	4.5-5 ounces
To control root-knot nematodes	in light soils	11.25-13 ounces	7-8 pounds	306-350 pounds	4.5-5 ounces
	in heavy soils	13-16.3 ounces	8-10.3 pounds	350-450 pounds	5-6 ounces
To reduce infestations of stem nematodes and cyst nematodes ⁴		11.25-19.5 ounces	7-12 pounds	306-530 pounds	4.5-7 ounces

¹ Soils infected with the fungi *Verticillium albo-strum* and *Fusarium oxysporium* must be treated to a depth of 12" (12.75 ounces per 100 square feet or 8 pounds per 1,000 square feet)

² If the primary goal is to eliminate annual weeds, 8 ounces per 100 square feet should be incorporated into the top 6". The treatment is more successful if the incorporation is followed by thoroughly wetting the soil. The soil must be kept wet (but not waterlogged) for at least 72 hours or tarped with polyethylene sheeting.

³ For lighter soils that are heavily infested with nematodes, use the application rates recommended for heavy soils.

⁴ Mechanical incorporation of plant parts into the soil to boost their disintegration and improve the degree of reduction.

Table 2. Replanting: Soil Temperature and Waiting Period

Soil temperature at 4" depth	Recommended waiting period between treatment and replanting
Above 94° F (34° C)	10 days
Above 65° F (18° C)	10-12 days
59-65° F (15-18° C)	12-18 days
54-59° F (12-15° C)	15-20 days
47-54° F (8-12° C)	22-27 days
43-47° F (6-8° C)	above 30 days

III. Additives

Do not apply farmyard manure, slurry, peat, or any other organic fertilizer with **Basamid Granular**. Refer to section V. **General Mixing Information**.

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IV. Mixing Order

Refer to section V. **General Mixing Information.**

V. General Mixing Information

BASF does not recommend using product combinations other than those listed on BASF labeling. Your local BASF representative or local agricultural authorities may be a source of information when using other than BASF recommended product combinations.

VI. General Restrictions and Limitations - All Crops

- **Maximum seasonal use rate:** Refer to **Table 1** for maximum rates of **Basamid[®] Granular soil fumigant** per acre, per season.
- **Preharvest Interval (PHI):** Refer to **Replanting.**
- **Restricted Entry Interval (REI):** Refer to **Agricultural Use Requirements.**
- **Crop Rotation Restriction:** If all label procedures are followed correctly and all gases have escaped, no crop rotation restrictions apply.
- Do not apply through any type of **irrigation** equipment.
- This product cannot be used to **formulate** or reformulate any other pesticide product.
- Do not apply **Basamid Granular** to growing crops — it is for use as a soil treatment only.
- Do not use **Basamid Granular** when soil temperatures 2" deep are below 43° F (6° C) or above 90° F (32° C).
- Do not plant any crop until all fumigant gases have dissipated from the soil and can no longer be detected by a seed germination test.
- Do not apply within 3-4 feet of growing plants or closer than the drip line of trees and large shrubs.
- Do not apply **Basamid Granular** to dry or improperly tilled soil.
- Do not apply **Basamid Granular** if the ambient air temperature exceeds 103° F (39° C).
- Do not store this product in an open spreader overnight.
- Do not apply **Basamid Granular** when wind may cause granules to drift from target area.
- Do not re-use clothing and other absorbent material that have been heavily contaminated with this product.

VII. Site-Specific Information

Golf Course Construction and Renovation

See **Table 1. Application Rate Table and Method of Application.** Any suitable alternative for mixing **Basamid[®] Granular soil fumigant** with the soil media is acceptable.

If **Basamid Granular** has been incorporated into soil piles or heaps and the soil media has not been moved to the use site, leave piles undisturbed for 5-7 days to allow the gas to escape.

Greenhouses

Preventing Plant Injury

Before applying **Basamid[®] Granular soil fumigant** in greenhouses, nursery boxes, etc., all plants and living plant materials must be removed. Leaks through which gases could penetrate into adjacent rooms or greenhouses filled with plants must be sealed. Various ornamentals (e.g., *Ficus* sp., *Hydrangea macrophylla*, *Asparagus plumosus*) are very sensitive to trace amounts of gaseous product emitted during treatment. Before turning off the heat in the greenhouse at the beginning of winter, a germination test must be performed to ensure that all gases have escaped (see **Replanting**). Failing to eliminate all the gases from the soil may delay spring planting or cause plant loss. Application in the field during periods of possible frost must be avoided. Do not apply **Basamid Granular** when wind may cause granules to drift from target area.

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Lawn and Turf

Renovation

Apply as for seedbeds (above) to kill grasses and weeds in lawn and turf areas without disturbing the soil. The dead grass will then act as mulch for the newly planted grass seedlings. After 5-7 days, the treated area should be raked and a nitrate form of plant food applied. The treated soil can be reseeded 7-10 days after these steps have been completed.

Seed Beds

Apply the recommended rate (see **Table 1. Application Rate Table**) to a prepared soil surface. Apply 15 gallons of water per 100 square feet immediately after incorporation. Apply water only as fast as it can be absorbed without runoff to seal the soil and contain the gases. After 5-7 days, rake the soil lightly, not deeper than 2". The soil should be raked at least 5 days before seeding to release any trapped gasses.

Nonbearing Crop Sites

FRUIT, NUT, AND VINE CROPS:

See **Table 1. Application Rate Table** and **Method of Application**. Apply the recommended amount of **Basamid Granular** uniformly. Till to the desired depth and follow suggested cultural practices. See **Replanting** for application timing. Do not harvest produce within one year of application in the following crops.

For Interplanting:

For soil treatment prior to interplanting in existing orchards, berry fields, and similar areas, thoroughly till a spot large enough to accommodate the root system of the plant. Root systems of nearby existing plants should be completely severed to avoid contact with the treated soil. Soil may be treated in place based on the area and depth tilled, or removed and treated in a pile. The soil surface should be tarped for best results.

Nonbearing Crops Suitable for Planting in Soil Treated with Basamid Granular

Orchard	Berries	Other	Noncrop
Apples	Blackberries	Cranberries	Flower Bulbs
Apricots	Blueberries	Grapes	
Cherries	Currants	Hops	
Filberts	Elderberries		
Nectarines	Gooseberries		
Peaches	Raspberries		
Pears	Strawberries		
Plums			
Prunes			
Walnuts			

Ornamental Sites

CONIFER SEED BEDS, LANDSCAPE BEDS, AND PRODUCTION FIELDS:

See **Table 1. Application Rate Table** and **Method of Application**. Apply the recommended amount of **Basamid Granular** uniformly. After incorporation, immediately drench the treated soil with 15-20 gallons of water per 100 square feet. A plastic tarp is recommended. See **Replanting** for application timing. Fall soil treatments are recommended if early spring planting is necessary.

Potting Soil

Spread moist soil on a solid surface, if possible on a polyethylene sheet. Each soil layer should be 8-10" deep. The required amount of **Basamid Granular** (1-1.75 ounces per square yard) is spread on each soil layer and thoroughly incorporated with a rotary tiller. Soil preparation setups have proved

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suitable for larger soil quantities. The treated soil can be heaped up to 1 yard high. Covering the soil heap with a plastic tarp is recommended. Any suitable alternative for mixing this product with the potting soil is acceptable. See **Replanting**. Use the highest rate for cyst nematodes

Soil Media and Heaps

See **Table 1. Application Rate Table and Method of Application**. Mechanically mix the recommended amount of product per cubic yard of substrate. The treated soil can be heaped up to 1 yard high. Covering the soil heap with a plastic tarp is recommended. If **Basamid Granular** has been incorporated into soil piles or heaps and the soil media has not been moved to the use site, leave piles undisturbed for 5-7 days to allow the gas to escape.

Pests listed in this label:

Weeds

Germinating seeds of annual weeds

Common Name	Scientific Name
Barnyardgrass*	<i>Echinochloa crus-galli</i>
Blackgrass*	<i>Alopecurus myosuroides</i>
Bristlegrass*	<i>Setaria</i> spp.
Buckwheat, Wild*	<i>Polygonum convolvulus</i>
Callalily, Brazil*	<i>Richardia brasiliensis</i>
Chamomile, Wild*	<i>Matricaria chamomilla</i>
Chickweed*	<i>Galium aparine</i>
Cleavers*	<i>Centaurea cyanus</i>
Cornflower*	<i>Digitaria</i> spp.
Crabgrass	<i>Stellaria media</i>
	<i>Apera spica-venti</i>
Fescuegrass*	<i>Festuca myuros</i>
Foxtail, Short-awned	<i>Alopecurus aequalis</i>
Fumitory, Common*	<i>Fumaria officinalis</i>
Galinsoga, Small-flowered*	<i>Galinsoga parviflora</i>
Groundsel*	<i>Senecio vulgam</i>
Hempnettle*	<i>Galeopsis tetrahit</i>
Henbit	<i>Lamium amplexicaule</i>
Itchgrass*	<i>Rottboellia exaltata</i>
Jimsonweed*	<i>Datura stramonium</i>
Knotgrass*	<i>Polygonum aviculare</i>
Ladysthumb*	<i>Polygonum persicaria</i>
Lambsquarters*	<i>Chenopodium album</i>
Marigold, Dwarf*	<i>Schkuhria pinnata</i>
, Corn*	<i>Chrysanthemum segetum</i>
Meadowgrass, Annual*	<i>Poa annua</i>
Mustard, Wild	<i>Sinapis arvensis</i>
Nettle, Small*	<i>Urtica urens</i>
Nightshade, Black*	<i>Solanum nigrum</i>
Oats, Wild*	<i>Avena fatua</i>
Pennycress, Field*	<i>Thlaspi arvense</i>
Pigweed	<i>Amaranthus</i> spp.
Purslane, Common	<i>Portulaca oleracea</i>
Radish, Wild*	<i>Raphanus raphanistrum</i>
Rapeseed*	<i>Brassica</i> spp.
Shepherdspurse*	<i>Capsella bursa-pastoris</i>
Smartweed, Pale*	<i>Polygonum lapatifolium</i>
Spurge, Sun*	<i>Euphorbia helioscopia</i>
Vetch, Tufted*	<i>Vicia cracca</i>
Witchweed	<i>Striga asiatica</i>
Yellowrocket*	<i>Barbarea vulgaris</i>

Weeds

Perennial seed-propagated weeds

Common Name	Scientific Name
Birdweed*	<i>Convolvulus arvensis</i>
Cinquefoil*	<i>Potentilla norvegica</i>
Clover*	<i>Trifolium</i> spp.
Cocksfoot*	<i>Dactylus glomerata</i>
Cress, Hoary*	<i>Cardaria draba</i>
Dock, Broadleaved*	<i>Rumex obtusifolius</i>
Medic*	<i>Medicago</i> spp.
Nettle, Stinging*	<i>Urtica dioica</i>
Quackgrass*	<i>Agropyron repens</i>
Sedges*	<i>Cyperus</i> spp.

*Not approved for use in California

Soil-borne fungi

Common Name	Scientific Name
<u>Blights</u>	
Blossom blight	<i>Choanephora cucurbitarum</i> *
Early blight	<i>Alternaria solani</i> *
<u>Molds</u>	
Black Mold	<i>Aspergillus niger</i> *
Black Mold	<i>Cladosporium herbarum</i> *
Citrus Molds	<i>Penisillium</i> spp.*
Grey Mold	<i>Botrytis</i> spp.*
Molds	<i>Mucor circinelloides</i> *
White Mold	<i>Mycogone perniciosa</i> *
<u>Scabs</u>	<i>Sireptomves</i> spp.*
<u>Spots</u>	
Eyespot	<i>Cercosporella</i> spp.*
<u>Root Diseases</u>	
Club Root	<i>Plasmodiophora brassicae</i> *
Corky Root of Tomato	<i>Pyrenochaeta lycopersici</i> *
Root Disease	<i>Rhizoctonia</i> spp.
Root Diseases	<i>Rosellinia</i> spp.*
<u>Rots</u>	
Blackroot rot	<i>Macrophomina phaseolina</i> *
Blackroot rot	<i>Phomopsis sclerotioides</i> *
Blackroot rot	<i>Thielaviopsis basicola</i>
Bitter Rot	<i>Gloeosporium fructigenum</i> *
Buttrot	<i>Fomes</i> spp.*
Citrus bitter rot	<i>Trichothecium roseum</i> *
Club Root	<i>Plasmodiophora brassicae</i> *
Corky Root of Tomato	<i>Pyrenochaeta lycopersici</i> *
Foot Rots	<i>Fusarium</i> spp.
Fruit Rot	<i>Didymella lycopersici</i> *
Fruit Rot	<i>Choanephora cucurbitarum</i> *
Heartrot	<i>Fomes</i> spp.*
Root Rot	<i>Aphanomyces</i> spp.
Root Rot	<i>Helicobasidium mompa</i> *
Root Rots	<i>Phytophthora</i> spp.
Root Rot	<i>Sclerotium</i> spp.*
Sclerotinia Softrots	<i>Sclerotinia</i> spp.*
Soft Rot	<i>Rhizopus</i> spp.*
Tomato Stem Rot	<i>Didymella lycopersici</i> *
White Rot	<i>Sclerotium cepivorum</i> *
<u>Wilts</u>	
Wilts	<i>Phialophora</i> spp.*
Wilt disease	<i>Verticillium</i> spp.
<u>Others</u>	
Blackleg	<i>Phoma</i> spp.*
Damping Off	<i>Pythium</i> spp.

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Mushroom Pathogen	<i>Myriococcum</i> spp.*
Mushroom Pathogen	<i>Thielavia</i> spp.*
Mushroom Pathogen	<i>Diehliomyces microsporus</i> *
Silver Leaf	<i>Stereum purpureum</i> *
	<i>Chaetomium</i> spp.*
	<i>Clomerella cingulata</i> *
	<i>Collectotrichum</i> spp.*
	<i>Cylindrocarpon</i> spp.*
	<i>Nigrospora sacchan</i> *
	<i>Sporotrichum spinulosum</i> *
	<i>Stemphylium radicinum</i> *

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Plant-parasitic nematodes

Cyst-forming root nematodes

Common Name	Scientific Name
Eelworm, Beet Cyst	<i>Heterodera schachtii</i> *
, Pea Cyst	<i>Heterodera goettingia</i> *
, Yellow Potato Cyst	<i>Globodera rostochiensis</i> *

Free-living (migratory) root nematodes

Common Name	Scientific Name
Eelworm, Dagger	<i>Rotylenchus</i> spp.
Nematode, Lance	<i>Hoplolaimus</i> spp.
, Root	<i>Tylenchus</i> spp.
, Spiral	<i>Tylenchorrhynchus</i> spp.
, Stunt	<i>Xiphinema</i> spp.

Root knot nematodes

Common Name	Scientific Name
Eelworm, Root Knot	<i>Meloidogyne</i> spp.

Stem and leaf nematodes

Common Name	Scientific Name
Eelworm, Stem and Bulb	<i>Ditylenchus dipsaci</i> *

Bacteria

Common Name	Scientific Name
Gall, Crown	<i>Agrobacterium tumefaciens</i> *

Weeds

To reduce the infestation of root-propagated weeds

Common Name	Scientific Name
Bermudagrass	<i>Cynodon dactylon</i> *
Bindweed, Field	<i>Convolvulus arvensis</i> *
Clover	<i>Trifolium</i> spp.*
Cress, Hoary	<i>Agropyron repens</i> *
Quackgrass	<i>Cardaria draba</i> *
Rough cinquetoil	<i>Potentilla norvegica</i> *
Sedges	<i>Cyperus</i> spp.*
Stinging nettle	<i>Urtica dioica</i> *

Weeds

Parasitic weeds

Common Name	Scientific Name
Broomrape	<i>Orobanche</i> spp.*
Dodder	<i>Cuscuta</i> spp.*
Witchweed	<i>Striga</i> spp.*

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Sites:
This product can be used on the following sites:
Compost Piles Golf Greens/Tees Potting Soils Seed and Propagating Beds Soil Heaps or Piles Soil Media For establishing or renovating turf sites, ornamental sites, and field nurseries (forest, non-bearing and ornamental trees, shrubs, bedding plants, ground cover, and Christmas tree seedlings)
Look inside for complete Restrictions and Limitations and Application Instructions.

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