Jacket

APR 2 | 1993

Douglas M. Roby DowElanco Quad IV 9002 Purdue Road Indianapolis, IN 46268-1189

Dear Mr. Roby:

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Subject: Request to Amend Telone Registrations in Response to

Telone Final Agreement

Telone II

EPA Registration No. 62719-32

Your Submission Dated April 8, 1993

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is acceptable provided that you:

- 1. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:
 - In the section "With all bulk and mini-bulk containers..." delete "handlers" and replace with "workers"
- 2. Submit one (1) copy of your final printed labeling before you release the product for shipment.

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

The amended labeling supersedes all previously accepted labeling. The effective dates for the new label requirements is June 30, 1993. Please note that any product not bearing the approved labeling in accordance with the October 7, 1992 Final Agreement will be considered misbranded and will be subject to enforcement action. Also, the Agency will shortly be providing guidance to fumigant registrants how to bring their labeling into compliance with the Worker Protection Standard. This product is subject to the Worker Protection Regulations and its compliance dates and you must make these label changes in accordance to its requirements.

Sincerely yours,

/S:/

Cynthia Giles-Parker Product Manager (22) Fungicide-Herbicide Branch Registration Division (H7505C)

Enclosure

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cc: Lisa Engstrom
Special Review Branch
Special Review and Reregistration Branch (H7508W)

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page 1

62717-32.5RA30101

(Label booklet)

Restricted Use Pesticide

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

(logo) DowElanco

Telone* II

A liquid fumigant for preplant treatment of soil to control plant parasitic nematodes and certain other soil pests in cropland

Keep Out of Reach of Children WARNING

AVISO

Si Usted no entiende la etiqueta, busque a alguien para que se la explique a Usted an detalle.

Refer to inside of label booklet for detailed additional precautionary information and Directions for Use including STORAGE, SHIPMENT AND DISPOSAL.

Notice: Read the entire label. Use only according to label directions. Before buying or using this product, read "Warranty Discialmer" and "Limitation of Remedies" inside label booklet.

In case of an emergency endangering health or the environment involving this product, call collect 517-636-4400.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-32

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EPA Est. 464-TX-1; 464-MI-1; 464-CA-1; 464-CA-2; 54686-WA-1

*Trademark of DowElanco

DowElanco - Indianapolis, IN 46268, U.S.A.

Soil Fumigant

ACCEPTED
with COMMENTS
In EPA Letter Dated:

APR 2 | 1993

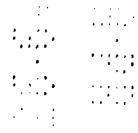
the Federal Insecticide and Rodenticide Act and for the pesticide ad under EPA Reg. No.

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Limitation of Remedies

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Precautionary Statements

Hazards to Humans and Domestic Animals

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.

Hazardous Liquid And Vapor - May Be Fatai if Inhaled, Absorbed Through Skin Or Swallowed - Causes Substantial But Temporary Eye Injury - Causes Skin Irritation and, if Confined, Skin Burns - May Cause Allergic Skin Reaction - May Cause Lung, Liver And Kidney Damage And Respiratory System Irritation Upon Prolonged Contact - The Use Of This Product May Be Hazardous To Your Health - Telone II Contains 1,3-Dichloropropene, Which Has Been Determined To Cause Tumors in Laboratory Animals - Risks Can Be Reduced By Closely Following Directions For Use And Precautions, And By Wearing Protective Clothing Specified in This Booklet.

Personal Protective Equipment Requirements (PPE)

The chemical resistance selection category for this product is H. For more information about PPE materials that are resistant to this product for various lengths of time, consult an EPA chemical-resistance selection chart. Wearers of PPE should practice heat illness mitigation techniques such as gradual adjustment to heat and respirator stress, fans for cooling, cooling vests, frequent breaks, frequent intake of drinking water, and maintaining weight from day-to-day.

NOTE: Respiratory Protection

When using respiratory protection, chemical cartridges or canisters must be replaced daily or when the odor or irritation of Telone il becomes apparent, whichever is sooner. The following respiratory protection is acceptable for use with Telone II:

- A MSHA/NIOSH approved half-face/full-face tight-fitting respirator or loose-fitting powered air purifying (PAPR) respirator with cartridge or canister specified below and only when all of the following criteria have been met:
 - a. Respirator fit-testing and fit-checking program conforming to OSHA's as described in 29 CFR Part 1910.134.
 - b. Training for respirator user conforming to OSHA's training requirement as described in 29 CFR Part 1910.134.
 - c. Examination of the respirator user by a qualified medical practitioner to ensure physical ability to safely wear that style of respirator.

NOTE: Chemical Protective Clothing (CPC)

There are no protective clothing materials that are completely impervious to penetration by liquid Telone II. CPC constructed of SARANEX, neoprene and chlorinated polyethylene provide short-term liquid contact and splash protection. CPC constructed of EVAL laminate barriers (for example, RESPONDER suits manufactured by Life-guard or SILVERSHIELD gloves manufactured by North), Viton and Telon provide longer-term protection. Leather gloves and shoes offer no protection from Telone II and if contaminated cannot be made safe to wear. Render unusable and dispose of contaminated leather goods, including shoes.

1. Direct Contact Activities

The following personal protective equipment (PPE) must be worn by individuals performing tasks that may involve direct contact with liquid Telone II or from direct venting of 1,3-dichloropropene vapor to the atmosphere. These tasks, which must be conducted outdoors or in a well-ventilated area, include but are not limited to:

- equipment calibration or adjustment
- equipment clean-up and repair
- product sampling
- any activity less than 6 feet from an unshielded pressurized hose containing Telone II
- rinsate disposal
- fumigant transfer
- · clean-up of small spills
- preparing containers for aeration
- a. An approved half face or full-face tight-fitting respirator or loose-fitting powered air purifying (PAPR) respirator equipped with organic vapor cartridges (MSHA/NIOSH approval TC-23C) or canister approved for pesticides (MSHA/NIOSH approval TC-14G).
- b. Chemical goggles must be wom when using a half face respirator.
- c. Coveralls.
- d. Chemical resistant apron.
- e. Headgear if there is a potential for contact with liquid Telone II from an overhead source.
- f. Chemical resistant gloves and footwear (e.g., EVAL or neoprene).
- 2. Application Persons operating application equipment for Telone II must wear:
 - a. Coveralis
 - b. Shoes and socks

In addition, the following PPE must be worn whenever the odor or irritation of Telone II can be detected:

a. An approved half face or full-face tight-fitting respirator or loose-fitting powered air purifying (PAPR) respirator equipped with organic vapor cartridges (MSHA/NIOSH approval TC-23C) or canister approved for pesticides (MSHA/NIOSH approval TC-14G).

Note: The PPE specified above for "Direct Contact Activities" must be readily available at all times and worn if it is necessary to leave the vehicle applying Telone II to perform any direct contact activity.

- 3. Early Entry Activities: Persons entering the treated area to perform soil sealing or any other early entry activity within 72 hours after application must wear:
 - a. Coveralls or a long-sleeved shirt and pants
 - b. Shoes and socks

In addition, the following PPE must be readily available at all times and worn under the conditions indicated:

- a. An approved half face or full-face tight-fitting respirator or loose-fitting powered air purifying (PAPR) respirator equipped with organic vapor cartridges (MSHA/NIOSH approval TC-23C) or canister approved for pesticides (MSHA/NIOSH approval TC-14G) whenever the odor or irritation of Telone II can be detected.
- b. Chemical resistant gloves and footwear (e.g., EVAL or neoprene) whenever there is direct contact with soil treated with Telone II.
- 4. Special Activities: The following personal protective equipment must be worn by persons exposed to high airborne concentrations of Telone II, such as clean-up following large spills, exposure to Telone II in poorly ventilated areas and built tank cleaning:
 - a. Body protection providing gas tight protection (level A) is required to prevent possible skin effects.
 - b. A positive pressure atmosphere supplying respirator (MSHA-NIOSH approval number prefix TC-19C or TC-13F) must be worn.

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Engineering Controls Requirements

Mechanical Transfer System: Personal protective equipment specified for "Direct Contact Activities" must be worn by the operator of the mechanical transfer system. The operator of the mechanical transfer system must have available to him the manufacturer's written instructions for operation of the system and must read and understand (or have explained to him in detail) the proper operation and maintenance of the system.

With all bulk and mini-bulk containers, Telone II must be transferred through connecting hoses, pipes, and/or couplings sufficiently tight to prevent handlers or other persons from coming in contact with liquid Telone II.

- 1. All hoses, piping, and tanks used in connection with Telone II shall be of type appropriate for use under the pressure and vacuum conditions to be encountered.
- 2. External sight gauges shall be equipped with valves so that pipes to sight gauge can be shut off in case of breakage or leakage.
- The mechanical transfer system must be adequate to make necessary measurements of the pesticide being used.
- 4. Shut-off devices must be installed on the exit end of all hoses and at all disconnect points to prevent leakage of Telone product when the transfer is stopped and hose is removed or disconnected. A dry coupler that will minimize pesticide leakage to not more than 2 milliliters per disconnect must be installed at the disconnect point.
- 5. The pressure in hoses used to move Telone II beyond a pump **must not exceed** the manufacturer's maximum pressure specification.

User Safety Recommendations

READ LABEL VERY CAREFULLY

- 1. Do not get in eyes
- 2. Do not breathe the vapor
- 3. Do not get on skin
- 4. Do not swallow any Telone II
- 5. Never siphon Telone II by mouth or use mouth to blow out clogged lines, nozzles, etc.

Do not eat, drink, smoke, or chew gum or tobacco while handling this product or before washing hands and face thoroughly with soap and water. Do not use the toilet before thoroughly washing hands.

If this product penetrates through your clothing or personal protective equipment, stop handling this product immediately, remove the clothing and equipment, wash you body thoroughly, and put on clean clothing and equipment before resuming the handling activity. Never wear protective gear having the odor of 1,3-dichloropropene.

After handling this product, remove personal protective equipment immediately. Wash the outside of gloves before taking them off. Shower or wash thoroughly and change into clean clothing as soon as possible.

Discard clothing and personal protective equipment that cannot be reused, including clothing or other absorbent materials that have been drenched or thoroughly contaminated with this product. Otherwise, wash clothing and personal protective equipment (including both the inside and outside of gloves) before each day of reuse according to manufacturer's directions or, if no such directions, in detergent and hot water. Keep and wash them separately from other laundry.

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First Aid

If Inhaled: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

If on akin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. If water is not immediately available, remove excess chemical from skin with adsorbent material such as towel or dry soil, then proceed at once to a location where water is available and thoroughly wash contaminated skin with plenty of water. Call a physician. If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. If swallowed: Do not induce vomiting. Call a physician or Poison Control Center immediately. Never give anything by mouth to an unconscious person.

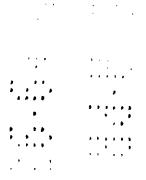
Note to physician: Because rapid absorption may occur through lungs if product is aspirated and cause systemic effects, the decision to induce vomiting or not should be made by a physician. If lavage is performed, endotracheal and/or esophageal control is suggested. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach.

Physical or Chemical Hazards
Flammable - Do not use, pour, spill, or store near heat or open flame. Do not cut or weld container.

Environmental Hazards

Do not contaminate water when cleaning equipment or disposing of wastes. See "Storage, Shipment and Disposal" section. In case of spills properly dispose of contaminated materials.

Ground water advisory: 1,3-dichloropropene is known to move through soil and under certain conditions has the potential to reach ground water as a result of agricultural use. Application in areas where soils are permeable and ground water is near the surface, or in karst geology, could result in ground water contamination.



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Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

Agricultural Use Requirements

Use this product only in accordance with its labeling. For any requirements specific to your State, consult the agency in your state responsible for pesticide regulation.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected workers may be in the area during application. For any requirements specific to your State, consult the agency in your State responsible for pesticide regulation.

The restricted entry interval (REI) following application of Telone II is 72 hours.

The following Personal Protective Equipment must be worn for early entry into treated areas that involves contact with treated soil:

- a. An approved half face or full-face tight-fitting respirator or loose-fitting powered air purifying (PAPR) respirator equipped with organic vapor cartridges (MSHA/NIOSH approval TC-23C) or canister approved for pesticides (MSHA/NIOSH approval TC-14G) whenever the odor of Telone II can be detected.
- b. Chemical resistant gloves and footwear. This footwear must be worn when walking on treated soil within 72 hours after application.

Notify workers of the application by providing oral or written warnings. Written or oral warning must be given to workers who are expected to be in a treated area or in any area about to be treated with this product. These oral warnings shall inform workers of areas or fields that may not be entered without protective equipment until 72 hours after treatment. In case of accidental exposure, follow directions as shown by the First Aid section on this label. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Written warnings must include the following information: WARNING. Area treated with Telone II soil furnigant on (insert date of application). Do not enter without protective equipment until 72 hours after treatment.

STORAGE, SHIPMENT AND DISPOSAL

Shipment: Do not ship or store with food, feeds, drugs, or clothing.

Storage: Store in tightly-closed original container in a cool place away from dwellings. Do not allow contamination of seeds, plants, fertilizers, or other pesticide chemicals. Do not contaminate food, feedstuffs, drugs, or domestic water supplies.

Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide and rinsates is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

Because Telone II is corrosive under certain conditions, flush all application equipment with fuel oil, kerosene or a similar type of petroleum solvent immediately after use. Fill pumps and meters with new motor oil or a 50% motor oil/fuel oil mixture before storing. Do not use water. Dispose of rinsate by applicable Federal, state and local regulations. Never introduce rinsate or unused Telone II into surface or underground water supplies.

Metal Container Disposal: To dispose of container emptied during application operation, remove bungs, invert container in the field just treated and ensure that the container is free of liquid. Orien; container such that ventilation of bung holes is not restricted. Allow containers to aerate for at least 14 days. Replace bungs prior to transport. After aeration, offer container to qualified reconditioner by: ... dispose of as directed by State or local regulations.

Refillable Containers: Follow cleaning and handling directions in Telone User's Guide.

Bulk or Minibulk Product Transfers: Dry break or dry disconnect couplings are required for all, a product transfers involving bulk or minibulk containers for Telone II as of September 30, 1993.

General Information

Telone II is a liquid furnigant for preplant treatment of soil to control plant parasitic nematodes and certain other soil pests and plant diseases in cropland.

Telone II may be applied as a preplant soil treatment to control the following types of plant parasitic nematodes: burrowing, citrus, cyst (golden, sugar beet, soybean, carrot and wheat), dagger, lance, pin. needle, reniform, ring, root knot, root lesion, spiral, sting and stubby root.

Telone II can also be used to control garden centipedes (symphylans) and wireworms, suppress sugar beet Rhizomania disease, Fusarium wilt of cotton and Verticillium wilt of mint and potatoes and aid in the control of bacterial canker of peaches.

Before furnigation, soil sampling for the type and number of pests present is recommended. In fields where pre-treatment soil samples indicate the presence of high population levels of nematodes, a successful furnigation cannot be expected to eradicate entire populations. Therefore, post-treatment sampling is recommended to determine the need for additional pest management practices.

Consult State Agricultural Experiment Station or Extension Service specialists for information on other practices such as post-harvest destruction of crop residues, weed control or other cultural practices, and use of nematode resistant crop varieties that may aid in reducing crop losses from soil borne pests.

General Use Precautions

Soil furnigation using Telone II should be conducted only according to directions and conditions of use described in this labeling.

Formulator use of Telone II: Labeling for end use products containing Telone II that are prepared and sold by formulators must comply with all precautionary statements, use precautions, environmental hazards, handling and protective equipment requirements, maximum application rates and other exposure mitigation measures specified in this product labeling.

Recontamination prevention: Telone II will control pests that are present in the soil treatment zone at time of furnigation. It will not control pests that are introduced into soil after furnigation. To avoid reinfestation of treated soil do not use irrigation water, transplants, seed pieces, or equipment that could carry soil borne pests from infested land. Avoid contamination from moving infested soil onto treated beds through cultivation, movement of soil from below the treated zone, dumping contaminated tare soil in treated fields and soil contamination from equipment or crop remains. Clean equipment carefully before entering treated fields.

Bulk or Minibulk Product Transfers: Dry break or dry disconnect couplings are required for all product transfers involving bulk or minibulk containers for Telone II as of September 30, 1993.

Do not use containers, pumps or other transfer equipment made of aluminum, magnesium or their alloys, as under certain conditions Telone II may be severely corrosive to such metals.

Equipment Clean-up: Because Telone II is corrosive under certain conditions, flush all application equipment with fuel oil, kerosene or a similar type of petroleum solvent immediately after use. File pumps and meters with new motor oil or a 50% motor oil/fuel oil mixture before storing. Do not use water. Dispose of rinsate by incorporation into field just treated or by other approved means. Never introduce rinsate or unused Telone II into surface or underground water supplies.

Chemigation: Do not apply Telone II through any type of irrigation system.



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Fertility Interactions: Furnigation may temporarily raise the level of ammonia nitrogen and soluble salts in the soil. This is most likely to occur when heavy rates of fertilizer and furnigant are applied to soils that are either cold, wet, acid, or high in organic matter. To avoid injury to certain crops including red beets, carrots, corn, radishes, cole crops, legumes (beans), lettuce, onions, and sugar beets, fertilize as indicated by soil tests made after furnigation. To avoid ammonia injury or nitrate starvation (or both) to crops grown on high organic soils, do not use fertilizers containing ammonium salts. Use only fertilizers containing nitrates until after the crop is well established and the soil temperature is above 65°F.

When using high rates of Telone II as required by certain state nursery regulations, liming of highly acid soils before furnigation may stimulate nitrification and reduce the possibility of ammonia toxicity. Certain nursery crops such as citrus seedlings, *Comus* sp., *Crataegus* sp., spruce, and vegetable crops such as cauliflower have shown evidence of phosphorus deficiency following furnigation. To avoid this possible effect, additional phosphate fertilizer (foliar applied) is recommended where experience indicates a deficiency may occur.

Application Directions

Application Timing

Telone II can be applied at any time of the year when soil conditions permit. Conditions that allow rapid diffusion of the fumigant as a gas through the soil normally give best results. Because Telone II does not provide residual control of soil pests, it should be used as a preplant application before planting each crop. The following soil temperature and moisture conditions should exist at time of treatment. Failure to meet these conditions may result in unsatisfactory product performance:

Soil Conditions

Soil temperature at the depth of application must be between 40°F and 80°F. In areas where the soil temperature in the spring may not reach 40°F in time to allow application of Telone II prior to planting, late summer or early fall treatment is recommended.

Soll molsture throughout the desired treatment zone should be at or near the permanent wilting point to allow optimum dispersion of the furnigant, which moves as a gas through the soil air spaces. The permanent wilting point varies with soil texture and organic matter content. Coarser textured soils can be furnigated under conditions of higher soil moisture than finer textured soils; however, if the soil moisture is too high, furnigant movement will be retarded and effectiveness of the treatment will be reduced. Previous and/or local experience with the soil to be treated or the crop to be planted can often serve as a guide to conditions that will be acceptable. If you do not know how to determine the soil moisture content of the area to be treated, consult your local extension service or soil conservation service specialist or pest control advisor (ag consultant) for assistance.

In general, no irrigation should immediately precede subsoiling or fumigation; however, when surface soil moisture conditions are not likely to provide an adequate seal against fumigant loss, a very light sprinkler irrigation to wet the top 1 to 2 inches of soil may be useful.

Soli Preparation

The soil should be free of clods. Large clods can prevent effective soil sealing and reduce effectiveness of Telone II. Plant residues should be thoroughly incorporated into the soil prior to treatment to avoid interfering with application. Undecomposed plant material may harbor pests that will not be controlled by furnigation. Little or no crop residue should be present on the soil surface. Crop residue that is present should lie flat to permit the soil to be sealed effectively. Compacted soil layers within the desired treatment zone should be fractured before or during application of the furnigant. Deviation from the above conditions may result in unsatisfactory results.

Placement of Fumigant

Telone II may be applied as either a broadcast (overall) or row treatment. It must be placed at least 10 inches below the final soil surface. When soil conditions allow, placement a minimum of 12 incl)eş below the final soil surface is recommended. Deeper placement is recommended when furnigating soil to be planted to deep-rooted plants, such as perennial fruit and nut crops, or to control deeply distributed pests.

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Application Methods and Equipment

Broadcast Application: Use chisel (shank), Nobel (sweep) plow or plow-sole application equipment. For best results when using chisel equipment, use ripper-type, forward-swept shanks. Nobel plow equipment is particularly useful for fall furnigation when the soil still contains some undecomposed standing plant material. Subsoiling may be necessary before application as described under "Soil Preparation". Choose application equipment which allows the deepest application and best soil seal under existing conditions.

The fumigant outlet spacing varies with the type of application equipment used.

With chisel equipment a furnigant shank spacing of 12 to 24 inches is recommended. The outlet spacing for this equipment may be up to 1 1/2 times the application depth but generally should be equal to the application depth and should not exceed the soil-shattering capability of the chisels. The maximum outlet spacing should not exceed 24 inches.

With plow-sole equipment a 12-inch outlet spacing is recommended. Do not exceed an outlet spacing of 18 inches.

With Nobel (sweep) plow equipment use an outlet spacing of 9-12 inches along the sweeps.

Broadcast application can be made in the same direction or at an angle to the direction of row planting. Refer to Table 1 for broadcast treatment rates for various crops.

Row Application: Use chisel equipment to treat a band of soil where the crop is to be planted, i.e. the plant row. One or two chisels per plant row is recommended. In general, when one chisel is used, apply Telone II at the flow rates given in Table 2. When two chisels per plant row are used, space the chisels (furnigant outlets) 8 to 12 inches apart and divide the flow rates given in Table 2 equally between the two outlets. Regardless of the number of chisels used, the amount of furnigant applied per 1000 feet of plant row should remain the same. With certain deeper rooted crops such as potatoes and sugar beets, higher flow rates may be necessary to ensure adequate treatment of the zone of soil where primary root growth occurs; however, In no case should the amount of furnigant applied per acre exceed the gallons per acre rates for broadcast treatment given in Table 1. To determine the amount (gallons) of Telone II required per acre for various plant row spacings and flow rates, refer to Table 3. Note that as the distance between the plant rows increases the amount of furnigant required decreases and vice versa.

To prevent seed germination problems caused by improper seed-to-soil contact or improper seeding depth, do not place the seed directly over the furrow left by the applicator chiseks). When one chisel is used per plant row, place the seed about 4 inches to one side of the chisel furrow. When two chisels are used per plant row, plant the seed offset from the chisel trace.

Sealing the Soil After Application

Immediately after chisel application of Telone II the soil should be "sealed" to prevent furnigant loss and ensure that an effective concentration of furnigant is maintained within the soil for a period of several days. For broadcast treatment (flat furnigation), sealing can be accomplished with equipment that will uniformly mix the soil to a depth of 3 to 4 inches to effectively eliminate chisel or plow traces which can allow direct escape of the furnigant. A tandem disc or similar equipment may be used for this purpose. To maximize sealing, steps should also be taken to compact the soil surface to further retard the rate of furnigant loss by following with a ring roller, cultipacker or roller in combination with tillage equipment. Compaction of the soil surface alone may give the appearance of adequate sealing without effectively disrupting chisel or plow traces.

For row treatment, forming the beds at the time of application should be accomplished in a mariner that places the furnigant at least 12 inches from the nearest soil/air interface. The closest soil/air interface could be the furrow for multiple knile applications or the top of the bed for single knile applications. Row treatments into preformed beds should be sealed by disrupting the chisel trace using press sequers, fing rollers or by reforming the beds and following with such equipment.

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Sealing can also be improved by applying non-perforated plastic film, such as polyethylene, over the entire area or in strips. Use of a film to seal the soil surface does not eliminate the need to eliminate chisel traces prior to application of the plastic film.

Proper soil conditions at the time of application (see Soil Preparation section) are important to ensure proper placement of furnigant (see Placement of Furnigant section) and obtaining adequate sealing. Prior tillage should be adequate to eliminate clods and thoroughly mix crop residues into the soil.

Soil Fumigation Interval

Leave the soil undisturbed and unplanted for at least 7 days after application of the furnigant. A longer undisturbed interval is required if the soil becomes cold or wet, and for deep-rooted tree, shrub and vine planting sites.

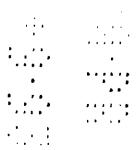
After the fumigation interval, to prevent phytotoxicity, allow the fumigant to dissipate completely before planting the crop. Under optimum soil conditions for dissipation, 1 week for each 10 gallons/acre is recommended. For fruit, nut, and nursery crops at least three months should elapse between treatment and planting. To hasten dissipation, especially if heavy rains or low temperatures occur during the treatment period, till the soil to the depth of fumigant application. Use a knife-like chisel without turning the soil to reduce the possibility of recontaminating the treated soil. Dissipation is usually complete when the odor of Telone II is no longer evident at the application depth. Seed may be used as a bioassay to determine if Telone II is present in the soil at concentrations sufficient to cause plant injury. Do not plant if the odor of Telone II is present within the zone of fumigation.

Approved Uses

Control of Nematodes

Telone II is recommeded for control of nematodes in soils to be planted to various crops including those listed below. Refer to Tables 1 and 2 below for broadcast and row treatment application rates and specific use requirements. Refer to table 3 to determine flow rates for specific row spacings.

Note: For crops identified by footnotes 1, 2, 3 or 4, do not exceed maximum broadcast application rates for nematode control in mineral soils for species other than cyst nematode.



Ved	ats	ible:	CTODS:

asparagus egg plant pimentos beans endive potatoes pumpkins¹ beets, red carlic radishes¹ horseradish black-eyed peas broccoli1 kale rutabaga kohlrabi Brussels sprouts¹ salsify leeks cabbage¹ shallots spinach cantaloupe 1 lettuce carrots melons1 cauliflower1 mustard greens¹

squash (summer) squash (winter) sweet potatoes² celery okra Swiss chard collards onions com parsnips tomatoes turnips1 cowpeas peas cucumbers¹ peppers watermelons1

Field crops:

alfalfa kenaf rye lespedeza barley safflower millet sorghum birdsfoot trefoil buckwheat milo soybeans clover mint sugar beets oats sugarcane com tobacco1 cotton1 pasture grass peanuts¹ flax vetch wheat popcorn grasses hops

Fruit and nut crops:

(crop)4

almonds4 gooseberries pears grapefruit4 apples pecans grapes4 persimmons apricots pineapple³ bananas hazelnuts (filberts) plums4 blackberries hickory nuts blueberries huckleberries pomegranates prunes4 kumquats boysenberries lemons4 cashew nuts quince limes⁴ cherries raspberries strawberries chestnuts loganberries nectarines tangerines4 cranberries tangelos4 currants olives vounoberries dates oranges4 walnuts4 peaches4 dewberries figs

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Maximum broadcast application rates for nematode control (except cyst nematode) in mineral solis for specified crops listed above:

in some for she	cities crops listed above.	•
	(Gallons/acre)	
(crop) ¹	12	
(crop) ²	15	•
(crop)3	42	• • • • • • • • • • • • • • • • • • •

Nursery crops:

Floral plants, ornamentals, shrubs and bushes; forest, shade, fruit and nut trees; and vine and bramble fruits of all types.

When used according to state nursery regulations, Telone II may be used in the production of certified nursery stock.

Table 1. Broadcast Treatment Rates for Nematode Control?

		Recommended Rate					
Crop	Soll Type or Texture	Broadcast Gal/Acre	Fi Oz/ 1000 Ft of Row/Outlet ¹				
Vegetable crops ²	Mineral ³	9 - 18 ⁴	26 - 53				
	Muck or Peat ⁵	24 - 36	71 - 106				
Field crops	Mineral	9 - 18 ⁴	26 - 53				
•	Muck or Peat	24 - 36	71 - 106				
Fruit, nut and nursery crops 6,7,8,9,10	Sand	27 - 33	79 - 97				
	Sandy Loam	36 - 48	106 - 141				
	Silt Loam	63 - 75	185 - 220				
	Clay Loam	84 - 102	247 - 300				

†For crops identified by footnotes 1, 2, 3, or 4 in the list above, do exceed specified maximum broadcast application rate.

²Potatoes:

Before fumigation, soil sampling for the type and number of pests present is recommended and can help to determine the need for additional treatment with a contact nematicide. Preharvest tuber sampling for nematodes also is recommended. If the nematode population is high enough to damage the crop, potatoes can be harvested early. Do not store potatoes with a detectable nematode infestation.

In Idaho, Nevada, Oregon and Washington, and in Modoc and Siskiyou countles of California refer to Telone it supplemental labeling entitled: "For Nematode and Wireworm Control in Potatoes" for directions for use.

In all other areas, use 9 to 18 gallons of Telone II per acre to control the northern root knot nematode *Meloidogyne hapla* in mineral soil and 24 to 36 gallons per acre in muck soil. For high populations of this species use the higher recommended rate. For more difficult-to-control root knot nematodes such as the Columbia root knot nematode *Meloidogyne chitwoodi*, apply 20 gallons per acre (59 fl oz/1000 ft of row/outlet based on 12-inch centers) in mineral soil. For best results apply the fumigant at least 18 inches below the final soil surface.

¹Flow rates are based on 12-inch outlet spacing. Flow rates for alternate spacings can be calculated using the following formula: fl oz/1000 ft of row/outlet = 2.94 x rate in gallons/acre x outlet spacing in feet. For row treatment refer to Tables 2 and 3.

³Mineral soil includes sand, sandy loam, silt, and clay loam. Use the higher rates for finer textured (heavier) soils.

⁴For cyst-forming nematodes use 18 gallons per acre (53 fl oz/1000 ft/outlet).

⁵Greater than 20% organic matter content.

⁶Pineapple: Application may be made at the time of planting. For best results, seal the soil with polyethylene film, which acts as a gas permeability barrier.

⁷Strawberries: For broadcast furnigation of mineral soils only, apply 24 to 36 gallons per acre.

BTree Planting Sites: Use 24 fl oz (1.5 pints) of Telone II by application of the fumigant at a single point in the center of each planting site at a depth of 5 feet below the final soil surface. Sites prepared by backhoeing to break up restrictive soil layers that may retard fumigant movement should be dug in the approximate dimensions of 10 x 10 x 10 feet. The hole should then be backfilled to a depth of 5 feet, the fumigant applied using a closed-system application tube and the remainder of the soil previously removed immediately added to the hole. For sites where no restrictive soil layers are present, the fumigant can be applied to a depth of 5 feet using an injection auger. For best results, prepare and treat planting sites in the fall and plant in the spring.

9For shallow-rooted plants grown only one year, use 15 to 27 gallons per acre (44 to 79 fl oz/1000 ft of row/outlet).

10 Citrus: For burrowing nematode control, inject Telone II on 18-inch centers at least 12 inches deep. For buffers within existing groves or for tree planting sites within existing groves, do not apply within 5 feet of living trees. Keep the field free of plants susceptible to this nematode at least two years before planting to citrus.

Table 2. Row Treatment Rates for Nematode Control Using a Single Chisel per Row¹

Becommended Rote

Crops	Soil Texture ²	FI Oz/1000 Ft of Row ³				
Vegetable	Mineral Muck and Peat	52 - 106 142 - 212				
Field 4,5	Mineral Muck and Peat	52 - 106 142 - 212				
Fruit, Nut and Nursery ⁶	Mineral Muck and Peat	52 - 106 142 - 212				

¹For row spacing of 24 inches or less apply Telone II as a broadcast treatment (See Table 1 for rates).

²For a description of soil textures see footnote 3 under Table 1.

³To determine actual gallons per acre needed for various row spacings see Table 3.

⁴Sugar Beets: To control sugar beet cyst nematode, use 93 fl oz/1000 ft of row.

⁵Row treatment is not recommended for potatoes in irrigated areas of western and northwestern states.

⁶Pineapples: To control reniform nematodes use 230 fl oz/1000 ft of row.

Table 3. Rate Conversion Chart for Various Row Spacings and Fumigant Flow Rates 1.

Note: In no case should the amount of furnigant applied per acre exceed the gallons per acre rates for broadcast treatment given in Table 1.

FI Oz/ 1000 Ft					Plant	Row	Spaci	ing (in	ches)				
of Row	26	28	30	32_	34	36	38	40	42	44	46	48	5 0
					(Gallo	ns per	Acre)						
52	8.2	7.6	7.1	6.6	6.2	5.9	5.6	5.3	5.1	4.8	4.6	4.4	4.2
60	9.4	8.8	8.2	7.7	7.2	6.8	6.4	6.1	5.8	5.6	5.3	5.1	4.9
68	10.7	9.9	9.3	8.7	8.2	7.7	7.3	6.9	6.6	6.3	6.0	5.8	5.5
76	11.9	11.1	10.3	9.7	9.1	8.6	8.2	7.8	7.4	7.0	6.7	6.5	6.2
84	13.2	12.3	11.4	10.7	10.1	9.5	9.0	8.6	8.2	7.8	7.5	7.1	6.9
92	14.4	13.4	12.5	11.7	11.0	10.4	9.9	9.4	8.9	8.5	8.2	7.8	7.5
100	15.7	14.6	13.6	12.8	12.0	11.3	10.7	10.2	9.7	9.3	8.9	8.5	8.2
108	17.0	15.8	14.7	13.8	13.0	12.2	11.6	11.0	10.5	10.2	9.6	9.2	8.8
116	18.2	16.9	15.8	14.8	13.9	13.2	12.5	11.8	11.3	10.8	10.3	9.9	9.5
124	19.5	18.1	16. 9	15.8	14.9	14.1	13.3	12.7	12.1	11.5	11.0	10.5	10.1
132	20.7	19.3	18.0	16.8	15.8	15.0	14.2	13.5	12.8	12.2	11.7	11.2	10.8
140	22.0	20.4	19.1	17.9	16.8	15.9	15.0	14.3	13.6	13.0	12.4	11.9	11.4
148	23.2	21.6	20.1	18.9	17.8	16.8	15.9	15.1	14.4	13.7	13.1	12.6	12.1
156	24.5	22.8	21.2	19.9	18.7	17.7	16.8	15.9	15.2	14.5	13.8	13.3	12.7
164	25.8	23.9	22.3	20.9	19.7	18.6	17.6	16.7	15.9	15.2	14.6	13.9	13.4
172	27.0	25.1	23.4	21.9	20.7	19.5	18.5	17.6	16.7	16.0	15.3	14.6	14.0
180	28.3	26.3	24.5	23.0	21.6	20 4	19.3	18.4	17.5	16.7	16.0	15.3	14.7
188	29.5	27.4	25.6	24.0	22.6	21.3	20.2	19.2	18.3	17.4	16.7	16.0	15.3
196	30.8	28.6	26.7	25.0	23.5	22.2	21.1	20.0	19.1	18.2	17.4	16.7	16.0
204	32.0	29.8	27.8	26.0	24.5	23.1	21.9	20.8	19.8	18.9	18.1	17.4	16.7
212	33.3	30.9	28.9	27.0	25.5	24.0	22.8	21.6	20.6	19.7	18.8	18.0	17.3

¹Refer to Table 2 for the rate needed for a specific crop and/or soil texture. To obtain the gallons per acre used for a row spacing not shown in this table, use the following equation:

Plant Diseases

Bacterial Canker of Peaches: Telone II can be used as an aid in the control of this disease by application as a preplant, overall treatment of light (sandy) soils at the rate of 36 gallons per acre (106 ft oz/1000 ft row per outlet) preferably in the fall when the soil is warm (55 to 80°F at injection depth) and moist. Inject the furnigant at a depth of 10 to 12 inches with chisels mounted on 12-inch centers.

Fusarium Wilt of Cotton: The effects of this disease can be suppressed by controlling the root knot nematodes associated with this disease/nematode complex. Use Telone II as a row treatment at the rate of 46 to 106 fl oz/1000 ft of row. The lower rate is suitable for mineral soils whereas the higher rate is enough be used for heavier soils.

Sugar Beet Rhizomania Disease: Use Telone II to suppress the effects of this disease by proplant application at the rate of at least 73.5 ff oz/1000 ft of plant row but not more than 132 ff oz/1000 ft of plant row. These flow rates are equivalent to 10 to 18 gallons per acre for sugar beets planted in 30-inch beds with one plant row per bed. For beets planted in 40-inch beds with two plant rows per bed the

18 at 21

recommended flow rates are equivalent to 15 to 27 gallons per acre. Use the higher rates for heavier (finer textured) soils and/or for higher levels of disease infestation. Telone II is believed to reduce the activity of *Polymyxa beta*, which has been identified as the vector of the Rhizomania disease virus. The fumigant should be placed at least 12 inches below the final soil surface. Immediately after application, mechanically compact (seal) the soil surface to prevent fumigant loss. Sealing can be accomplished by forming the beds during application or, when fumigating pre-formed beds, re-list the beds or use a ring roller, cultipacker, bed shaper, press sealer or similar device.

Verticillium Wilt of Mint and Potatoes: To aid in the control of this disease, apply Telone II as a broadcast treatment. For mint, use 59 gallons per and (173 fl oz/1000 ft row/outlet) in the spring or, preferably, in the fall. For potatoes, use 17 to 25 gallons per acre (50 to 73 fl oz/1000 ft row/outlet) in the spring, or 25 to 34 gallons per acre (73 to 100 fl oz/1000 ft row/outlet) in the fall.

Soil Insects

Symphylans (Garden Centipedes): Use Telone II for treatment of soil to be planted to crops where these pests have been shown to be a problem. Apply the furnigant only as a broadcast treatment at the rate of 18 to 36 gallons per acre (53 to 106 fl oz/1000 ft row/outlet) when soil temperature is warm (55 to 80°F) at the application depth.

Wireworms: Use Telone II for treatment of soil to be planted to crops where these pests have been shown to be a problem. Apply the furnigant as a broadcast treatment at the rates recommended for nematode control (Table 1) by injection at least 14 inches below the final soil surface.

For wireworm control in Idaho, Nevada, Oregon and Washington, and in Modoc and Siskiyou counties of California refer to Telone II supplemental labeling entitled: "For Nematode and Wireworm Control in Potatoes" for directions for use.

Warranty Disclaimer

DowElanco warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. DOWELANCO MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of DowElanco or the seller. All such risks shall be assumed by Buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at DowElanco's election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

DowElanco shall not be liable for losses or damages resulting from handling or use of this product unless DowElanco is promptly notified of such loss or damage in writing. In no case shall DowElanco be liable for consequential or incidental damages or losses.

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(Base Label)

Restricted Use Pesticide

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

(logo) DowElanco

Telone* II

A liquid fumigant for preplant treatment of soil to control plant parasitic nematodes and certain other soil pests in cropland

Active Ingredient: (by	weight)
1,3-dichloropropene		94%	
Inert Ingredients		6%	
1 gallon of Telone weighs 10.1 lb at 70°F.			

Precautionary Statements

Hazards to Humans and Domestic Animals

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.

Hazardous Liquid And Vapor • May Be Fatal If Inhaied, Absorbed Through Skin Or Swallowed • Causes Substantial But Temporary Eye Injury • Causes Skin Irritation and, If Confined, Skin Burns • May Cause Allergic Skin Reaction • May Cause Lung, Liver And Kidney Damage And Respiratory System Irritation Upon Prolonged Contact • The Use Of This Product May Be Hazardous To Your Health • Telone II Contains 1,3-Dichloropropene, Which Has Been Determined To Cause Tumors in Laboratory Animals • Risks Can Be Reduced By Closely Following The Use Directions And Precautions, And By Wearing Protective Clothing Specified in The Label Booklet.

First Ald

If Inhaled: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

If on skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. If water is not immediately available, remove excess chemical from skin with sorbent material such as towel or dry soil, then proceed at once to a location where water is available and thoroughly wash contaminated skin with plenty of water. Call a physician. If In eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. If swallowed: Do not induce vomiting. Call a physician or Poison Control Center immediately. Never give anything by mouth to an unconscious person.

Note to physician: Because rapid absorption may occur through lungs if product is aspirated and cause systemic effects, the decision to induce vomiting or not should be made by a physician. If lavage is performed, endotracheal and/or esophageal control is suggested. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach.

Environmental Hazards

Do not contaminate water when cleaning equipment or disposing of wastes. See "Storage, Shipment and Disposal" section. In case of spills properly dispose of contaminated materials.

Ground water advisory: 1,3-dichloropropene is known to move through soil and under certain a conditions has the potential to reach ground water as a result of agricultural use. Application in areas; where soils are permeable and ground water is near the surface, or in karst geology, could result in ground water contamination.

200f)

Physical or Chemical Hazards
Flammable - Do not use, pour, spill, or store near heat or open flame. Do not cut or weld container.

Refer to Inside of label booklet for Directions for Use Including STORAGE, AND DISPOSAL and additional precautionary information including requirements for Personal Protective Equipment (PPE), Engineering Control and Requirements and Agricultural Use Requirements.

Notice: Read the entire label. Use only according to label directions. Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label bookiet.

in case of an emergency endangering health or the environment involving this product, call collect 517-636-4400.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-32

EPA Est. 464-TX-1; 464-MI-1; 464-CA-1; 464-CA-2; 54686-WA-1

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DowElanco • Indianapolis, IN 46268, U.S.A.

Soil Fumigant

Net Contents ___ gailons

Revised 03/23/93

Amendments:

1) Revised precautionary statements, protective equipment requirements and added "Agricultural Use Requirements" per Worker Protection Standard.

2) Added ground water advisory statement to Environmental Hazards section.

3) Added requirement for "dry break or dry disconnect" couplings for product transfers involving bulk or mini-bulk containers to STORAGE AND DISPOSAL and General Use Precautions sections.

4) Revised personal protective equipment requirements.

5) Directions for Use section reformatted. All general information, including General Use Precautions moved to a "General Information" section and specific use directions moved to "Approved Uses" section. Added new label headings and edited text, where appropriate, for clarity.

6) Added "Formulator use of Telone II" section to General Use Precautions section which requires formulators of end use products containing Telone II to comply with all provisions of the Telone II tabel.

7) Maximum application rates for nematode control imposed for certain crops (see footnotes in crops listing).