

Jacket

Tom Duafala, Ph.D.
Trical
P.O. Box 1327
Hollister, CA 95024

Dear Dr. Duafala:

Subject: Change Signal Word to WARNING - Worker Protection
Standard (WPS) - Revised Basic Formula
Trical Telone II Soil Fumigant
EPA Registration No. 11220-1
Your Submission Dated December 13, 1994

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:

a. For the cited me-too product Telone II, EPA Reg. No. 62719-32, the maximum recommended rate in fl oz / ft of Row/Outlet is 300. Correct your label by deleting 330 and replacing with 300.

b. The reference to the booklet "For Nematode and Wireworm Control in Potatoes" on the label makes the booklet part of the labeling of this product. Therefore, you must obtain the Agency's approval for this booklet before you can market this product with the booklet.

2. Submit one (1) copy of your final printed labeling before you release the product for shipment.

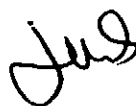
A stamped copy of the labeling is enclosed for your records.

20415

-2-

The revised basic formula is acceptable and has been included in the files for this product. It supersedes all previously accepted ones.

Sincerely yours,



for Cynthia Giles-Parker
Product Manager (22)
Fungicide Herbicide Branch
Registration Division (7505C)

Enclosure

cc: Lisa Nisenson
Special Review Branch
Special Review and Reregistration Branch (7508W)

RESTRICTED USE PESTICIDE

DUE TO HIGH ACUTE INHALATION TOXICITY AND CARCINOGENICITY

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.

RECEIVED

ACCEPTED
with COMMENTS
In EPA Letter Dated:

DEC 22

For the Federal Insecticide
Fungicide and Fertilizer Act
and the pesticide
Registration Act Reg. No.

11220-1

TRI-CAL TRILONE II

A LIQUID FUMIGANT FOR PREPLANT TREATMENT OF SOIL TO CONTROL PLANT PARASITIC NEMATODES AND CERTAIN OTHER SOIL PESTS IN CROPLAND. NOT FOR USE IN GREENHOUSES OR OTHER ENCLOSED AREAS.

ACTIVE INGREDIENT:	
1,3-Dichloropropene	94.0%
INERT INGREDIENTS:	6.0%
	<u>100.0%</u>

Contains 10.1 pounds of 1,3-Dichloropropene per gallon.

KEEP OUT OF REACH OF CHILDREN

WARNING AVISO

Peligro: Si Usted no entiende la etiqueta, busque a alguien para que se la explique a Usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

IN ALL CASES OF OVEREXPOSURE GET MEDICAL ATTENTION IMMEDIATELY. TAKE PERSON TO A DOCTOR OR TO AN EMERGENCY TREATMENT FACILITY.

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 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 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 causes 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.

See Side Panel For Additional Precautionary Statements.

TRICAL

P.O. Box 1327, Hollister CA 95024

E.P.A. EST. 11220-CA-1,2,3,4; FL-1

E.P.A. REG. NO. 11220-01

NET CONTENTS LBS.

**PRECAUTIONARY STATEMENTS
HAZARD TO HUMANS
AND DOMESTIC ANIMALS:
WARNING**

HAZARDOUS LIQUID AND VAPOR.

- Do not swallow any of this product. May be fatal if swallowed.
- Do not get in eyes. Causes substantial but temporary eye injury.
- Do not get on skin. May be fatal if absorbed through the skin. Causes skin irritation and, if confined, skin burns. May cause allergic skin reaction.
- Do not breathe vapor. May be fatal if inhaled. 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. This product contains 1,3-dichloropropene, which has been determined to cause tumors in laboratory animals. Risks can be reduced by exactly following directions for use, precautionary statements, and by wearing the personal protective equipment specified in this labeling.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Chemical-Resistant Materials: Some materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for category H on an EPA chemical resistance category selection chart. PPE constructed of Saranex, neoprene, and chlorinated polyethylene provide short-term contact or splash protection against liquid in this product. Longer-term protection is provided by PPE constructed of Viton, Teflon, and EVAL barrier laminates (for example, Responder suits manufactured by Life-guard or Silvershield gloves manufactured by North). Leather, canvas, or cotton materials offer no protection from this product and must not be worn when contact with this product is possible.

(1) Handlers Performing Direct-Contact Tasks: Direct-contact tasks are tasks performed outdoors or in a well-ventilated area. They include:

- equipment calibration or adjustment
- equipment cleanup and repair
- product sampling
- any activity less than 6 feet from an unshielded pressurized hose containing this product.
- removal of tarp or plastic film
- resale disposal
- fumigant transfer
- clean-up of small spills
- preparing containers for aeration
- any other handling task not otherwise listed in (2), (3), (4), or (5) below.

Handlers performing direct-contact tasks must wear: (a) Coveralls over short sleeved shirt and short pants. (b) Chemical-resistant gloves, such as barrier laminate (EVAL) or viton. (c) Chemical-resistant footwear plus socks. (d) Face-sealing goggles, unless full-face respirator is worn. (e) Chemical-resistant headgear for overhead exposure. (f) Chemical-resistant apron. (g) Respirator with either an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G). See further respirator requirements in the "User Safety Requirements" section of the label.

(2) Handlers in Enclosed Cabs: Applicators and other handlers in enclosed cabs must wear: (a) Coveralls. (b) Shoes and socks. (c) Plus, if odor or irritation from this product can be detected inside the enclosed cab, handlers in the cab must wear a respirator with either 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). See further respirator requirements in the "User Safety Requirements" section on this label. (d) In addition, the PPE specified in (1) for direct-contact activities must be immediately available in the enclosed cab and must be worn if the handler leaves the enclosed cab to perform any direct-contact activity. The enclosed cab must meet the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides-40 CFR 170.240(d)(5).

(3) Applicator Outside an Enclosed Cab: Applicators applying this product (or sealing the soil following application of this product) who are not inside an enclosed cab that meets WPS requirements must wear: (a) Coveralls over short-sleeved shirt and short pants. (b) Chemical-resistant gloves, such as barrier laminate (EVAL) or viton. (c) Chemical-resistant footwear plus socks. (d) Chemical-resistant headgear for overhead exposure. (e) Plus, if odor or irritation from this product can be detected, handlers must wear face-sealing goggles (unless full-face respirator is worn) a respirator with either an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C) or canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G). See further respirator requirements in the "User Safety Requirements" section on this label.

(4) Handlers in Treated Area Within 72 Hours After Application: Only the following handler tasks may be performed in the treated area within 72 hours after the application is complete:

- Assessing/adjusting the soil seal
- Assessing pest control, application technique, or application efficacy
- Sampling air or soil for this product

All other tasks are prohibited until the 72-hour period has expired. Unless in an enclosed cab as described in (2) above, handlers performing the above tasks in the treated area within 72 hours after application must wear: (a) Coveralls. (b) Chemical-resistant gloves, such as barrier laminate (EVAL) or viton. (c) Chemical-resistant footwear plus socks. (d) Plus, if odor or irritation from this product can be detected, handlers must wear a respirator with either an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G). See further respirator requirements in the "User Safety Requirements" section on this label.

See Requirements Continued In Third Column

Requirements, Continued.

(5) **Handlers Exposed to High Concentrations:** Handlers exposed to high airborne concentrations of this product, such as cleanup following large spills and exposure to this product in poorly ventilated areas, must wear: (a) Chemical resistant suit (b) Chemical-resistant gloves, such as barrier laminate (EVAL) or vilon (c) Chemical-resistant footwear plus socks (d) Chemical-resistant headgear, (e) Supplied-air respirator with MSHA/NIOSH approval number prefix TC-19C or self-contained breathing apparatus (SCBA) with MSHA/NIOSH approval number prefix TC-13F. See further respirator requirements in the "User Safety Requirements" section on this label.

Note: In-tank cleaning of bulk tanks must be performed only by persons who have been specifically trained for this activity according to OSHA guidelines as described in 29 CFR Part 1910.146. Refer to User's Guide, section on storage tanks.

USER SAFETY REQUIREMENTS

1. Respirator Requirements: When a respirator is required for use with this product, the following criteria must be met: (a) Cartridges or canisters must be replaced daily or when odor or irritation from this product becomes apparent, whichever is sooner. (b) Respirators must be fit-tested and fit-checked using a program that conforms to OSHA's requirements (described in 29 CFR Part 1910.134). (c) Respirator users must be trained using a program that conforms to OSHA's requirements (described in 29 CFR Part 1910.134). (d) Respirator users must be examined by a qualified medical practitioner to ensure physical ability to safely wear the style of respirator to be worn.

2. Dispose of Contaminated Clothing: Discard clothing and other absorbent materials that have been drenched or heavily contaminated with liquid from this product. Do not reuse them.

3. Clean and Maintain PPE: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Wash PPE after each day's use.

4. Contact With Mouth: Never siphon this product by mouth or use mouth to blow out clogged lines, nozzles, etc.

5. Heat Illness Avoidance: Use measures to avoid or minimize heat illness while using this product. These measures include gradual adjustment to heat and respirator stress, fans for cooling, cooling vests, frequent breaks to cool down, frequent intake of drinking water, and maintaining weight from day to day.

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.

EMERGENCY: In case of an emergency endangering health or the environment involving this product, call the 24 Hour Emergency Phone Number (850) 424-9360.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by disposal of equipment washwaters. 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.

PHYSICAL OR CHEMICAL HAZARDS

FLAMMABLE: Do not use, pour, spill, or store near heat or open flames. Do not cut or weld container.

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. 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.

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 on this label about personal protective equipment (PPE), restricted-entry intervals, and notification to workers. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS).

ENTRY RESTRICTION: 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 handling task permitted on this labeling is prohibited from the start of application until 72 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 at entrances to treated areas. The sign must bear the skull and crossbones symbol and state: (1) "DANGER/PELIGRO," (2) "Areas under fumigation, DO NOT ENTER/NO ENTREE," (3) the date and time of fumigation, (4) "TRICLONE II 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.

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

STORAGE, SHIPMENT AND DISPOSAL

SHIPPING, STORAGE: Agricultural Chemical. 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, feed stuffs, 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 1,3-dichloropropene is corrosive under certain conditions, flush oil 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 1,3-dichloropropene 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. Orient 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 or dispose of as directed by State or local regulations.

REFILLABLE CONTAINERS: Follow cleaning and handling directions in the User's Guide.

BULK OR MINI-BULK PRODUCT TRANSFERS: Dry break or dry disconnect couplings are required for all product transfers involving bulk or mini-bulk containers for products containing 1,3-dichloropropene as of September 30, 1993.

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 follow instructions on proper operation of the system found in the "Field Transfers" section of the User's Guide, which must be available on site. Contact your distributor for more information on these materials.

END-ROW SPILLAGE CONTROL: The dispensing system must shut off the food stream when chisels are raised out of the ground. Do not stop or park near any area where drizzle from chisel tips has fallen. The applicator must follow instructions on proper operation and maintenance of the system found in the "Application" section of the User's Guide, which must be available on site. Contact your distributor for more information on these materials.

- A low shutoff device must be placed as close as is technically feasible to the fluid discharge point. This can be a ball, poppet, or diaphragm check valve, or full flow shutoff device such as an electric or pneumatically actuated valve.
- Check valves must be replaced immediately if continuous drip occurs.
- Place check valves above the orifice.
- Isolate the check valve from upstream pressure by installing a main line shut off or bypass valve prior to the manifold.
- Do not exceed 1/4 inch diameter tubing.
- Do not use any method of end-row spillage control other than that stated on this label.
- An alternative to shutoff devices is a purge system which clears the line of all liquid. Consult your product representative for purge system description. Do not use any method of end-row spillage control other than that stated on this label.

WITH ALL BULK AND MINI-BULK CONTAINERS: 1,3-dichloropropene must be transferred through connecting hoses, pipes, and/or couplings sufficiently tight to prevent handlers or other persons from coming in contact with liquid 1,3-dichloropropene.

1. All hoses, piping, and tanks used in connection with 1,3-dichloropropene 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.
3. 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 1,3-dichloropropene product when the transfer is stopped and hose is removed or disconnected. A dry coupler that will minimize pesticide leakage must be installed at the disconnect point.
5. The pressure in hoses used to move 1,3-dichloropropene beyond a pump must not exceed the manufacturer's maximum pressure specification.



Label Column 5

NOTICE: READ THE ENTIRE LABEL. USE ONLY ACCORDING TO LABEL DIRECTIONS BEFORE BUYING OR USING THIS PRODUCT. READ "WARRANTY DISCLAIMER" AND "LIMITATION OF REMEDIES".

WARRANTY DISCLAIMER

The manufacturer 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. THE MANUFACTURER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OF 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 the manufacturer 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 the manufacturer'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. The manufacturer shall not be liable for losses or damages resulting from handling or use of this product unless the manufacturer is promptly notified of such loss or damage in writing. In no case shall the manufacturer be liable for consequential or incidental damages or losses. The terms of the Warranty Disclaimer above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of the manufacturer or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.



DICHLOROPROPENE

RESTRICTED USE PESTICIDE

DUE TO HIGH ACUTE INHALATION TOXICITY AND CARCINOGENICITY
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.

LABEL BOOKLET

Directions for Use Including Storage, Shipment and Disposal; Precautionary Information, Including Requirements for Personal Protective Equipment; Engineering Control and Requirements; and Agricultural Use Requirements.

TRI-CAL TRILONE II

A LIQUID FUMIGANT FOR PREPLANT TREATMENT OF SOIL TO CONTROL PLANT PARASITIC NEMATODES AND CERTAIN OTHER SOIL PESTS IN CROPLAND. NOT FOR USE IN GREENHOUSES OR OTHER ENCLOSED AREAS.

ACTIVE INGREDIENT:	
1,3-Dichloropropene	94.0%
INERT INGREDIENTS:	<u>6.0%</u>
	100.0%

Contains 10.1 pounds of 1,3-Dichloropropene per gallon-

TRICAL

P.O. Box 1327, Hollister CA 95024

E.P.A. EST. 11220-CA-1,2,3,4; FL-1
E.P.A. REG. NO. 11220-01

KEEP OUT OF REACH OF CHILDREN

WARNING AVISO

Peligro: Si Usted no entiende la etiqueta, busque a alguien para que se la explique a Usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

**IN ALL CASES OF OVEREXPOSURE GET
MEDICAL ATTENTION IMMEDIATELY.
TAKE PERSON TO A DOCTOR OR TO AN
EMERGENCY TREATMENT FACILITY.**

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 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 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 causes 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.

See Side Panel For Additional Precautionary Statements

7.2.15

**PRECAUTIONARY STATEMENTS
HAZARD TO HUMANS
AND DOMESTIC ANIMALS:
WARNING**

HAZARDOUS LIQUID AND VAPOR.

- Do not swallow any of this product. May be fatal if swallowed.-
- Do not get in eyes. Causes substantial but temporary eye injury.
- Do not get on skin. May be fatal if absorbed through the skin. Causes skin irritation and, if confined, skin burns. May cause allergic skin reaction.
- Do not breathe vapor. May be fatal if inhaled. 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. This product contains 1,3-dichloropropene, which has been determined to cause tumors in laboratory animals. Risks can be reduced by exactly following directions for use, precautionary statements, and by wearing the personal protective equipment specified in this labeling.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Chemical-Resistant Materials: Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category H on an EPA chemical resistance category selection chart. PPE constructed of Saranex, neoprene, and chlorinated polyethylene provide short-term contact or splash protection against liquid in this product. Longer-term protection is provided by PPE constructed of Viton, Teflon, and EVAL barrier laminates (for example, Responder suits manufactured by Life-guard or Silvershield gloves manufactured by North). Leather, canvas, or cotton materials offer no protection from the product and must not be worn when contact with this product is possible.

(1) **Handlers Performing Direct-Contact Tasks:** Direct-contact tasks are tasks performed outdoors or in a well-ventilated area. They include:

- equipment calibration or adjustment
- equipment cleanup and repair
- product sampling
- any activity less than 6 feet from an unshielded pressurized hose containing this product.
- removal of tarp or plastic film
- rinsate disposal
- fumigant transfer
- clean-up of small spills
- preparing containers for rotation
- any other handling task not otherwise listed in (2), (3), (4), or (5) below.

Handlers performing direct contact tasks must wear: (a) Coveralls over short-sleeved shirt and short pants. (b) Chemical resistant gloves, such as barrier laminate (EVAL) or viton. (c) Chemical-resistant footwear plus socks. (d) Face-sealing goggles, unless full-face respirator is worn. (e) Chemical-resistant headgear for overhead exposure. (f) Chemical-resistant apron. (g) Respirator with either an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G). See further respirator requirements in the "User Safety Requirements" section of the label.

(2) **Handlers in Enclosed Cabs:** Applicators and other handlers in enclosed cabs must wear: (a) Coveralls. (b) Shoes and socks. (c) Plus, if odor or irritation from this product can be detected inside the enclosed cab, handlers in the cab must wear a respirator with either 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). See further respirator requirements in the "User Safety Requirements" section on this label. (d) In addition, the PPE specified in (1) for direct-contact activities must be immediately available in the enclosed cab and must be worn if the handler leaves the enclosed cab to perform any direct-contact activity. The enclosed cab must meet the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides—40 CFR 170.240(d)(5).

(3) **Applicator Outside an Enclosed Cab:** Applicators applying this product (or sealing the soil following application of this product) who are not inside an enclosed cab that meets WPS requirements must wear: (a) Coveralls over short-sleeved shirt and short pants. (b) Chemical-resistant gloves, such as barrier laminate (EVAL) or viton. (c) Chemical-resistant footwear plus socks. (d) Chemical-resistant headgear for overhead exposure. (e) Plus, if odor or irritation from the product can be detected, handlers must wear face-sealing goggles (unless full-face respirator is worn) a respirator with either an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C) or canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G). See further respirator requirements in the "User Safety Requirements" section on this label.

(4) **Handlers in Treated Area Within 72 Hours After Application:** Only the following handler tasks may be performed in the treated area within 72 hours after the application is complete:

- Assessing/adjusting the soil seal
- Assessing pest control, application technique, or application efficiency
- Sampling air or soil for the product

All other tasks are prohibited until the 72-hour period has expired. Unless in an enclosed cab as described in (2) above, handlers performing the above tasks in the treated area within 72 hours after application must wear: (a) Coveralls. (b) Chemical resistant gloves, such as barrier laminate (EVAL) or viton. (c) Chemical-resistant footwear and socks. (d) Plus, if odor or irritation from this product can be detected, handlers must wear a respirator with either an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G). See further respirator requirements in the "User Safety Requirements" section on this label.

See Requirements Continued in Third Column

Requirements, Continued:

(5) **Handlers Exposed to High Concentrations:** Handlers exposed to high airborne concentrations of this product such as cleanup following large spills and exposure to this product in poorly ventilated areas, must wear: (a) Chemical-resistant suit, (b) Chemical resistant gloves, such as barrier laminate (EVAL) or viton, (c) Chemical-resistant footwear plus socks (d) Chemical-resistant headgear, (e) Supplied-air respirator with MSHA/NIOSH approval number prefix TC-19C or self-contained breathing apparatus (SCBA) with MSHA/NIOSH approval number prefix TC-13F. See further respirator requirements in the "User Safety Requirements" section on this label.

Note: In tank cleaning of bulk tanks must be performed only by persons who have been specifically trained for this activity according to OSHA guidelines as described in 29 CFR Part 1910.146. Refer to User's Guide section on storage tanks.

USER SAFETY REQUIREMENTS

- 1. Respirator Requirements:** When a respirator is required for use with this product, the following criteria must be met: (a) Cartridges or canisters must be replaced daily or when odor or irritation from the product becomes apparent, whichever is sooner. (b) Respirators must be fit-tested and fit-checked using a program that conforms to OSHA's requirements (described in 29 CFR Part 1910.134). (c) Respirator users must be trained using a program that conforms to OSHA's requirements (described in 29 CFR Part 1910.134). (d) Respirator users must be examined by a qualified medical practitioner to ensure physical ability to safely wear the style of respirator to be worn.
- 2. Dispose of Contaminated Clothing:** Discard clothing and other absorbent materials that have been drenched or heavily contaminated with liquid from this product. Do not reuse them.
- 3. Clean and Maintain PPE:** Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Wash PPE after each day's use.
- 4. Contact With Mouth:** Never siphon this product by mouth or use mouth to blow out clogged lines, nozzles, etc.
- 5. Heat Illness Avoidance:** Use measures to avoid or minimize heat illness while using this product. These measures include gradual adjustment to heat and respirator stress, fans for cooling, cooling vests, frequent breaks to cool down, frequent intake of drinking water, and maintaining weight from day to day.

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.

EMERGENCY: In case of an emergency endangering health or the environment involving this product, call the 24 Hour Emergency Phone Number (800) 424-9300.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by disposal of equipment washwaters. See "Storage, Shipment and Disposal" section. In case of spill, 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.

PHYSICAL OR CHEMICAL HAZARDS

FLAMMABLE: Do not use, pour, spill, or store near heat or open flames. Do not cut or weld container.

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. 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.

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 on this label about personal protective equipment (PPE), restricted entry intervals, and notification to workers. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS).

ENTRY RESTRICTION: 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 handling task permitted on this labeling is prohibited from the start of application until 72 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 at entrances to treated areas. The sign must bear the skull and crossbones symbol and state: (1) "DANGER-PELIGRO," (2) "Areas under fumigation," (3) "DO NOT ENTER-NO ENTREE," (3) the date and time of fumigation, (4) "TRUQUE: El Fumigante en uso" 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.

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

STORAGE, SHIPMENT AND DISPOSAL

SHIPPING, STORAGE: Agricultural Chemical. 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, feed stuffs, 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 1,3-dichloropropene 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 1,3-dichloropropene 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. Orient 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 or dispose of as directed by State or local regulations.

REFILLABLE CONTAINERS: Follow cleaning and handling directions in the User's Guide.

BULK OR MINI-BULK PRODUCT TRANSFERS: Dry break or dry disconnect couplings are required for all product transfers involving bulk or mini-bulk containers for products containing 1,3-dichloropropene as of September 30, 1993.

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 follow instructions on proper operation of the system found in the "Field Transfers" section of the User's Guide, which must be available on site. Contact your distributor for more information on these materials.

END-ROW SPILLAGE CONTROL: The dispensing system must shut off the feed stream when chisels are raised out of the ground. Do not stop or park near any area where dribble from chisel tips has fallen. The applicator must follow instructions on proper operation and maintenance of the system found in the "Application" section of the User's Guide, which must be available on site. Contact your distributor for more information on these materials.

- A flow shutoff device must be placed as close as is technically feasible to the fluid discharge point. This can be a ball, poppet, or diaphragm check valve, or full flow shutoff device such as an electric or pneumatically actuated valve.
- Check valves must be replaced immediately if continuous drip occurs.
- Place check valves above the orifice.
- Isolate the check valve from upstream pressure by installing a main line shut off or bypass valve prior to the manifold.
- Do not exceed 1/4 inch diameter tubing.
- Do not use any method of end-row spillage control other than that stated on this label.
- An alternative to shutoff devices is a purge system which clears the line of all liquid. Consult your product representative for purge system description. Do not use any method of end-row spillage control other than that stated on this label.

WITH ALL BULK AND MINI-BULK CONTAINERS: 1,3-dichloropropene must be transferred through connecting hoses, pipes, and/or couplings sufficiently tight to prevent handlers or other persons from coming in contact with liquid 1,3-dichloropropene.

1. All hoses, piping, and tanks used in connection with 1,3-dichloropropene 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.
3. 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 1,3-dichloropropene product when the transfer is stopped and hose is removed or disconnected. A dry coupler that will minimize pesticide leakage must be installed at the disconnect point.
5. The pressure in hoses used to move 1,3-dichloropropene beyond a pump must not exceed the manufacturer's maximum pressure specification.

NOTICE: READ THE ENTIRE LABEL. USE ONLY ACCORDING TO LABEL DIRECTIONS BEFORE BUYING OR USING THIS PRODUCT. READ "WARRANTY DISCLAIMER" AND "LIMITATION OF REMEDIES".

WARRANTY DISCLAIMER

The manufacturer 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. **THE MANUFACTURER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OF 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 the manufacturer or the seller. All such risks shall be assumed by buyer.

LIMITATION OF REMEDIES: The manufacturer's liability 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 the manufacturer'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. The manufacturer shall not be liable for losses or damages resulting from handling or use of this product unless the manufacturer is promptly notified of such loss or damage in writing. In no case shall the manufacturer be liable for consequential or incidental damages or losses. The terms of the Warranty Disclaimer above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of the manufacturer or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

GENERAL INFORMATION

TRILONE II is a liquid fumigant for preplant treatment of soil to control plant parasitic nematodes and certain other soil pests and plant diseases in cropland. TRILONE 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 potato), dagger, lance, pin, needle, renkum, ring, root knot, root lesion, sprout, sting and stubby root. TRILONE 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 mel and potatoes and aid in the control of bacterial canker of peaches.

Before fumigation, 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 fumigation 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 fumigation using this product should be conducted only according to directions and conditions of use described in this labeling.

FORMULATOR USE OF 1,3-DICHLOROPROPENE: Labeling for end use products containing 1,3-dichloropropene 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: This product will control pests that are present in the soil treatment zone at time of fumigation. It will not control pests that are introduced into soil after fumigation. 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 bare soil in treated fields and soil contamination from equipment or crop remains. Clean equipment carefully before entering treated fields.

BULK TRANSFERS OR MINIBULK PRODUCT TRANSFERS: Dry break or dry disconnect couplings are required for all product transfers involving bulk containers for 1,3-dichloropropene.

END-ROW SPILLAGE CONTROL: End-row spillage controls are required for all soil applicators of this product.

Do not use containers, pumps or other transfer equipment made of aluminum, magnesium or their alloys, as under certain conditions 1,3-dichloropropene may be severely corrosive to such metals.

EQUIPMENT CLEAN-UP: Because 1,3-dichloropropene 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 residue by incorporation into field just treated or by other approved means. Never introduce residue or unused 1,3-dichloropropene into surface or underground water supplies.

CHEMIGATION: Do not apply 1,3-dichloropropene through any type of irrigation system.

FERTILITY INTERACTIONS: Fumigation 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 fumigant 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 fumigation. 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 degrees F.

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

APPLICATION DIRECTIONS

APPLICATION TIMING: This product 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 this product 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 degrees F and 80 degrees F. In areas where the soil temperature in the spring may not reach 40 degrees F in time to allow application of this product prior to planting, late summer or early fall treatment is recommended.

SOIL MOISTURE: throughout the desired treatment zone should be at or near the permanent wilting point to allow optimum dispersion of the fumigant, 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 fumigated under conditions of higher soil moisture than finer textured soils, however, if the soil moisture is too high, fumigant movement will be retarded and effectiveness of the treatment will be reduced. Previous and/or local experience with the soil to be treated for 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 (e.g., just before a rain), a very light trickle irrigation to wet the top 1 to 2 inches of soil may be useful.

SOIL PREPARATION: The soil should be free of clods. Large clods can prevent effective soil sealing and reduce effectiveness of this product. 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 fumigation. If a certain crop residue should be present on the soil surface, crop residue that is present should be burned prior to the soil to be sealed effectively. Compacted soil layers within the desired treatment zone should be broken and before or during application of the fumigant. Deviation from these conditions may result in unsatisfactory results.

PLACEMENT OF FUMIGANT: This product may be applied as either a broadcast (cover) or row treatment. It must be placed at least 30 inches below the soil surface. When soil conditions allow, placement a minimum of 12 inches below the final soil surface is recommended. Deeper placement is recommended when fumigating soil to be planted to trees, shrubs, perennials, asparagus, and bulb crops, or to control deeply distributed pests.

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 fumigation when the soil still contains some standing undecomposed 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 fumigant 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 a 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 product at the flow rates given in Table 2. When two chisel per plant row are used, space the chisels (fumigant outlets) 5 to 12 inches apart and divide the flow rates given in the Application Table equally between the two outlets. Regardless of the number of chisels used, the amount of fumigant 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 fumigant applied per acre exceed the gallons per acre rates for broadcast treatment given in Table 1. To determine the amount (gallons) of product 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 fumigant 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 chisel(s). 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 the product, the soil should be "sealed" to prevent fumigant loss and ensure that an effective concentration of fumigant is maintained within the soil for a period of several days.

For Broadcast Treatment (fall fumigation). 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 fumigant. 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 fumigant 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 manner that places the fumigant at least 12 inches from the nearest soil/air interface. The closest soil/air interface could be the furrow for multiple knife applications or the top of the bed for single knife applications. Row treatments into preformed beds should be sealed by disrupting the chisel trace using press sealers, ring rollers or by reforming the beds and following with such equipment.

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 unless simultaneous application and tarp laying by the same piece of equipment occurs and the tarp is a minimum of 1 mil thick.

Proper soil conditions at the time of application (see Soil Preparation section) are important to ensure proper placement of fumigant (see Placement of Fumigant section) and to obtain 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 fumigant. 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 with 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 the product is no longer evident at the application depth. Seed may be used as a bioassay to determine if the product is present in the soil at concentrations sufficient to cause plant injury. Do not plant if the odor of the product is present within the zone of fumigation.

APPROVED USES

CONTROL OF NEMATODES: TRILONE II is recommended for control of nematodes in soils to be planted to various crops including those listed below. Refer to Tables 1 and 2 for broadcast and row treatment application rates and specific use requirements. Refer to Table 3 to determine flow rates for specific row spacing.

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.

Vegetable Crops

asparagus	corn	musk (1)	okra
beans	crowders	mustard greens (1)	potatoes
beets, red	cucumbers (1)	okra	spinach
black-eyed peas	eggplant	onions	squash (summer)
broccoli (1)	eggplant	parsnips	squash (winter)
Brussels sprouts (1)	garlic	peas	swamp potatoes (1)
cabbage (1)	horseradish	peppers	tomatoes
carrots (1)	kale	potatoes	turnips (1)
carrots	kohlrabi	pumpkins (1)	winter squash (1)
cauliflower (1)	onions	radishes (1)	
celery	potatoes		
cucumbers	spinach		

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Field Crops:

alfalfa	flax	mint	sorghum
barley	grasses	oats	soybeans
birdsfoot trefoil	hops	pasture grass	sugar beets
buckwheat	kenaf	peanuts (1)	sugarcane
clover	lespedeza	popcorn	tobacco (1)
corn	millet	rye	velch
cotton (1)	milo	safflower	wheat

Fruit and Nut Crops:

almonds (4)	currants	lemons (4)	plums (4)
apples	dates	limes (4)	pomegranates
apricots	dewberries	loganberries	prunes (4)
bananas	figs	nectarines	quince
blackberries	gooseberries	olives	raspberries
blueberries	grapefruit (4)	oranges (4)	strawberries
boysenberries	grapes (4)	peaches (4)	tangarines (4)
cashew nuts	hazelnuts	pears	tangelos (4)
cherries	hickory nuts	pecans	walnuts (4)
chestnuts	huckleberries	persimmons	youngberries
cranberries	kumquats	pineapple (3)	

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

	(Gallons/Acre)		(Gallons/Acre)
Crop (1)	12	Crop (3)	42
Crop (2)	15	Crop (4)	55

Nursery Crops:

Including 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, this product may be used in the production of certified nursery stock.

TABLE 1
Broadcast Treatment Rates for Nematode Control (a)

Crop	Soil Type or Texture	Recommended Rate	
		Broadcast Gal/Acre	Fl Oz/1000 Ft 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 See Footnotes (5), (7), (8), (9), (10)	Sand	27 - 33	79 - 97
	Sandy Loam	36 - 48	105 - 141
	Silt Loam	63 - 75	175 - 225
	Clay Loam	84 - 102	247 - 330

(a) For crops identified by footnotes (1), (2), (3), or (4) listed above, do not exceed specified maximum broadcast application rate.

(1) Flow 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.

(2) POTATOES: 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 nematocide. 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 Counties of California, refer to the supplemental labeling entitled: "For Nematode and Wireworm Control in Potatoes" for directions for uses.

In all other areas use 9 to 18 gallons 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 chlamyidi* 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.

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

(4) FOR CYST FORMING NEMATODES: Use 18 gallons per acre (53 fl oz/1000 ft/outlet).

(5) Greater than 20% organic matter content.

(6) PINEAPPLE: 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.

(7) STRAWBERRIES: For broadcast fumigation of mineral soils only, apply 24 to 36 gallons per acre.

(8) TREE PLANTING SITES: Use 24 fl oz (1.5 parts) by application of this product 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 or hastily 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 open-tube auger. For best results, prepare and treat planting sites in the fall and plant in the spring.

(9) FOR CHALLENGE-ROOTED PLANTS GROWN UNDER ONE YEAR: Use 15 to 27 gallons per acre (44 to 79 fl oz/1000 ft of row/outlet).

(10) TREES: For the use of this product in the control of pre-planting root-knots at least 12 inches deep. For buffers with existing grooves or for tree planting sites with existing grooves, apply with a 5-foot diameter boom. Keep the final free of plants susceptible to this nematode for at least two years before planting trees.

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TABLE 2
Row Treatment Rates for Nematode Control
Using a Single Chisel per Row (1)

Crop	Soil Texture (2)	Recommended Rate
		Fl Oz/1000 Ft. of Row (3)
Vegetable Crops	Mineral(3)	52 - 106
	Muck and Peat	142 - 212
Field Crops (4)(5)	Mineral	52 - 106
	Muck and Peat	142 - 212
Fruit, Nut, and Nursery Crops (6)	Mineral	52 - 106
	Muck and Peat	142 - 212

- (1). For row spacing of 24 inches or less apply this product as a broadcast treatment (See Table 1 for rates).
- (2). For a description of soil textures see footnote (3) under Table 1.
- (3). To determine actual gallons per acre needed for various row spacings see Table 3.
- (4). SUGAR BEETS: To control sugar beet cyst nematode, use 93 fl oz/1000 ft. of row.
- (5). Row treatment is not recommended for potatoes in irrigated areas of western and northwestern states.
- (6). PINEAPPLES: To control renform 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 fumigant applied per acre exceed the gallons per acre rates for broadcast treatment given in Table 1

Fl Oz/ 1000 Ft of Row	Plant Row Spacing (Inches)												
	26	28	30	32	34	36	38	40	42	44	46	48	50
12	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
14	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
16	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
18	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
20	13.2	12.3	11.4	10.7	10.1	9.5	9.0	8.6	8.2	7.8	7.5	7.3	6.9
22	14.4	13.4	12.5	11.7	11.0	10.4	9.9	9.4	8.9	8.5	8.2	7.9	7.5
24	15.7	14.6	13.5	12.7	12.0	11.3	10.7	10.2	9.7	9.3	8.9	8.6	8.2
26	17.0	15.8	14.7	13.8	13.0	12.2	11.6	11.0	10.5	10.2	9.6	9.3	8.9
28	18.2	16.9	15.8	14.8	14.0	13.2	12.5	11.8	11.3	10.8	10.3	9.7	9.3
30	19.5	18.1	16.9	15.8	14.9	14.1	13.3	12.7	12.1	11.5	11.0	10.4	10.1
32	20.7	19.3	18.0	16.8	15.8	15.0	14.2	13.5	12.8	12.2	11.7	11.2	10.6
34	22.0	20.4	19.1	17.9	16.8	15.9	15.0	14.3	13.5	13.0	12.4	11.9	11.4
36	23.2	21.6	20.1	18.9	17.8	16.9	15.9	15.1	14.4	13.7	13.1	12.6	12.1
38	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
40	25.8	23.9	22.3	20.9	19.7	18.6	17.6	16.7	15.9	15.2	14.5	13.9	13.4
42	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
44	28.3	26.3	24.5	23.0	21.8	20.4	19.3	18.4	17.5	16.7	16.0	15.3	14.7
46	29.5	27.4	25.5	24.0	22.6	21.3	20.2	19.2	18.3	17.4	16.7	16.0	15.3
48	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
50	32.0	29.8	27.8	26.0	24.5	23.1	21.9	20.8	19.9	18.9	18.1	17.4	16.7
52	33.3	30.9	28.9	27.0	25.5	24.0	22.8	21.6	20.6	19.7	18.8	18.1	17.4

(1) Refer to Table 2 for the rate needed for a specific crop and soil texture.
To obtain the gallons per acre used for a row spacing not shown in this table, use the following equation:
$$\text{Fl oz/1000 ft. of row} \times \frac{43,750}{\text{row spacing (inches)}} = \text{gallons per acre}$$

$$\text{Fl oz/1000 ft. of row} \times \frac{43,750}{120} = \text{gallons per acre}$$

Plant Diseases

BACTERIAL CANKER OF PEACHES - This product 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 (153 fl oz/1000 ft row per outlet) preferably in the fall when the soil is warm (55 to 60 degrees F. at injection depth) and moist. Inject the fumigant at a depth of 10 to 12 inches with chisel mounted on 12 inch centers.

FUSARIUM WILT OF COTTON - The effects of this disease can be suppressed by culturing the root knot nematodes associated with this disease/nematode complex. Use this product as a row treatment at the rate of 45 to 106 fl oz/1000 ft of row. The lower rate is suitable for mineral soils whereas the higher rate should be used for heavier soils.

SUGAR BEET RHIZOMANIA DISEASE - Use this product to suppress the effects of this disease by preplant application at the rate of at least 73.5 fl oz/1000 ft of plant row but not more than 132 fl 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 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. This product 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, roll 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 this product as a broadcast treatment. For mint, use 59 gallons per acre (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 CENT BEETLE) - Use this product for treatment of soil to be planted to crops where these pests have been shown to be a problem. Apply the fumigant only as a broadcast treatment at the rate of 18 to 36 gallons per acre (53 to 106 fl oz/1000 ft row width) when soil temperature is warm (55 to 80 degrees F) at the application depth.

REFORM - Use this product for the use of soil to be planted to crops where nematodes have been shown to be a problem. Apply the fumigant 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 additional information on the use of this product in Florida, contact the Florida Department of Agriculture, Bureau of Plant Industry, 1905 E. University Avenue, Gainesville, Florida 32608. For information on the use of this product in other states, contact the Florida Department of Agriculture, Bureau of Plant Industry, 1905 E. University Avenue, Gainesville, Florida 32608.