



011220-00001-062599

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Systems Integration Group, Inc.



PM 21

11220-1

6-25-99

1 of 2

Acceptance Stamp on pg. 5 of 10
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

JUN 25 1999

Mardel Rose Belotinsky
Regulatory Affairs Specialist
TriCal, Inc.
P.O. Box 1327
Hollister, CA 95024-1327

SUBJECT: Review of Amended Labeling
✓ Tri-Cal Trilone II EPA Reg. No. 11220-1
Tri-Form 15 EPA Reg. No. 11220-15
Telone C-15 EPA Reg. No. 11220-20
Your Submissions Dated 01/22/99 and 01/25/99

Dear Ms. Belotinsky:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, are acceptable subject to the following conditions:

1. For purposes of microfilming the labels, the Agency requires the registrants to submit labels using 8½" X 11" paper. Do not submit folded labeling that is larger than 8½" X 11" on ~~8½" X 11"~~ paper. In the future, please submit your labeling using 8½" X 11" paper.
2. In the label booklets under '**APPLICATION DIRECTIONS, SOIL CONDITIONS, SOIL MOISTURE**' section, you may want to revise the third sentence to reflect the changes made on the Telone II label as follows "For application depths greater than 18 Inches, the soil should be moist within a 16 inch radius upwards from the point of injection as determined by the feel method (see below). For all other applications, the soil must be moist from two inches below the soil surface to at least 12 inches deep."
3. Delete all references to the supplemental labeling entitled "For Nematode and Wireworm Control in Soils to be Planted to Potatoes or Onions" because no such supplemental labeling exists for the subject products. If you want to add directions for use for these uses/pests for specific States, then you must submit revised labeling and label booklet.

4. Tri-Cal Trilone II (EPA Reg. No. 11220-1) Label Booklet

- a. Modify the second sentence of the fourth footnote under **TABLE 2** from "70/2" to "70 fl oz".
- b. In regards to the "**SPOT OR TREE SITE TREATMENT**" section on the August 17, 1998 label booklet, this language is acceptable provided the following statement is added to this section: "For buffers within existing groves or for tree planting sites within existing groves, do not apply within 5 feet of living trees." Please note this section was not on the 01/25/99 label booklet.

5. Tri-Form 40/60 (EPA Reg. No. 11220-15) Label Booklet

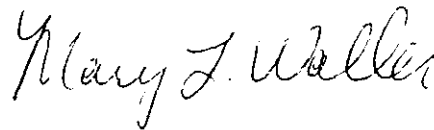
- a. Under the Ingredients statement, change "4.5 pounds" to "4.8 pounds" or justify the decrease.
- b. Modify the second sentence of the third footnote under **TABLE 2** from "100.4/2" to 100.4 fl oz".

6. Telone C-15 (EPA Reg. No. 11220-20)

Modify the second sentence of the third footnote under **TABLE 2** from "100.4/2" to 100.4 fl oz".

Stamped copies of the labeling and label booklets for the subject products are enclosed for your records. Please submit one (1) copy of each of your final printed labeling and label booklet for the subject products before you release the products for shipment. Your release for shipment of these products constitutes acceptance of the above conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA Section 6(e). If you have any questions, then please contact Terri Stowe of my staff at (703) 305-6117.

Sincerely,



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

Enclosures

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
AND DOMESTIC ANIMALS:
WARNING AVISO
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, Jelflon, and EVAL barrier laminates (for example, Responder suits manufactured by LifeGuard or SilverShield gloves manufactured by North). Where chemical-resistant materials are required, leather, canvas, or other materials offer no protection from this product and must not be worn when contact with this product is possible. Coveralls must be loose-fitting and constructed of woven fabrics (e.g. tight knit cotton or cotton/polyester), non-woven fabrics (e.g. Tyvek or Sontara), or fabrics containing microporous Teflon.

(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 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) A half-face respirator with an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P or HE prefilter. See further respirator requirements in the "User Safety Requirements" section of this label.

(2) Handlers in Enclosed Cabs: Applicators and other handlers in enclosed cabs must wear: (a) Coveralls. (b) Shoes and socks. (c) A half-face respirator with an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P or HE prefilter. A respirator is not required if the occupants are within an enclosed cab that is in conformance with one of the following: 1) ASAE Standard S225 sections 7.1.5, 7.1.7, 7.2.3, and 9, or 2) the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides—40 CFR 170.240(d)(5). The cab must be equipped with a vapor-adsorptive filter containing a minimum of 1000 grams activated charcoal. The filter must be changed after no more than 50 hours of application time. See further respirator requirements in the "User Safety Requirements" section of 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.

(3) Applicators Outside an Enclosed Cab: Applicators applying this soil fumigant (or sealing the soil following application of this product) who are not inside an enclosed cab that meets requirements specified above 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) A respirator with an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P or HE prefilter. See further respirator requirements in the "User Safety Requirements" section of this label.

(4) Handlers in Treated Area Within 5 days After Application: Only the following handler tasks may be performed in the treated area within 5 days 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 5 day period has expired. Unless in an enclosed cab as described in (2) above, handlers performing the above tasks in the treated area within 5 days after application must wear: (a) Coveralls. (b) Chemical resistant gloves, such as barrier laminate (EVAL) or Viton. (c) Chemical-resistant footwear and socks. (d) A respirator with an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P or HE prefilter. See further respirator requirements in the "User Safety Requirements" section of this label.

(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 of this label.

Notes: 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 OSHA 29 CFR Part 1910.146. Refer to section on storage tanks in the manual "Telone Soil Fumigant - A Guide to Application," a guide for products containing 1,3-Dichloropropene.

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 there are 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.

5 of 24

ACCEPTED
with COMMENTS
In EPA Letter Dated:

Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No. 11220-1

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.

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%
INERT INGREDIENTS:	6%
TOTAL:	100%

One gallon of Trilone II weighs 10.1 lbs. at 70 degrees Fahrenheit.

KEEP OUT OF REACH OF CHILDREN WARNING AVISO

AVISO: 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 EXPOSURE,
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 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.

See side panel for additional precautionary statements.



P. O. Box 1327
Hollister, CA 95024

EPA Est. 11220-CA-1,2,3,4;FL-1
EPA Reg. No. 11220-01

NET CONTENTSLBS.

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 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. Do not apply within 100 feet of any well used for potable water. Do not apply in areas overlying karst geology. In North Dakota, South Dakota, Wisconsin, Minnesota, New York, Maine, New Hampshire, Vermont, Massachusetts, Utah, and Montana: Where groundwater aquifers exist at a depth of 50 feet or less from the surface, do not apply this product where soils are Hydrologic Group A.

PHYSICAL OR CHEMICAL HAZARDS

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

8 of 24

DIRECTIONS FOR USE

Read all Directions for Use carefully before applying. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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 manual "Telone Soil Fumigant - A Guide to Application", a guide for products containing 1,3-Dichloropropene.

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 in the manual "Telone Soil Fumigant - A Guide to Application", a guide for products containing 1,3-Dichloropropene. Contact your distributor for more information or to obtain 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 in the manual "Telone Soil Fumigant - A Guide to Application", a guide for products containing 1,3-Dichloropropene. Contact your distributor for more information or to obtain 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.

WITH ALL BULK AND MINI-BULK CONTAINERS: 1,3-dichloropropene must be transferred through connecting hoses, pipes, and/or couplings sufficiently tight to prevent workers 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.

9 of 24

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

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 wheat), dagger, lance, pin, needle, reniform, ring, root knot, root lesion, spiral, 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 mint 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.

NOTICE: READ THE ENTIRE LABEL. USE ONLY ACCORDING TO LABEL DIRECTIONS. BEFORE BUYING OR USING THIS PRODUCT, READ "WARRANTY DISCLAIMER" AND "LIMITATION OF REMEDIES". REFER TO LABEL BOOKLET FOR ADDITIONAL PRECAUTIONARY INFORMATION AND DIRECTIONS FOR USE.

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.

1 Def 24

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. Any product formulated from this product and/or any product which is formulated from the repackaging of this product must be labeled only as a pre-plant soil injected and/or a soil fumigant product. Each formulator is responsible for obtaining EPA registration for each end use product.

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 tare soil in treated fields and soil contamination from equipment or crop remains. Clean equipment carefully before entering treated fields.

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 rinsate by incorporation into field just treated or by other approved means. Never introduce rinsate 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, liming 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.

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.

11 of 24

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%
INERT INGREDIENTS:	6%
TOTAL:	100%

One gallon of Trilone II weighs 10.1 lbs. at 70 degrees Fahrenheit

LABEL BOOKLET

**DIRECTIONS FOR USE, INCLUDING STORAGE, SHIPMENT AND DISPOSAL;
PRECAUTIONARY INFORMATION, INCLUDING REQUIREMENTS FOR PERSONAL
PROTECTIVE EQUIPMENT; ENGINEERING CONTROLS REQUIREMENTS; AND
AGRICULTURAL USE REQUIREMENTS.**



Trical, Inc.
P. O. Box 1327
Hollister, CA 95024

EPA Est. 11220-CA-1,2,3,4;FL-1
EPA Reg. No. 11220-01

NET CONTENTSLBS.

KEEP OUT OF REACH OF CHILDREN

WARNING AVISO

AVISO: 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 EXPOSURE,
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 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.

Page 24

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
AND DOMESTIC ANIMALS:
WARNING AVISO
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 Lifeguard or Silvershield gloves manufactured by North). Where chemical-resistant materials are required, leather, canvas, or cotton materials offer no protection from this product and must not be worn when contact with this product is possible. Coveralls must be loose-fitting and constructed of woven fabrics (e.g. tight knot cotton or cotton/polyester), non-woven fabrics (e.g. Tyvek or Sontara), or fabrics containing microporous Teflon.

(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 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) A half-face respirator with an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P or HE prefilter. See further respirator requirements in the "User Safety Requirements" section of this label.

(2) Handlers in Enclosed Cabs: Applicators and other handlers in enclosed cabs must wear: (a) Coveralls. (b) Shoes and socks. (c) A half-face respirator with an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P or HE prefilter. A respirator is not required if the occupants are within an enclosed cab that is in conformance with one of the following: 1) ASAE Standard S525 sections 7.1.5, 7.1.7, 7.2.3, and 9; or 2) the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides—40 CFR 170.240(d)(5). The cab must be equipped with a vapor-adsorptive filter containing a minimum of 1000 grams activated charcoal. The filter must be changed after no more than 50 hours of application time. 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.

(3) Applicator Outside an Enclosed Cab: Applicators applying this soil fumigant (or sealing the soil following application of this product) who are not inside an enclosed cab that meets requirements specified above 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) A respirator with an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P or HE prefilter. See further respirator requirements in the "User Safety Requirements" section on this label.

(4) Handlers in Treated Area Within 5 days After Application: Only the following handler tasks may be performed in the treated area within 5 days 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 5 day period has expired. Unless in an enclosed cab as described in

(2) above, handlers performing the above tasks in the treated area within 5 days after application must wear:

(a) Coveralls. (b) Chemical resistant gloves, such as barrier laminate (EVAL) or Viton. (c) Chemical-resistant footwear and socks. (d) A respirator with an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P or HE prefilter. See further respirator requirements in the "User Safety Requirements" section on this label.

(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 OSHA 29 CFR Part 1910.146. Refer to section on storage tanks in the manual "Telone Soil Fumigant - A Guide to Application", a guide for products containing 1,3-Dichloropropene.

13 of 24

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 there are 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.

14 of 24

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.

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. Do not apply within 100 feet of any well used for potable water. Do not apply in areas overlying karst geology. In North Dakota, South Dakota, Wisconsin, Minnesota, New York, Maine, New Hampshire, Vermont, Massachusetts, Utah, and Montana, where groundwater aquifers exist at a depth of 50 feet or less from the surface, do not apply this product where soils are Hydrologic Group A.

PHYSICAL OR CHEMICAL HAZARDS

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

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

DIRECTIONS FOR USE

Read all Directions for Use carefully before applying. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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 rinsate 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 manual "Telone Soil Fumigant - A Guide to Application", a guide for products containing 1,3-Dichloropropene.

15 of 24

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 in the manual "Telone Soil Fumigant - A Guide to Application", a guide for products containing 1,3-Dichloropropene. Contact your distributor for more information or to obtain 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 in the manual "Telone Soil Fumigant - A Guide to Application", a guide for products containing 1,3-Dichloropropene. Contact your distributor for more information or to obtain 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.

WITH ALL BULK AND MINI-BULK CONTAINERS: 1,3-dichloropropene must be transferred through connecting hoses, pipes, and/or couplings sufficiently tight to prevent workers 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.

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 5 days 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) "TRILONE 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 REENTRY 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.

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. Any product formulated from this product and/or any product which is formulated from the repackaging of this product must be labeled only as a pre-plant soil injected and/or a soil fumigant product. Each formulator is responsible for obtaining EPA registration for each end use product.

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 tare soil in treated fields and soil contamination from equipment or crop remains. Clean equipment carefully before entering treated fields.

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 rinsate by incorporation into field just treated or by other approved means. Never introduce rinsate 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, liming 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.

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.

170/24

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 wheat), dagger, lance, pin, needle, reniform, ring, root knot, root lesion, spiral, 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 mint 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.

APPLICATION DIRECTIONS

APPLICATION TIMING

TRILONE 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 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:** It is critical to manage soil moisture properly before fumigation. Plan fumigation for seasons, crop rotations, or irrigation schedules which leave moisture in the soil. The soil must be moist from two inches below the soil surface to at least 12 inches deep as determined by the feel method (see below). The amount of moisture needed in this zone will vary according to soil type. The surface soil generally dries very rapidly and should not be considered in this determination. If there is insufficient moisture at the two to six inch depth, the soil moisture must be adjusted. If irrigation is not available and there is adequate soil moisture below six inches, it may be brought to the surface by disking or plowing before or during the injection. To conserve existing soil moisture, pretreatment or treatment tillage practices should be done as close to the time of application as possible.

For fields with more than one soil texture, soil moisture content in the lightest textured (most sandy) areas must comply with this soil moisture requirement. Whenever possible, the field should be divided into areas of similar soil texture and the soil moisture of each area should be adjusted as needed. 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 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 irrigation is available and 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 used to bring soil moisture content to the desired level.

The following descriptions will aid in determining acceptable soil moisture conditions by the "feel method". For coarse soils (sand and loamy sand), there must be enough moisture to allow formation of a weak ball when compressed in the hand. Due to soil texture, this ball is easily broken with little disturbance. In loamy, moderately coarse, or medium textured soils (coarse sandy loam, sandy loam, and fine sandy loam), a soil sample with the proper moisture content can be formed into a ball which holds together with moderate disturbance, but does not stick between the thumb and forefinger. Fine textured soils (clay loam, silty clay loam, sandy clay, silty clay, sandy clay loam and clay), should be pliable and not crumbly, but should not form a ribbon when compressed between the thumb and forefinger.

18 of 24

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. 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 fumigant. Deviation from the above conditions may result in unsatisfactory results.

PLACEMENT OF FUMIGANT

This product may be applied as either a broadcast (overall) or row treatment. It must be placed at least 12 inches below the final soil surface. When soil conditions allow, placement a minimum of 14 inches below the final soil surface is recommended. Deeper placement is recommended when fumigating soil to be planted to deep-rooted plants, such as perennial fruit and nut crops, or to control deeply distributed pests. For row application, the fumigant must be placed at least 12 inches from the nearest soil/air interface (e.g. furrow).

19 of 24

APPLICATION METHODS AND EQUIPMENT

BROADCAST APPLICATION

Use chisel (shank), offset wing 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 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 (for row spacing greater than 24 inches)

Use chisel equipment to treat a band of soil where the crop is to be planted, i.e. the plant row. In general, when one chisel is used, apply product at twice the flow rates given in Table 1. When multiple chisels per plant row are used, space the chisels (fumigant outlets) 8 to 12 inches apart and use the flow rates given in Table 1 per outlet (see footnote 1, Table 2). Regardless of the number or spacing of chisels used, the fumigant must be placed at least 12 inches from the nearest soil/air interface (e.g. furrow). 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 maximum gallons per acre rates 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 2. 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 must 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 (flat 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, cuttacker or roller in combination with tillage equipment. Compaction of the soil surface alone does not effectively disrupt 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 (e.g. furrow). 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 must 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. 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 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.

BUFFER ZONE

An application of this product shall not be made within 300 feet of an occupied structure, such as a school, hospital, business or residence. No person shall be present at this structure at any time during the seven consecutive day period following application. This buffer zone does not apply to use on soils to be planted with perennial crops that will not experience additional 1,3-dichloropropene treatment for at least three years, for example pineapple, perennial vines, hops, mint, fruit and nut trees.

2/2/99

APPROVED USES

CONTROL OF NEMATODES

TRILONE II is recommended for control of nematodes in soils to be planted to vegetable crops, field crops, fruit and nut crops, and nursery crops. Refer to Table 1 for broadcast application rates and to Table 2 for row treatment flow rates for specific row spacings.

Maximum application rates for nematode control (except cyst nematode) in mineral soils for the following crop groups:

	(Gallons/acre)
Vegetable crops ¹	12
Field Crops ²	12
Fruit and Nut Crops ³	35
Nursery Crops ⁴	55

Crop	Soil Type or Texture	Broadcast Gallons/Acre	Application Rates ^(b) Fl oz per/1000' of Row/Outlet ¹
Vegetable Crops ²	Mineral ³	9 to 12 ⁴	26 to 35
	Muck or Peat ⁵	25	74
Field Crops	Mineral	9 to 12	26 to 35
	Muck or Peat	18	53
Fruit and Nut Crops ^{6,7,8}	Mineral	27 to 35	79 to 103
Nursery Crops ⁹	Mineral	42 to 55	124 to 162

^(a)Do not exceed specified maximum application rates.

^(b)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 = 0.245 x rate in gallons/acre x outlet spacing in inches. For row treatment refer to Table 2.

¹Potatoes: 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. Row treatment is not recommended for potatoes in irrigated areas of western and northwestern states. In Idaho, Nevada, Oregon, Utah, and Washington, and in Modoc and Siskiyou counties of California refer to supplemental labeling entitled: "For Nematode and Wireworm Control in Soils to be Planted to Potatoes or Onions" for directions for use.

²Mineral soil includes sand, sandy loam, silt, and clay loam. Use the higher rates for finer textured (heavier) soils.

³For cyst-forming nematodes use 18 gallons per acre (53 fl oz/1000 ft/outlet).

⁴Greater than 20% organic matter content.

⁵Pineapple: 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.

⁶Tree Planting Sites: Use 24 fl oz (1.5 pints) of product 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 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.

⁷For shallow-rooted plants grown only one year, use 15 to 27 gallons per acre (44 to 79 fl oz/1000 ft of row/outlet).

⁸Citrus: For burrowing nematode control, inject product 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.

ACCEPTED
with COMMENTS
In EPA Letter Dated:

JUN 25 1999

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

11,220-1

22 of 24

PLANT DISEASES

Bacterial Canker of Peaches: To aid in the control of this disease apply TRILONE II as a preplant broadcast treatment to light (sandy) soils at the rate of 35 gallons per acre (103 fl oz/1000 ft row/outlet), preferably in the Fall, when the soil is warm (55 to 80 degrees F at injection depth) and moist. Inject the fumigant at a depth of 12 to 14 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 product as a row treatment at the rate of 12 gallons per acre (35 fl oz/1000 ft row/outlet).

Sugar Beet Rhizomania Disease: Use TRILONE II to suppress the effects of this disease by preplant broadcast application at the rate of 10 to 18 gallons per acre broadcast equivalent (29 to 53 fl oz/1000 ft row/outlet). Use the higher rates for heavier (finer textured) soils and/or for higher levels of disease infestation. TRILONE II is believed to reduce the activity of *Polymyxa beta*, which has been identified as the vector of the Rhizomania disease virus.

Verticillium Wilt of Mint: To aid in the control of this disease, apply TRILONE II as a broadcast treatment at 25 to 30 gallons per acre (73 to 88 fl oz/1000 ft outlet) in the Spring, or preferably in the Fall.

TABLE 2
Rate Conversion Chart for Various Row Spacings
And Fumigant Flow Rates^(a)

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' of Row	Plant Row Spacing (inches)								
	28	32	36	40	44	48	52	56	60
	Gallons Per Acre								
52	7.6	6.6	5.9	5.3	4.8	4.4	4.1	3.8	3.5
60	8.8	7.7	6.8	6.1	5.6	5.1	4.7	4.4	4.1
68	9.9	8.7	7.7	6.9	6.3	5.8	5.3	4.9	4.6
76	11.1	9.7	8.6	7.8	7.0	6.5	6.0	5.5	5.2
84	12.3	10.7	9.5	8.6	7.8	7.1	6.6	6.1	5.7
92	13.4	11.7	10.4	9.4	8.5	7.8	7.2	6.7	6.3
100	14.6	12.8	11.3	10.2	9.3	8.5	7.8	7.3	6.8
108	15.8	13.8	12.2	11.0	10.2	9.2	8.5	7.9	7.3
116	16.9	14.8	13.2	11.8	10.8	9.9	9.1	8.5	7.9
124	18.1	15.8	14.1	12.7	11.5	10.5	9.7	9.0	8.4
132	19.3	16.8	15.0	13.5	12.2	11.2	10.4	9.6	9.0
140	20.4	17.9	15.9	14.3	13.0	11.9	11.0	10.2	9.5
148	21.6	18.9	16.8	15.1	13.7	12.6	11.6	10.8	10.1
156	22.8	19.9	17.7	15.9	14.5	13.3	12.2	11.4	10.6
164	23.9	20.9	18.6	16.7	15.2	13.9	12.9	11.9	11.2
172	25.1	21.9	19.5	17.6	16.0	14.6	13.5	12.5	11.7
180	26.3	23.0	20.4	18.4	16.7	15.3	14.1	13.1	12.2
188	27.4	24.0	21.3	19.2	17.4	16.0	14.8	13.7	12.8
196	28.6	25.0	22.2	20.0	18.2	16.7	15.4	14.3	13.3
204	29.8	26.0	23.1	20.8	18.9	17.4	16.0	14.9	13.9
212	30.9	27.0	24.0	21.6	19.7	18.0	16.6	15.4	14.4

^(a)Do not exceed specified maximum application rates.

For row spacing of 24 inches or less, apply as a broadcast treatment. For treatments with row spacing greater than 24 inches, refer to Table 1 for the rate needed for a specific crop and/or soil texture. To determine gallons per acre for row treatments, double the flow rate in Table 1 and look up the corresponding gallons per acre in Table 2.

For single chisel applications: the flow rates are double those listed in Table 1. For example, for vegetable crops in mineral soil, the flow rate for a single chisel row treatment is 52 to 70 fl oz per 1000 ft of row (note the broadcast rate is 26 to 35 fl oz per 1000 ft of row).

For multiple chisel applications: use the flow rate given in Table 1 per outlet. For example, for vegetable crops in mineral soil using 2 chisels per row, the flow rate per outlet is 52 to 70 fl oz or 26 to 35 fl oz per 1000 ft of row per outlet.

To obtain the gallons per acre used for a row spacing not shown in this table, use the following equation:

$$\frac{\text{fl oz/1000 ft of row}}{\text{row spacing (inches)}} \times 4.08 = \text{gallons per acre}$$

$$4.08 = \frac{12 \text{ inches} \times 43.56 \text{ (no. 1000 ft/acre)}}{128 \text{ (fl oz per gallon)}}$$

SOIL INSECTS

Symphylans (Garden Centipedes): Use TRILONE II 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 35 gallons per acre (53-103 fl oz/1000 ft row/outlet) when soil temperature is warm (55 to 80 degrees F) at the application depth.

Wireworms: Use TRILONE II for treatment of soil to be planted to crops where these pests have been shown to be a problem. Apply the fumigant as a broadcast treatment at 20 gallons per acre by injection at least 14 inches below the final soil surface.

For wireworm control in Idaho, Nevada, Oregon, Utah, and Washington, and in Modoc and Siskiyou counties of California refer to supplement labeling entitled: "For Nematode and Wireworm Control in Soils to be Planted to Potatoes or Onions" for directions for use.

ADDITIONAL USE RESTRICTIONS FOR TRILONE II IN CERTAIN FLORIDA COUNTIES

NOTE

Additional use restrictions listed below apply to the following Florida counties: Brevard, Broward, Charlotte, Citrus, Collier, DeSoto, Glades, Hardee, Hendry, Hernando, Highlands, Hillsborough, Indian River, Lake Lee, Manatee, Martin, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, Sarasota, Seminole, St. Lucie, Sumter, and Volusia. For all Florida counties, follow the label affixed to product container for TRILONE II.

Additional Use Restrictions

- Use TRILONE II only on soils that have a relatively shallow hard pan or soil layer restrictive to downward water movement (such as spodic horizon) within six feet of the ground surface and are capable of supporting seepage irrigation regardless of irrigation method employed.
- Use standard chisel injection equipment to inject TRILONE II as deep as possible without placing the fumigant directly into the shallow subsurface irrigation water.
- TRILONE II may not be applied within 100 feet of drinking water wells.
- For retail sale and use only by applicators who have completed the company training program or persons under their direct supervision.