

"Copy Label"

464-524

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PM 2

FEB 21 1985

Ms. J. L. Page
Dow Chemical U.S.A.
Agricultural Products Department
P.O. Box 1706
Midland, MI 48640

Dear Ms. Page:

Subject: Professional Turf Insecticide
EPA Registration No. 464-524
Application Dated January 22, 1985

The amendment referred to above, submitted in connection with registration under FIFRA sec. 3(c)(7)(A) is acceptable provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data.

2. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:

a. Add to your ornamental use directions the following statement:

Do not use on fruit and nut trees that will bear fruit within 1 year of application.

b. Under your ornamental use directions delete the claim for control of cockroaches.

c. Delete the claim for control of termites or provide more specific use directions. Your use directions must specify what stage of termite (winged, etc.) you are trying to control.

3. Submit five (5) copies of your final printed labeling before you release the product for shipment.

CONCURRENCES

SYMBOL ▶								
SURNAME ▶								
DATE ▶								

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

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

Sincerely yours,

Jay S. Ellenberger
Product Manager (12)
Insecticide-Rodenticide Branch
Registration Division (TS-767)

Enclosure

JOB-85054:Ellenberger:tar:2/16/85:Kendrick & Co.-898-1270:Del.2/26/85

Professional Turf

Insecticide

Controls Numerous Pests of Turf and Ornamental Plants.

To Be Applied Only by or Under the Supervision of Commercial Applicators Responsible for Insect Control Programs. Not Intended for Sale To Or For Use by Homeowners. Do not formulate this product into other end use products.

Active Ingredient(s):

- Chlorpyrifos (O,O-diethyl C-(3,5,6-trichloro-2-pyridyl) phosphorothioate) 44.4%
- Xylene range aromatic solvent . 47.7%
- Inert Ingredients 7.9%

Contains 4 pounds of chlorpyrifos per gallon.

E.P.A. Registration No. 464-524
E.P.A. Est. 464-MI-1

KEEP OUT OF REACH OF CHILDREN

WARNING

AVISO: PRECAUCION AL USUARIO:

Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals

MAY BE FATAL IF SWALLOWED • MAY BE FATAL IF ABSORBED THROUGH SKIN • CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY • CAUSES SKIN IRRITATION

Do Not Take Internally • Do Not Get in Eyes, on Skin or Clothing • Wash Thoroughly After Handling and Before Eating or Smoking • Wear Protective Clothing, Gloves (Viton®) and Wear Goggles • Wash Contaminated Clothing Before Reuse • Avoid Breathing Vapors and Spray Mist • Avoid Spraying Food Crops • Keep Container Closed • Handle Concentrate in a Ventilated Area

STATEMENT OF PRACTICAL TREATMENT: IF Swallowed: Do not induce vomiting. Contains aromatic petroleum solvent. Call a physician immediately. IF in Eyes: Flush with plenty of water for 15 minutes. Call a physician. IF On Skin: In case of contact, remove contaminated clothing and immediately wash skin with soap and water. IF Inhaled: Remove to fresh air if effects occur. Call a physician.

ACCEPTED
with COMMENTS
In EPA Letter Dated

FEB 21 1985

Product Name: Insecticide
EPA Reg. No.: 464-524
EPA Est. No.: 464-MI-1

NOT AVAILABLE

NOTE TO PHYSICIAN: Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate degree of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. In case of severe acute poisoning, use antidotes immediately after establishing an open airway and respiration.

Physical or Chemical Hazards

COMBUSTIBLE • Do Not Use or Store Near Heat or Open Flame. • Do Not Cut or Weld Container.

Environmental Hazards

This product is highly toxic to bees exposed to direct treatment or residues on plants. • Protective information may be obtained from your Cooperative Agricultural Extension Service. • Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area. • Professional Turf Insecticide is highly toxic to fish, birds and other wildlife. Fish and crustaceans may be killed at application rates recommended on this label. • Do not apply where these are important resources. • Do not apply where runoff is likely to occur. • Do not apply when weather conditions favor drift from areas treated. • Do not contaminate water by cleaning of equipment or disposal of wastes. • Use this product only as specified on this label.

IN CASE OF AN EMERGENCY

endangering life or property involving this product, call collect 517-636-4400

AGRICULTURAL CHEMICAL

Do Not Ship or Store with Food, Feeds, Drugs, or Clothing

Before buying or using this product, read **WARRANTY LIMITATIONS AND DISCLAIMER** on the attached label. If terms are not acceptable, return unopened package at once to seller for full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under the Limit of Warranty and Liability.

DIRECTIONS FOR USE

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

GENERAL INFORMATION

Professional Turf Insecticide is an emulsifiable concentrate designed for use as a spray to control various pests injurious to trees, turf and ornamental plants. The pests controlled are listed in the accompanying tables. Professional Turf Insecticide is compatible with insecticides, miticides, and fungicides commonly recommended except for alkaline materials such as Bordeaux mixture and lime. A small amount of spray mixture should be prepared to check for compatibility before a large volume of spray is mixed.

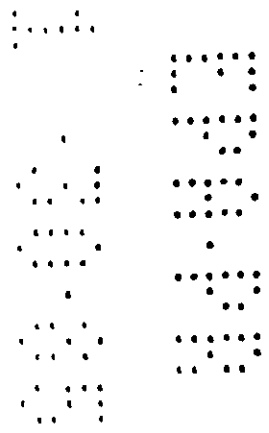
Attention: Do not allow adults, children or pets on treated areas until spray has dried. Keep out of fishpools and other bodies of water. Do not treat vegetable gardens. Do not allow livestock to graze in treated areas. Do not feed treated grass cuttings (hay) or seed screenings to livestock nor use hay for livestock bedding. Do not use in poultry houses.

Pest Control on Outside Surfaces and Around Buildings

Apply Professional Turf Insecticide by application as a residual spray to outside surfaces of buildings including porches, window frames, eaves, patios, garages, refuse dumps and other areas where pests congregate or have been seen. Repeat treatment as needed to maintain effectiveness.

Pest*	Amount of PTI in Water to Make:			Specific Directions
	1 gal	10 gal	50 gal	
Ants Bees Carpenter ants Clover mites Cockroaches Crickets Earwigs Fleas Flies Hornets Millipedes Mosquitoes Scorpions(2) Silverfish Sowbugs Spiders Ticks Wasps Yellowjackets	For Band Treatment (1)			1. To help prevent infestation of buildings treat a band of soil 6 to 10 feet wide around and adjacent to buildings, also the building foundation to a height of 2 to 3 feet, where pests are active and may find entrance. Use 4 fluid ounces of Professional Turf Insecticide per 50 gallons of water and apply as a coarse spray at the rate of about 10 gallons spray mixture per 1,000 sq. ft. to thoroughly and uniformly wet the band area. 2. For scorpions treat or remove accumulations of lumber, firewood, and other materials which serve as insect harborage sites.
	1/12 fl. oz.	3/4 fl. oz.	4 fl. oz.	
	On Outside Surfaces			
	1 1/3 fl. oz.	13 1/3 fl. oz.	2 qt.	

* Numbers in parentheses refer to Specific Directions.



Turf and Other Outdoor Uses

Use Professional Turf Insecticide to control the pests listed in the following table by application at the recommended dosages and in accordance with the directions given below. Dilute Professional Turf Insecticide in water and apply as a coarse, low-pressure spray using suitable application equipment. Thoroughly water immediately after treatment to wash the insecticide into the turf, except as noted. For best results, the lawn should be moist at time of treatment. Spray when pests first appear, retreat when needed.

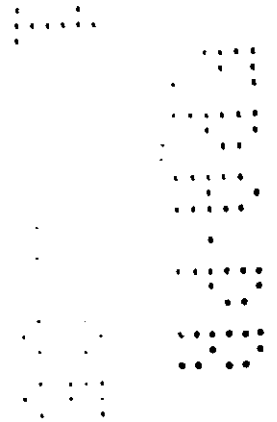
Pest*	Amount of PTI per		Specific Directions
	1000 sq. ft.	acre	
Ants (including foraging fire ants) Armyworm (Such as: Beet, Fall, Yellowstriped) Centipedes Chiggers(1) Chinch bugs Clover mites Cutworms Crickets Earwigs Fiery skipper Fire ants (mounds)(2) Fleas Grasshoppers Greenbugs June beetles Leafhoppers Lucerne moth Millipedes Mites (Such as: Clover, Formula grass, Winter grain) Mosquitoes(3) Sod webworm(4) (lawn moths) Sowbugs Springtails Ticks(1)	3/4 fl. oz.	1 qt.	<ol style="list-style-type: none"> 1. Use Professional Turf Insecticide for area control of Ticks and Chiggers infesting non-cropland areas such as roadsides, footpaths, and trails, picnic and camping sites, parks and other recreational areas where these pests are present and create a nuisance or a possible public health problem. Do not allow public use of treated areas during application or until spray has dried. Apply Professional Turf in water at the rate of 1/2 pint per acre (equivalent to 1/2 fl. oz. per 2,700 sq. ft.) using a hydraulic sprayer, mist applicator, knapsack sprayer, or other suitable hand- or power-operated spray equipment. Treat low underbrush, grassy areas, weeds, and ground surface and debris using enough spray volume to obtain thorough coverage, usually 40 to 100 gallons per acre. 2. For individual fire ant mounds, apply Professional Turf Insecticide as a drench, diluted at the rate of 1 fl. oz. (30 ml) per 4 gallons of water. Gently sprinkle a total of 1 gallon of the diluted emulsion over the surface of each mound using a gentle spray (such as a sprinkler can). Thoroughly wet mound and surrounding areas to a 4 ft. diameter (12 sq. ft.). For best results, apply in cool weather, 65-80° F. or in early morning or late evening hours. Treat new mounds as they appear. Pressurized sprays may... disturb the ants and cause migration, reducing product effectiveness.... 3. Mosquitoes coming to rest on areas treated for control of turf pests will be killed for varying periods of time after treatment, depending on exposure of treated areas to weathering conditions. 4. For sod webworms delay watering or mowing the treated area for 12 to 24 hours.

* Numbers in parentheses refer to Specific Directions.

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Pest*	Amount of PTI per		Specific Directions
	1000 sq ft	Acre	
Turfgrass weevil (<i>Hyperodes</i>)(1)	1 1.2 fl. oz	2 qt	1. Spray suspected problem areas in mid April and again in mid-May or as recommended by your Local Agricultural Extension Service Specialist.
European crane fly White grubs (Such as: Black turfgrass ataenius, European chafer, Southern masked chafer, and Japanese beetle larvae)(1)	1 fl. oz. 1/2 to 3 fl. oz.	1 1/2 qt 2 qt. to 1 gal.	1 For white grubs, spray when grubs are young and actively feeding near the soil surface, usually during late July and August or as recommended by your local Agricultural Extension Service specialist. Immediately after spraying, irrigate the treated area with 1/2 to 1 inch of water to wash the insecticide into the underlying soil.
Bluegrass billbugs(1)	3/4 to 3 fl. oz.	1 qt. to 1 gal.	1. For bluegrass billbugs spray early in the season when adults first appear. Retreat as needed.

* Numbers in parentheses refer to Specific Directions.

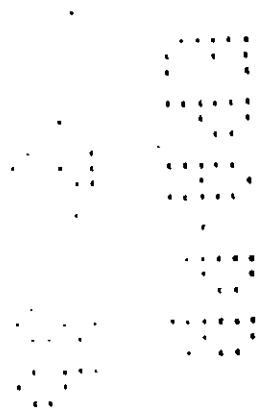


Ornamentals (Outdoor)

Use Professional Turf Insecticide to treat flowers, shrubs, evergreens, vines, shade and flowering trees found to be infested with pests listed in the following table. Dilute Professional Turf Insecticide with water according to directions given in the table and apply using suitable hand- or power-operated spray equipment in a manner to provide complete and uniform coverage. For best results apply a coarse spray to thoroughly wet both upper and lower leaf surfaces and infested limb and trunk areas. Attempt to penetrate dense foliage but avoid overspraying to the point of excessive runoff. Treat when pests appear and repeat at 7 to 10 day intervals, if needed.

Consult your State Agricultural Experiment Station or Extension Service Specialist for application timing and other specific use information.

Note: Ornamentals: Environmental factors have significant effects on phytotoxic expression. Professional Turf Insecticide has been tested on numerous ornamental plants without causing serious phytotoxicity. However, **do not use** on azaleas, camellias, poinsettias, rose bushes, or variegated ivy because of possible injury to these plants.



Pest*	Amount of PTI in Water to Make:			Specific Directions
	1 gal	3 gal	100 gal	
<p>Adelgids (Such as: Cooley and Eastern spruce galls, Pine bark) Ants (including foraging fire ants) Aphids (Such as: Apple, Chrysanthemum, Cottonwood, Elm leaf, Peach, Rose, Spirea, Woolly) Armyworms (Such as: Fall, Yellowstriped) Bagworms(1) Boxeider bugs Cankerworms Catalpa sphinx Chiggers Citrus mealybugs Cockroaches (Such as: American, Brownbanded, German, Oriental, Smokey brown) Elm spanworm Fall webworm Grasshoppers Green fruitworm Hornworms Jackpine budworm Juniper webworm Katydid Lace bugs Leafhoppers Leafrollers(2) Maple leafcutter(3) Mites (Such as: Clover, Red spider, Southern red)(4) Mulberry caterpillar Orange tortrix Periodical cicada Plant bugs Poplar tentmaker Psyllids Puss caterpillar Rose chafer Sawflies, exposed (Such as: Pine, Pin oak, Redheaded) Sowbugs Spittlebugs Spring elm caterpillar Springtails Spruce budworm Tent caterpillars (Such as: Eastern, Forest, Western) Thornbug Walnut caterpillar Western spruce budworm Whiteflies Yellownecked caterpillar</p>	1/12 fl. oz.	1/4 fl. oz.	8 fl. oz.	<ol style="list-style-type: none"> 1. For bagworms treat when insects are in the crawler stage. 2. For effective control of leafrollers spray should be applied before leaves are tightly rolled. 3. For effective control of maple leafcutter on maple trees apply spray to larvae as cases are being formed. Do not treat sugar maple trees intended for maple syrup production. 4. For effective control of spider mites when large numbers of eggs are present, apply a second spray 3 to 5 days in the South or 7 to 10 days in the North after initial treatment to control newly-hatched nymphs.

* Numbers in parentheses refer to Specific Directions.

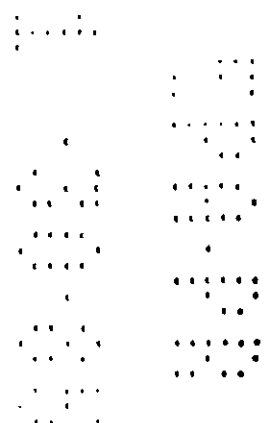
Pest*	Amount of PTI in Water to Make:			Specific Directions
	1 gal	3 gal	100 gal	
Armyworms (Beet) Beetles (Fuller rose, Native elm bark)(1) Cutworms Leafhoppers Mahogany webworm Mealybugs Mimosa webworm Moths (Such as: Browntail, Cypress tip, Douglas fir tussock, European pine shoot, Gypsy(2), Holly bud, Nantucket pine tip, Pandora, Pitch pine tip, Subtropical pine tip, Tussock) Sawworms (Such as: California, Orangestriped, Redhumped) Redhumped caterpillar Thrips (exposed) Weevils (Such as: Blackvine(3), Yellow Poplar, Pine reproduction)	1/6 fl. oz.	1/2 fl. oz.	1 pt.	1. To reduce twig and branch feeding by bark beetles applications should be made in the spring or early summer. 2. To kill migrating and invading gypsy moth larvae treat trunks and foliage. 3. Blackvine weevils are night feeders. Late afternoon spraying will give control in some areas.
Beetles (Such as: Cottonwood leaf(1), Elm leaf, Flea, Willow leaf)	1/6 to 1/3 fl. oz.	1/2 to 1 fl. oz.	1 pt. to 1 qt.	1. For cottonwood leaf beetles use Professional Turf Insecticide in water to control larvae and adults infesting cottonwoods. Make the treatment when field counts indicate damaging beetle populations are developing or present.
Borers(1): Clearwing moths (Such as: Ash, Dogwood, Lesser peachtree, Lilac, Oak, Rhododendron), Metallic wood (Such as: Bronze birch, Flatheaded appletree, Twolined chestnut), Longhorned beetles (Such as: Locust, Red oak) Cranberry girdler larvae(2) Leafminers Needleminers (Such as: Jeffrey pine, Lodgepole pine, Spruce) Scale crawlers (Such as: Cottonycushion, Cottonymaple, Euonymus, Fletcher, Florida wax, Golden oak, Hemispherical, Lecanium, Magnolia, Oak kermes, Oystershell, Pine needle, San Jose, Tea, White birch)	1/3 fl. oz.	1 fl. oz.	1 qt.	1. For borers, apply Professional Turf Insecticide to the trunks and lower limbs of trees and shrubs when the adults begin to emerge. Consult your State Agricultural Experiment Station or Extension Service specialist for proper time to treat, Apply uniformly as a coarse low-pressure spray. 2. For cranberry girdler larvae apply 1 quart of Professional Turf Insecticide per acre. Direct spray at the base of plants using 50 gallons of water per acre. Irrigate immediately after application for soil penetration of 1-2 inches. Treat after egg laying during the summer.
Borers (Such as: Cottonwood, Peachtree)(1)	1 fl. oz.	3 fl. oz.	3 qt.	1. For peachtree borers apply Professional Turf Insecticide in water to flowering trees and shrubs of the genus <i>Prunus</i> as a trunk spray before newly-hatched larvae enter the trees. Apply as a coarse, low-pressure spray. Thoroughly wet all bark areas from ground level to scaffold limbs.

* Numbers in parentheses refer to Specific Directions

BEST AVAILABLE COPY

Pest*	Amount of PTI in Water to Make:			Specific Directions
	1 gal	3 gal	100 gal	
Beetles(1) (Such as: Cottonwood leaf, Elm leaf, Flea, Fuller rose, Native elm bark(2), Willow leaf)	1 1/3 fl. oz.	4 fl. oz.	1 gal.	<p>1. For preventive treatment apply the spray to the main trunk of trees in the early spring or when threat of attack exists from nearby infested trees. For remedial treatment apply the spray to the main trunk of infested trees or logs when damage occurs but before adult beetles begin to emerge.</p> <p>2. To prevent native elm bark beetles from overwintering in uninfested trees, apply Professional Turf Insecticide in water to the bottom 9 feet of the trunk. Wet the trunk thoroughly but do not spray to runoff. Care should be taken to apply the spray right to the base of the root flare. Application can be made with either a backpack mistblower or a hydraulic pressure sprayer from spring through to early fall.</p>
Beetles (Such as: Ambrosia, Anobiidae, Black turpentine, European elm bark, Japanese, June, Pine, Spruce)(1) Carpenter ants Termites	2 2/3 fl. oz.	8 fl. oz.	2 gal.	<p>1. For preventive treatment apply the spray to the main trunk of trees in the early spring or when threat of attack exists from nearby infested trees.</p> <p>For remedial treatment apply the spray to the main trunk of infested trees when damage occurs but before adult beetles begin to emerge.</p>

* Numbers in parentheses refer to Specific Directions.

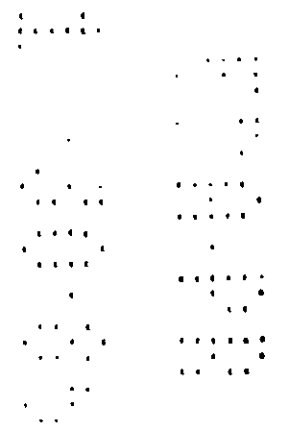


Dormant Spray (Tree Pests)

Use Professional Turf Insecticide as a dormant or delayed dormant spray at the rates indicated to control the listed insects. Spray the entire tree by application to runoff using suitable ground spray equipment. Use the higher dosage of Professional Turf Insecticide for severe infestations. Use oil as recommended by your State Agricultural Experiment Station or Extension Service Specialist.

Restrictions: Make only one application during the dormant season. Do not allow meat or dairy animals to graze in treated areas.

Pest	Amount of PTI to Make:			Specific Directions
	1 gal	3 gal	100 gal	
Aphids (Such as: Mealy plum, Rosy apple, Woolly apple) Borer (Such as: Peach twig) Cutworms (Such as: Climbing) Leafrollers (Such as: Pandemis) Pear psylla adults Plant bugs Scale (Such as: San Jose)	1/12 to 1/6 fl. oz.	1/4 to 1/2 fl. oz.	1/2 to 1 pt.	Tank mix with 1 to 2 gallons of petroleum spray oil recommended for dormant use in 100 gallons of water.



STORAGE AND DISPOSAL

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

STORAGE: Store in original container in secured dry storage area. Do not store above 120° F. Crystals may form below 10° F. Crystals redissolve above 19° F. Do not stack higher than 2 pallets. If spill occurs, use immediately or dispose of 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 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.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

LOT

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THE DOW CHEMICAL COMPANY

70293-L2 E884
RQ/INSECTICIDE LIQUID N.O.S. (Chlorpyrifos)
NA1993

DOW DIAMOND*

THE DOW CHEMICAL COMPANY
Midland, Michigan 48640 U.S.A.

WARRANTY LIMITATIONS AND DISCLAIMER

The Dow Chemical Company 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 therein under normal conditions of use. **THIS IS THE ONLY WARRANTY MADE ON THIS PRODUCT. NO OTHER EXPRESS AND NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OUTSIDE OF THIS LABEL.** Therefore, neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), under abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes, etc.) or under conditions not reasonably foreseeable to or beyond the control of seller.

When buyer or user suffers losses or damages resulting from the use or handling of this product (including claims based on contract, negligence, strict liability, or other legal theories), buyer or user must promptly notify in writing The Dow Chemical Company of any claims to be eligible to receive either remedy given below. **The EXCLUSIVE REMEDY OF THE BUYER OR USER and the LIMIT OF LIABILITY of The Dow Chemical Company or any other seller will be one of the following, at the election of The Dow Chemical Company:**

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

The seller will not be liable for consequential or incidental damages or losses.

The terms of this Limit of Warranty and Liability cannot be varied by any written or verbal statements or agreements. Any employee or sales agent of the seller is not authorized to vary or exceed the terms of this Warranty Limitations And Disclaimer in any manner.

FOR YOUR COPY