



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

OCT 31 2000

Ms. Kari Mavian
Cheminova Inc.
Oak Hill Park
1700 Route 23, Suite 300
Wayne, NJ 07470

Subject: Cyren 2 TC
EPA Registration No. 67760-31
Resubmission dated October 23, 2000

Dear Ms. Mavian:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable provided that you make the labeling changes indicated below before you release the product for shipment bearing the amended labeling:

1. On page 2 under the heading "Personal Protective Equipment" you must add the item "socks" after "chemical resistant footwear".

It is to be noted that efficacy data for structural pest control at all labeled use rates will be required during product specific reregistration. A copy of the labeling stamped "Accepted With Comments" is enclosed for your records. Submit two copies of your final printed labeling before you release the product for shipment.

Sincerely, *George Tompkins* FOR
George Tompkins, Ph.D., Entomologist
Insecticide-Rodenticide Branch
Registration Division (7505C)

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

PRECAUCION

Harmful if swallowed, inhaled or absorbed through skin.

Avoid breathing vapor or spray mist. Avoid contact with skin, eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers and loaders must wear a minimum of long-sleeved shirt and long pants, chemical resistant footwear, chemical resistant gloves such as nitrile or butyl, and protective eyewear (goggles, a face shield, or safety glasses with front, brow and temple protection). **Mixers and loaders** who do not use a mechanical system to transfer the contents of this container must wear coveralls or chemical-resistant apron in addition to other required PPE.

Pesticide applicators must wear long-sleeved shirt and long pants, socks, shoes and chemical-resistant gloves such as nitrile or butyl.

In addition, all pesticide handlers must wear a dust/mist filtering respirator (MSHA/NIOSH approval number TC-21C), or a NIOSH approved respirator with any R, P or HE filter, and protective eyewear when working in a non-ventilated space. All pesticide applicators must wear protective eyewear when applying termiticide by rodding or sub-slab injection.

USER SAFETY RECOMMENDATIONS

Wash thoroughly with soap and water after handling. Before removing gloves wash them with soap and water. Remove contaminated clothing and wash clothing before reuse. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or spray mist. Follow the manufacturer's instruction for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

FIRST AID

Organophosphorus Pesticide

In case of poisoning, call a physician or Poison Control Center immediately. Have person lie down and keep quiet.

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. If person is unconscious, do not give anything by mouth and do not induce vomiting.

If on skin: Wash with plenty of soap and water. Get medical attention.

If in eyes: Flush with plenty of water. Call a physician if irritation persists.

If inhaled: Remove to fresh air if symptoms of cholinesterase appear. If not breathing, give artificial respiration. Get medical attention.

Note to physician: Chlorpyrifos is a cholinesterase inhibitor affecting the central and peripheral nervous systems and producing cardiac and respiratory depression. **Antidote:** Administer atropine sulphate in large doses: TWO to FOUR mg intravenously or intramuscularly as soon as cyanosis is overcome. Repeat at 15 minute intervals until sign of antroponization appear. 2-PAM chloride is a pharmacological antidote and may be administered as an adjunct to, but not a substitute for atropine, which is a symptomatic and often lifesaving antitoxin. **DO NOT GIVE MORPHINE OR TRANQUILIZERS.** At first sign of pulmonary edema, the patient should be given supplemental oxygen and treated symptomatically. Continued absorption of chlorpyrifos may occur and relapse may occur after initial improvement. **VERY CLOSE SUPERVISION OF THE PATIENT IS INDICATED FOR AT LEAST 48 HOURS.**

ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds, fish and aquatic invertebrates. Birds feeding in treated areas may be killed. Clean up spilled product to reduce exposure to wildlife. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters.

STORAGE AND DISPOSAL

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

Storage: Store in original container in secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers. Avoid storing above 122F for extended periods of time. Storage below 40F may result in formation of crystals. If product crystallizes, store at 55-75F and shake occasionally to redissolve crystals. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of 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.

Container Disposal for Non-Refillable Containers: Triple rinse (or equivalent) then offer for recycling or reconditioning, or puncture and/or crush rinsed empty container and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

Or/

Triple rinse (or equivalent). Then dispose of in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Container Disposal for Refillable Containers: Do not break open any seals or cables! Pump out all possible product. Replace the dust cap in the one-way valve. Do not rinse the container. Return the empty container to a collection site designated by CHEMINOVA or your distributor. If drum has been damaged or the seals broken, please contact CHEMINOVA at 1-800-548-6113 for instructions.

DIRECTIONS FOR USE

Restricted Use Pesticide

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Notice: Read the entire label. Use only according to label directions. Before buying or using this product, read **WARRANTY DISCLAIMER** and **LIMITATION OF REMEDIES** elsewhere on this label.

Do not tank mix this product with products containing dichlorvos (DDVP). Do not formulate this product into other end-use products.

GENERAL INFORMATION

For pre-construction termite control; spot and local termite control (prohibited after December 31, 2002); termite control in underground utility cable and conduits; for control of insects infesting fence posts, utility poles, railroad ties, landscape timbers, logs, pallets, wooden containers, poles, posts, and processed wood products.

Subterranean Termites

Cyren 2 TC Termiticide / Insecticide concentrate is used to establish a barrier in the soil and in construction elements which is lethal to termites. In order to provide an effective barrier between the wood in the structure and termite colonies in the soil, disperse the chemical emulsion so as to avoid untreated gaps in the barrier.

It is important that the service technicians are trained regarding the current control practices including trenching, rodding, sub-slab injection and low pressure spray applications. These techniques must be correctly employed to prevent or control infestations by subterranean termite species of *Reticulitermes*, *Zootermopsis*, *Heterotermes* and *Coptotermes*. Choice of appropriate procedures includes consideration of such variable factors as the design of the location to be treated, water table, soil type, soil compaction, grade conditions and the location and type of



domestic water supplies. The biology and behavior of the involved termite species are important factors to be known as well as suspected location of the colony and severity of the infestation within the location to be protected. For advice concerning current control practices for specific local conditions, consult resources in structural pest control.

GENERAL USE PRECAUTIONS

Contamination of public and private water supplies must be avoided by these minimum precautions:

1. Use anti-backflow equipment or procedures to prevent siphonage of pesticides back into water supplies.
2. Do not treat soil that is water-saturated or frozen. Do not treat outdoors while precipitation (rain, sleet) is occurring.
3. Consult Federal, state and local specifications for information regarding approved treatment practices in your area.
4. Do not contaminate wells or cisterns.

LOCATIONS TO BE TREATED WITH ADJACENT WELLS / CISTERNS AND/OR OTHER WATER BODIES

Applicators must inspect all locations to be treated with nearby water sources such as wells, cisterns, surface ponds, streams and other bodies of water and evaluate, at a minimum, the treatment recommendations listed below prior to making an application.

1. Prior to treatment, if feasible, expose the water pipe(s) coming from the well to the location to be treated, if the pipe(s) will enter the structure within 3 feet of grade.
2. Prior to treatment, applicators are advised to take precautions to limit the risk of applying the termiticide into subsurface drains that could empty into any body of water. These precautions include evaluating whether application of termiticide to the top of the footer may result in contamination of the subsurface drain. Factors such as depth to the drain system and soil type and degree of compaction should be taken into account in determining the depth of treatment.
3. When appropriate (i.e. on the water side of the location to be treated), the treated backfill technique (described above) can also be used to minimize off-site movement of termiticide.

RATE DETERMINATION GUIDELINES

The maximum dilution for termite control is 0.5%. Consult the local extension agent or state entomologist for application recommendations.

The 0.5% rate may also be used when making follow-up or spot treatments. Areas treated with 0.5% or less must be reinspected annually for signs of reinfestation.

A 2.0% dilution may be used to protect utility poles and fence posts.

Dilution Directions

Gallons of Finished Dilution Desired	CYREN 2 TC Needed			
	0.5%	0.75%	1.0%	2.0%
1	2.7 fl oz	4 fl oz	5.3 fl oz	10.7 fl oz
5	13.3 fl oz	20 fl oz	26.7 fl oz	53.4 fl oz
10	26.7 fl oz	40 fl oz	53.4 fl oz	107 fl oz
24	0.5 gallon	3 quarts	1 gallon	2 gallons
48	1 gallon	1.5 gallons	2 gallons	4 gallons
97	2 gallons	3 gallons	4 gallons	8 gallons

Mixing Directions

It is important that the termiticide dilution be uniformly mixed in the spray tank before and during treatment. The initial mixing will be enhanced by agitation, circulation through treating hose, and the filling process. By-pass, jet, or mechanical agitation will ensure that the dilution remains uniformly mixed during application.

Mix the termiticide use dilution in the following manner:

1. Fill tank 1/4 to 1/3 full.
2. Start pump to begin by-pass agitation and place end of treating tool in tank to allow circulation through hose.
3. Add appropriate amount of **Cyren 2 TC**.
4. Add remaining amount of water.
5. Let pump run and allow recirculation through the hose for 2 to 3 minutes.

Application Volume

To provide maximum control and protection against termite infestation, apply the specified volume of the finished water emulsion and active ingredient as set forth in the **DIRECTIONS FOR USE** section of this label. If soil will not accept the labeled application volume, the volume may be reduced provided there is a corresponding increase in concentration so that the amount of active ingredient applied to the soil remains the same. The maximum dilution rate for termite control is 0.5%. **NOTE: Large reductions of application volume reduce the ability to obtain a continuous barrier. Variance is allowed when volume and concentration are consistent with label directed rates and a continuous barrier can still be achieved.**

PRECONSTRUCTION SUBTERRANEAN TERMITE TREATMENT

APPLY ONLY AT A CONCENTRATION OF 0.5% FOR APPLICATIONS PRIOR TO INSTALLATION OF THE FINISHED GRADE. Areas treated with 0.5% or less **must** be reinspected annually for signs of reinfestation.

Effective preconstruction treatment for **subterranean termite** prevention requires the establishment of vertical and/or horizontal chemical barriers between wood in the structure and the termite colonies in the soil. To meet FHA termite proofing requirements, follow the latest edition of Housing and Urban Development (HUD) Minimum Property Standards. Follow state and local regulations to meet minimum treatment standards for preventive preconstruction treatments.

Prior to each application, applicators must notify the general contractor, construction superintendent or similar responsible party of the intended termiticide application and intended sites of application, and instruct the responsible person to notify construction workers and other individuals to leave the area to be treated during application and until the termiticide is absorbed into the soil.

All holes drilled in construction elements for preconstruction treatments should be securely plugged following the application.

See **RATE DETERMINATION GUIDELINES** and **Dilution Directions** table.

1. For **horizontal barriers**, applications must be made using a low pressure spray (not to exceed 50 psi when measured at the treating tool to minimize exposure and potential for drift) after grading is completed and prior to pouring the slab.

a. For a **0.5% rate**, apply 1 gallon of dilution per 10 square feet, to provide thorough and continuous coverage of the area being treated (See **Application Volume** section).

If the fill is washed gravel or other coarse material, it is important that a sufficient amount of dilution be used to reach the soil substrate beneath the coarse fill.

b. If concrete slabs cannot be poured over the soil the same day it has been treated, a vapor barrier should be placed over the treated soil to prevent disturbance of the termiticide barrier.

2. For vertical barriers, apply the 0.5% dilution at a rate of 4 gallons per 10 linear feet per foot of depth. Establish vertical barriers in areas such as around the base of foundations, plumbing lines, backfilled soil against foundation walls and other areas which may warrant more than just a horizontal barrier.

a. When treating foundations deeper than 4 feet, apply the termiticide as the backfill is being replaced, or if the construction contractor fails to notify the applicator to permit this, treat the foundation to a minimum depth of 4 feet after the backfill has been installed. The applicator must trench and rod into the trench, or trench along the foundation walls and around pillars and other foundation elements at the rate prescribed from grade to a minimum depth of 4 feet. When the top of the footing is exposed, the applicator must treat the soil adjacent to the footing to a depth not to exceed the bottom of the footing. However, in no case should a structure be treated below the footing.

b. Trenches need not be wider than 6 inches. Treat soil with the dilution as it is being replaced in the trench.

For a 0.5% rate, apply 4 gallons of dilution per 10 linear feet per foot of depth to ensure complete coverage.

c. Hollow block foundations or voids of masonry can be treated to make a complete chemical barrier especially if the soil was not treated prior to pouring the footing. Apply the dilution at a rate of 2 gallons per 10 linear feet so that it reaches the top of the footing.

d. For crawl spaces, establish a vertical barrier on both sides of the foundation and around all piers and areas where underground utilities exist in the soil. Do not apply the dilution to the entire surface area intended as the crawl space.

3. Plenum type structures which use a sealed underfloor space to circulate heated and/or cooled air throughout the structure, apply the dilution at the rate of 4 gallons per 10 linear feet per foot of depth. Soil adjacent to both sides of foundation walls, supporting piers, plumbing and conduits should be treated by trenching or rodding (where soil conditions permit) to a depth of 6 inches or, if less shallow, to the top of the footing. When conditions will not permit trenching or rodding, surface application adjacent to interior foundation walls may be made but the treated strip shall not exceed a width of 18 inches, horizontally, from foundation walls, piers or pipes. Surface application is made at a rate of 1 gallon per 10 square feet as a very coarse spray under low pressure (not to exceed 20 p.s.i. when measured at the treating tool). After soil treatment, a continuous vapor barrier of at least 6 mil. polyethylene film or other suitable vapor barrier must be installed on the ground surface over the entire subfloor area and on the inside of the plenum walls, in accordance with the recommended practices for plenum type structures. When treating plenums, turn off the air circulation system of the structure until application has been completed and all the termiticide has been absorbed by the soil.

UNDERGROUND UTILITY CABLE AND CONDUITS

Preventative Treatment for Use Only in Guam, Hawaii, and other Pacific Islands: Use a 1.0-2.0% dilution (See RATE DETERMINATION GUIDELINES and Dilution Directions table). After digging the trench, place approximately 6 inches of backfill or sand at the bottom and apply 2 gallons of the dilution per 10 linear feet. Allow to dry then replace the cable backfill. Cover with an additional 6 inches of backfill or sand and apply another 2 gallons of emulsion per 10 linear feet. Finish filling trench with untreated soil.

Wherever cables emerge from the soil to enter poles, light frames, etc., treat the soil around the cable and pole or frame to establish a continuous 6 inch chemical barrier.

A continuous 6 inch chemical barrier must be established around the cable to insure protection from termite attack.

UTILITY POLES AND FENCE POSTS

Preventative Treatment: Use a 1.0 - 2.0% dilution (See RATE DETERMINATION GUIDELINES and Dilution Directions table). After pole or post hole has been dug, mix the dilution with the soil as it is being replaced to a depth of approximately 10 inches. Place pole or post on top of this layer. The remaining soil and dilution should

be mixed while backfilling the hole. The treated soil zone around the post or pole should be treated at a rate of 4 gallons of dilution per 10 cubic feet of soil.

Remedial Treatment: To control existing infestations or to prevent infestation of posts and poles already in place, use a 1.0-2.0% dilution. The dilution should be injected into termite galleries or channels in the wood. For maximum protection, injection sites should be at or below grade.

Posts or poles may also be treated by rodding down the base of the structure. Rod holes should be placed approximately 3 inches away from the pole and about 6 inches apart. Inject approximately 12 fluid ounces of dilution per foot of depth into each rod hole.

It may be appropriate to use one or both treatment techniques depending upon the specific circumstances at the work site, e.g. soil type.

CONTROL OF WOOD INFESTING INSECTS

For control of wood infesting insects in fence posts, utility poles, railroad ties, landscape timbers, logs, pallets, wooden containers, poles, posts and processed wood products.

Dosage and Mixing Directions:

Cyren 2 TC is recommended for use as an aqueous emulsion containing 0.5 -1.0% chlorpyrifos. See **RATE DETERMINATION GUIDELINES** and **Dilution Directions** table.

Recommendation:

Contact with treated surfaces should be avoided until spray has dried.

To control wood infesting insects such as **powderpost beetles** (*Lyctidae*), **false powderpost beetles** (*Bostrichidae*), **deathwatch beetles** (*Anobiidae*), **old house borers** (*Cerambycidae*) and **ambrosia beetles** (*Scolytidae*) in homes and other structures, treatments may be applied either as a coarse spray or by brushing the product onto targeted surfaces. Use a sufficient amount of spray to cover the area to the point of wetness but avoid runoff. Use the following guidelines to determine appropriate rates of application:

New Wood, (typically less than 10 years of age) apply approximately 1 gallon of dilution per 150 square feet as a coarse spray.

Old Wood, (typically greater than 10 years of age) apply approximately 1 gallon of dilution per 100 square feet as a coarse spray.

SPOT AND LOCAL TERMITE TREATMENT (This use is prohibited after December 31, 2002)

For use outside structures only. Spot treatments are not to exceed 25% of the amount required to treat the entire structure at the label rate. Spot treatments are allowed only where there is clear evidence that reinfestation or barrier disruption has occurred. Areas treated with 0.5% or less must be inspected annually for signs of reinfestation.

For control of **termites** (localized areas of infested wood in structures), apply 0.5% dilution to voids and channels in damaged wood and in spaces between members of a structure and between wood and foundations where termite infestation is likely to occur. Application may be made to inaccessible areas by drilling, and then injecting the emulsion. Use a sufficient amount of spray to cover the area to the point of wetness but avoiding runoff. Treatment of localized areas is intended to kill workers and winged reproductive forms of termites in the treated areas and to prevent reinfestations for a temporary period. This type of application is not intended to be a substitute for soil treatment or mechanical alteration to control subterranean termites.

Precautions:

All holes in commonly occupied areas into which material has been applied must be plugged. Plugs must be of a non-cellulose material or covered by an impervious, non-cellulose material.

