

FEB 10 1992

John P. Thornton
Inc.
Federal Chemicals Division
Box 4917
City, TX 64120-0013

Mr. Thornton:

Reinstatement of
Duthion 40% Wettable Powder
EPA Registration No. 2125-198
Your last application of December 22, 1991

...in connection with
...and
...is
...records.

Sincerely yours,

Dennis H. Edwards, Jr.

Dennis H. Edwards, Jr.
Product Manager (10)
Insecticide-Fungicide Branch
Registration Division (H7505C)

Enclosure

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CONCURRENCES

SYMBOL	SURNAME	DATE					

U.S. LABEL

Reason to Issue: To reinstate use on blackberries, boysenberries, broccoli, brussel sprouts, cabbage, cauliflower, celery, loganberries, raspberries and rye.

Date of Pre-Reg Draft: 6/14/91

EPA Reg. No. 3125-193

GUTHION®
50% WETTABLE POWDER
CROP INSECTICIDE

ACCEPTED
FEB 10 1992
Under the Federal Insecticide Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 3125-193

FOR EFFECTIVE ECONOMICAL INSECT CONTROL

NET WEIGHT POUNDS

Store in a cool dry place. Protect from heat. Keep away from open flame. Do not heat.

ACTIVE INGREDIENT:

0,0-Dimethyl S-(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl phosphorodithioate 50%

INERT INGREDIENTS: 50%
100%

KEEP OUT OF REACH OF CHILDREN

DANGER



POISON

EPA Reg. No. 3125-193

(See Rear Panel for Statements of Practical Treatment and Additional Precautionary Statements)

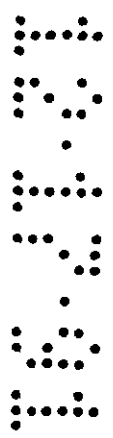
STOP - READ THE LABEL BEFORE USE

PELIGRO

PRECAUTION AL USUARIO: Si usted no puede leer o entender inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

(TO THE USER: If you cannot read or understand English, do not use this product until the label has been fully explained to you.)

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MOBAY CORPORATION
A Bayer USA INC. COMPANY
AGRICULTURAL CHEMICALS DIVISION
Box 4913, Kansas City, Mo. 64120

Note: Underlined letters in chemical nomenclature should be italicized when printed underlined.

DIRECTIONS FOR USE

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

IMPORTANT: Read these entire Directions and Conditions of Sale before using GUTHION 50% Wettable Powder insecticide.

CONDITIONS OF SALE: THE DIRECTIONS ON THIS LABEL WERE DETERMINED THROUGH RESEARCH TO BE THE DIRECTIONS FOR CORRECT USE OF THIS PRODUCT. THIS PRODUCT HAS BEEN TESTED FOR A RANGE OF WEATHER CONDITIONS SIMILAR TO THOSE WEATHER CONDITIONS THAT ARE ORDINARY AND CUSTOMARY IN THE GEOGRAPHIC AREA WHERE THE PRODUCT IS USED. INSUFFICIENT CONTROL OF PESTS AND/OR INJURY TO THE CROP TO WHICH THE PRODUCT IS APPLIED MAY RESULT FROM THE OCCURRENCE OF EXTRAORDINARY OR UNUSUAL WEATHER, OR FROM FAILURE TO FOLLOW LABEL DIRECTIONS. IN ADDITION, FAILURE TO FOLLOW LABEL DIRECTIONS MAY CAUSE INJURY TO OTHER CROPS, ANIMALS, MAN, OR THE ENVIRONMENT. MOBAY OFFERS, AND THE BUYER ACCEPTS AND USES, THIS PRODUCT SUBJECT TO THE CONDITIONS THAT EXTRAORDINARY OR UNUSUAL WEATHER, OR FAILURE TO FOLLOW LABEL DIRECTIONS ARE BEYOND THE CONTROL OF MOBAY AND ARE, THEREFORE, THE RESPONSIBILITY OF THE BUYER.

MIXING: GUTHION 50% Wettable Powder insecticide mixes easily with water to form a suspension which is readily usable in all conventional ground spray equipment. Mix the required amount of GUTHION 50% Wettable Powder with a small quantity of water. Add this premix through the screen while filling the spray tank or fill the tank to the required level and add the premix. Operate the agitator while mixing.

COMPATIBILITY: GUTHION 50% Wettable Powder is physically compatible with many registered pesticides and liquid fertilizers. When considering mixing GUTHION 50% Wettable Powder with other pesticides or with liquid fertilizer, first contact your supplier. For further information, contact your local Mobay representative. If your supplier and Mobay representative have no experience with the combination you are considering, you should conduct tests to determine physical compatibility.

To determine physical compatibility, pour the recommended proportions of each chemical with the same proportion of water as will be present in the chemical supply tank into a suitable container, mix thoroughly and allow to stand for five minutes. If the combination remains mixed, or can be remixed readily, the mixture is considered physically compatible. When mixing wettable powder or dry flowable formulations, add and disperse these first, then add liquid pesticides. Conduct another compatibility test at concentrations which will be present in the irrigation lines. If there is any separation which cannot be remixed readily, Mobay recommends that the combination not be used.

Combination should be kept agitated and should be applied immediately. Do not allow combination to sit for prolonged periods in the chemical supply tank or irrigation lines.

DOSAGE: Use specified dosage of GUTHION 50% Wettable Powder in the amount of water necessary to give complete coverage of foliage. The type of equipment used will determine the concentration required.

SPRAYING: Work to windward. Protect sprayer operators from drift or mist. When low volumes of spray are applied complete coverage and thorough application are essential for most effective results. Schedule applications in accordance with local conditions. Consult your State Agricultural Experiment Station or Extension Service for specific use information in your area.

CHEMIGATION

GUTHION 50% Wettable Powder may be applied through recommended types of irrigation systems to many crops. The REMARKS section for each crop lists the types of applications allowed. If application through irrigation systems is not listed in the REMARKS section for a crop, GUTHION 50% Wettable Powder may not be applied to that crop through irrigation systems.

Types of Irrigation Systems

Apply GUTHION 50% Wettable Powder only through sprinkler, including center pivot, lateral move, side roll, overhead solid set, or low pressure sprinkler irrigation systems. Do not apply GUTHION 50% Wettable Powder through any other type of irrigation system.

GENERAL DIRECTIONS FOR ALL RECOMMENDED TYPES OF IRRIGATION SYSTEMS

Uniform Water Distribution and System Calibration

The irrigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

The system must be calibrated to uniformly apply the rates specified for chemigation application for specific crops. If you have questions about calibration, you should contact State Extension Service specialist, equipment manufacturers or other experts.

Chemigation Monitoring

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Drift

Do not apply when wind speed favors drift beyond the area intended for treatment.

Required System Safety Devices

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point when pesticide distribution is adversely affected.

Required System Safety Devices (Continued)

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Using Water from Public Water Systems

DO NOT APPLY GUTHION 50% WETTABLE POWDER THROUGH ANY IRRIGATION SYSTEM PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly services an average of at least 25 individuals daily at least 60 days out of the year.

GUTHION 50% Wettable Powder may be applied through any of the recommended types of irrigation systems which may be supplied by a public water system only if the water from the public water system is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

Any irrigation system using water supplied from a public water system must also meet the following requirements:

The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Posting Requirements

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

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Posting Requirements (Continued)

Posting must conform to the following requirements: Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive areas. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters at least 2 1/2 inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

Posting required for chemigation does not replace other posting and reentry interval requirements for farmworker safety.

Compatibility

When mixing with other chemicals refer to Compatibility section elsewhere on this label.

Agitation

For application of GUTHION 50% Wettable Powder alone, a chemical supply tank is not necessary for premixing since GUTHION 50% Wettable Powder mixes well with water in the irrigation line. If a chemical supply tank is used, for application of GUTHION 50% Wettable Powder alone or in combination with liquid fertilizer or other chemicals, constant strong mechanical or hydraulic agitation must be maintained in the chemical supply tank during the entire period of application.

Chemical Supply Tank Dilution

If a chemical supply tank is used, you must determine the required amounts of GUTHION 50% Wettable Powder to mix in the tank.

The amount of GUTHION 50% Wettable Powder needed equals the number of pounds of GUTHION 50% Wettable Powder to be applied per acre multiplied by the number of acres to be chemigated.

The amount of solution needed equals the gallons of solution delivered per hour by the injection pump multiplied by the number of hours chemigation will take place.

For example, if you want to apply 2 pounds of GUTHION 50% Wettable Powder per acre to 130 acres in 20 hours and your injection pump delivers 15 gallons per hour, you need: 2 pounds GUTHION 50% Wettable Powder per acre X 130 acres = 260 pounds of GUTHION 50% Wettable Powder. And, you need: 15 gallons per hour X 20 hours = 300 gallons of suspension = 300 gallons of water.

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Cleaning the Chemical Injection System

In order to accurately apply pesticides, the chemical injection system must be kept clean; free of chemical or fertilizer residues and sediments. Refer to your owners manual or ask your equipment supplier for cleaning procedure for your injection system.

Flushing the Irrigation System

At the end of the application period, allow time for all lines to flush the pesticide through all nozzles or emitters before turning off irrigation water. To ensure the lines are flushed and free of pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

SPRINKLER IRRIGATION SYSTEMS

All directions and requirements under the GENERAL DIRECTIONS AND REQUIREMENTS FOR ALL RECOMMENDED TYPES OF IRRIGATION SYSTEMS section of this label must be followed for sprinkler irrigation systems.

In addition, the following directions apply to sprinkler irrigation systems:

Do not apply when wind speed favors drift beyond the area intended for treatment.

It is recommended that nozzles in the immediate area of control panels, chemical supply tanks, pumps and system safety devices be plugged to prevent chemical contamination of these areas.

Center-Pivot and Automatic-Move Linear Systems

Inject the specified dosage per acre continuously for one complete revolution or move of the system. DO NOT USE END GUNS. For a foliar application, the system should be run at maximum speed. For a soil application, the system should be run at a slower speed with application in at least 1/4 inch of water.

Solid Set and Manually Controlled Linear Systems

For foliar application, injection should be during the last 30 to 60 minutes of regular irrigation period or as a separate 30 to 60 minute application not associated with a regular irrigation. For soil treatment, application should be in at least 1/4 inch of water. DO NOT USE END GUNS.

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RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GLUTHION 50% WP	REMARKS
<p><u>FIELD CROPS</u></p> <p>Alfalfa Birdsfoot trefoil (East of the Mississippi River only)</p>	Leafhoppers	3/4 to 1	<p>Apply specified dosage per acre by air or ground equipment. Use at least 10 gallons of water per acre with ground equipment and at least 1 gallon of water per acre for aerial application. It may be necessary to use 20 to 25 gallons of water per acre on heavy growth for control of alfalfa weevil or Egyptian alfalfa weevil with ground equipment. For application by irrigation systems: Apply specified dosage per acre. Follow all directions given under the CHEMIGATION section of this label.</p> <p>Only one application per cutting may be made regardless of rate, formulation or method of application used.</p> <p>Do not apply within 14 days of harvest at the rates of 1/2 to 3/4 pounds per acre or within 16 days of harvest at the rate of 1 pound per acre.</p>
	Alfalfa weevil Egyptian alfalfa weevil	3/4 to 1	
	Alfalfa plant bug Fleahopper Grasshoppers Lygus bugs Spittlebugs	1	
Rye	Cereal leaf beetle	3/4 to 1	<p>Apply specified dosage per acre in sufficient water for complete coverage. Do not apply more than once per season. Do not harvest for food, feed, forage or graze within 30 days of treatment.</p>

RECOMMENDED APPLICATIONS

FRUIT

NOTE: It is suggested that when treating fruit during the bloom period, bee keepers should be warned well in advance to remove hives a safe distance from orchards to be treated.

CROP	INSECT	POUNDS GUTHION 50% WP	REMARKS
<p><u>FRUIT</u></p> <p>Apples Crab apples Pears</p>	<p>Aphids* Apple maggot Codling moth European apple sawfly Eye-spotted bud moth Forbes scale Fruittree leaf roller Green fruitworm* Leafhoppers* Mealybug* Orange tortrix Pear midge Plum curculio Putnam scale Red-banded leaf roller San Jose' scale* Stink bug Tarnished plant bug*</p>	<p>2 to 3</p> <p>[1/2 to 3/4 lb per 100 gallons]</p>	<p>Apply specified dosage per acre by air or ground equipment in sufficient water for good coverage. Up to 12 pounds GUTHION 50% WP may be applied per crop season.</p> <p>Allow at least 7 days between applications and 7 days between last application and harvest.</p> <p>GUTHION 50% WP is compatible with dormant and summer oils which may be added to apple and pear sprays in accordance with local recommendations.</p>
<p>Cherries</p>	<p>Eye-spotted bud moth Forbes scale Fruit flies Fruittree leaf roller Lesser peach tree borer Plum curculio San Jose' scale* Cherry leaf miner Mineola moth</p>	<p>1-1/2</p> <p>[1/2 pound per 100 gallons]</p>	<p>Apply specified dosage per acre as a full coverage spray. Up to 6 pounds of GUTHION 50% WP may be applied per acre per crop season.</p> <p>Allow at least 14 days between applications and 15 days between last application and harvest.</p> <p>California: Apply post-harvest only.</p>

RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GUTHION 50% WP	REMARKS
FRUIT (Continued) Nectarines Peaches (Eastern U.S.)	Aphids* Cottony peach scale European fruit lecanium scale Forbes scale Lesser peach tree borer Oriental fruit moth Peach twig borer Peach tree borer <u>Platynota flavidana</u> leaf roller Plum curculio Redbanded leaf roller San Jose scale* Stink bug Thrips Tarnished plant bug Terrapin scale Walnut scale White peach scale	1-3/4 to 2-1/4 [1/2 to 5/8 lb per 100 gallons]	Apply specified dosage per acre as a full coverage spray. Allow at least 14 days between applications. A total of 6-3/4 pounds per acre per crop season may be applied to nectarines. A total of 9 pounds per acre per crop season may be applied to peaches. Allow at least 21 days between last application and harvest. For control of peach tree borer, apply 2 or 3 sprays to trunk from ground to scaffold limbs, timed with moth flight. For control of scale, apply when crawlers are present. GUTHION 50% WP is compatible with dormant and summer oils which may be added to peach sprays in accordance with local recommendations.
Nectarines Peaches (West of the Rocky Mountains)	Lesser peach tree borer Oriental fruit moth Peach twig borer Peach tree borer <u>Platynota flavidana</u> leaf roller Plum curculio Redbanded leaf roller Stink bug Thrips Tarnished plant bug	3 to 4	Apply specified dosage per acre. Allow at least 14 days between applications. A total of 6-3/4 pounds per acre per crop season may be applied to nectarines. A total of 9 pounds per acre per crop season may be applied to peaches. Allow at least 21 days between last application and harvest. For control of peach tree borer, apply 2 or 3 sprays to trunk from ground to scaffold limbs, timed with moth flight.

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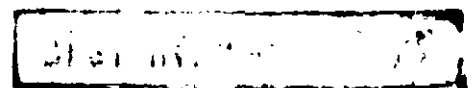
RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GUTHION 50% WP	REMARKS
<p>FRUIT (Continued)</p> <p>Plums Prunes (Eastern U.S.)</p>	<p>Aphids* Codling moth Eye-spotted bud moth Forbes scale Fruittree leaf roller Lesser peach tree borer Orange tortrix Peach tree borer Peach twig borer Plum curculio Redbanded leaf roller San Jose' scale* Stink bug Tarnished plant bug* Tussock moth</p>	<p>1-3/4 to 2-1/2 [1/2 to 5/8 lb per 100 gallons]</p>	<p>Apply specified dosage per acre as a full coverage spray. A total of 6-3/4 pounds per acre per crop season may be applied to plums and prunes.</p> <p>Allow at least 10 days between applications. Allow at least 15 days between last application and harvest.</p> <p>For control of peach tree borer, apply 2 or 3 sprays to trunk from ground to scaffold limbs, timed with moth flight.</p> <p>For control of scale, apply when crawlers are present.</p> <p>GUTHION 50% WP is compatible with dormant and summer oils which may be added to prune sprays in accordance with local recommendations.</p>
<p>Plums Prunes (West of the Rocky Mountains)</p>	<p>Codling moth Eye-spotted bud moth Fruittree leaf roller Lesser peach tree borer Orange tortrix Peach tree borer Peach twig borer Plum curculio Redbanded leaf roller Stink bug Tarnished plant bug* Tussock moth</p>	<p>2 to 4</p>	<p>Apply specified dosage per acre. A total of 6-3/4 pounds per acre per crop season may be applied to plums and prunes.</p> <p>Allow at least 10 days between applications. Allow at least 15 days between last application and harvest.</p> <p>For control of peach tree borer, apply 2 or 3 sprays to trunk from ground to scaffold limbs, timed with moth flight.</p>
	<p>American plum borer</p>	<p>3 to 4</p>	

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RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GLUTHION 50% WP	REMARKS
<p>FRUIT (Continued)</p> <p>Blackberries Boysenberries Loganberries Raspberries</p>	<p>Leafhoppers Leaf rollers</p>	<p>1/2</p>	<p>Apply specified dosage per acre to foliage using approximately 200 gallons of water for good coverage.</p>
	<p>Leaf miners</p>	<p>5/8</p>	<p>Do not apply more than twice per season, nor within 14 days of harvest.</p>
	<p>Aphids*</p>	<p>5/8 to 1</p>	
	<p>Obscure root weevil</p>	<p>1</p>	
	<p>Obscure root weevil</p>	<p>1</p>	<p>For control of root weevils prior to harvest apply specified dosage per acre to lower portion of canes and to the soil beneath the plants using approximately 200 gallons of water. Do not apply more than twice per season. Do not make applications within 3 days of harvest at rates up to 2 pounds per acre.</p>
	<p>Blueberries (Eastern and North Central States only)</p>	<p>Blueberry maggot Fruitworms Lecanium scale Plum curculio</p>	<p>1 to 1-1/2</p>
<p>Cranberries</p>	<p>Cranberry fruitworm <u>Sparganothis sulfureana</u> Tipworm</p>	<p>1 to 2</p>	<p>Apply specified dosage per acre by air using sufficient water for good coverage. For application by irrigation systems: Apply specified dosage per acre. Follow all directions given under the CHEMIGATION section of this label.</p>
	<p>Fireworms</p>	<p>2</p>	<p>A total of 3 applications may be made per crop season regardless of rate or formulation used.</p> <p>Allow at least 14 days between applications and at least 21 days between last application and harvest.</p>



RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GUTHION 50% WP	REMARKS
<p>FRUIT (Continued)</p> <p>Citrus Fruits</p>	<p>Aphids* Black scale Brown soft scale Chaff scale Citricola scale Citrus mealybug Citrus rootweevil complex Citrus thrips Cottony-cushion scale European brown snail Florida red scale Fruittree leaf roller Fuller rose beetle Glover scale Orange tortrix Purple scale Snow scale Western tussock moth Whiteflies</p>	<p>2-1/2 to 4</p>	<p>Apply specified dosage per acre as a full coverage spray. A single application per year may be applied up to within 7 days of harvest. Where 2 applications are required, allow at least 28 days between the second application and harvest.</p> <p>A total of 2 applications may be applied per fruit year regardless of rate or formulation used.</p> <p>Do not pick fruit or do other work involving contact with the tree (such as pruning) within 7 days after treatment.</p> <p>The citrus rootweevil complex includes sugarcane rootstalk borer (apopna weevil), fuller rose beetle, little leaf notcher, and two species of blue green citrus rootweevil.</p>
	<p>California red scale Yellow scale</p>	<p>4</p>	
<p>Grapes</p>	<p>Grape berry moth Grape cane girdlers Grape mealybug Leafhoppers* Redbanded leaf roller Thrips Grape leaf skeletonizer</p>	<p>1-1/2 to 2</p>	<p>Apply specified dosage per acre as a full coverage spray.</p> <p>A total of 3 applications may be made per crop season regardless of rate or formulation used.</p> <p>Allow at least 14 days between applications. Minimum dosage specified may be applied up to harvest. With higher rates allow at least 10 days between last application and harvest.</p>

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RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GUTHION 50% WP	REMARKS
FRUIT (Cont'd) Strawberries	Aphids* Meadow spittlebug Oblique-banded leaf roller Obscure root weevil Omnivorous leaf tier Pea leaf weevil Small black (grass) weevil Strawberry leaf roller Whitefly	1	Apply specified dosage per acre as a full coverage spray using sufficient water for good coverage. For application by irrigation systems: Apply specified dosage per acre. Follow all directions given under the CHEMIGATION section of this label. A total of 4 applications may be made per crop season regardless of rate or formulation used. Allow at least 5 days between applications and at least 5 days between last application and harvest.

*In some areas, these species may have developed resistance to organophosphate insecticides. GUTHION insecticide used alone may not provide satisfactory control in those areas. Consult your local agricultural advisor or cooperative extension service for recommendations.

NUT CROPS			
Almonds	Peach twig borer Navel orangeworm	3 to 4	Apply specified dosage per acre. A total of 2 applications may be made per crop season regardless of rate or formulation used. Allow at least 30 days between applications and at least 60 days between last application and harvest. Do not apply after husks split.
Filberts (Pacific Northwest only)	Apple mealybug Filbert worm Filbert aphid Filbert leaf roller	3 to 4	Apply specified dosage per acre as a full coverage spray. A total of 3 applications may be made per crop season regardless of rate or formulation used. Allow at least 14 days between applications and at least 30 days between last application and harvest. Do not graze livestock in treated groves for 21 days after treatment.

RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GUTHION 50% WP	REMARKS
<p><u>NUTS (Continued)</u></p> <p>Pecans</p>	<p>Aphids* Fall webworm Hickory shuckworm Leaf miners May beetles Pecan casebearer Southern green stink bug Spittlebugs Twig girdlers Walnut caterpillars</p>	<p>3 to 4</p>	<p>Apply specified dosage per acre as a full coverage spray.</p> <p>A total of 3 applications may be made per crop season regardless of rate or formulation used.</p> <p>Allow at least 7 days between applications.</p> <p>Do not apply after shuck split.</p> <p>Livestock may be grazed in treated groves after a 21-day post-treatment interval.</p> <p>*In some areas, these species may have developed resistance to organophosphate insecticides. GUTHION insecticide used alone may not provide satisfactory control in those areas. Consult your local agricultural advisor or cooperative extension service for recommendations.</p>
<p>Walnuts</p>	<p>Codling moth Filbertworm Navel orangeworm Walnut husk fly Red-humped caterpillar</p>	<p>3 to 4</p>	<p>Apply specified dosage per acre as a full coverage spray.</p> <p>A total of 3 applications may be made per crop season regardless of rate or formulation used.</p> <p>Allow at least 14 days between applications.</p> <p>Do not apply after husks split.</p> <p>Do not graze livestock in treated groves for 21 days after treatment.</p>

RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GUTHION 50% WP	REMARKS
VEGETABLES (Continued)			
Artichokes	Plume moth	3	<p>Apply specified dosage per acre in sufficient water for complete coverage. For application by irrigation systems: Apply specified dosage per acre. Follow all directions given under the CHEMIGATION section of this label. A total of 3 applications may be made per crop season regardless of rate, formulation or method of application used.</p> <p>Allow at least 14 days between applications and at least 30 days between last application and harvest.</p> <p>Do not feed or ensile treated forage.</p>
Broccoli Brussels Sprouts Cabbage (Includes tight heading varieties of Chinese cabbage) Cauliflower	Aphids* Cabbage looper Diamondback moth Imported cabbageworm	1 to 1-1/2	<p>Apply specified dosage per acre in sufficient water for complete coverage. Do not apply within 7 days of harvest for Brussels sprouts, 15 days of harvest for broccoli and cauliflower, nor within 21 days of harvest for cabbage.</p> <p>Do not exceed more than 3 applications per season.</p>
	Cabbage maggot	1/4 to 3/8	<p>Mix specified dosage in 50 gallons of water. Apply 4 to 6 ounces of this emulsion per plant at or immediately after transplanting.</p>
	Cabbage maggot (Direct seeded fields in California only)	1-1/2	<p>Apply specified dosage per acre in sufficient water for uniform distribution. Mix in upper 2 inches of soil prior to seeding or spray in the seed row at planting time. Usually 2 additional sprays are necessary during the growing season, depending on time of year and maggot populations. Do not apply within 21 days of harvest.</p> <p>Do not exceed more than 3 applications per season.</p>

RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GUTHION 50% WP	REMARKS
VEGETABLES (Continued) Broccoli Brussels Sprouts Cabbage (Includes tight heading varieties of Chinese cabbage) Cauliflower	Cabbage maggot (Transplant fields in California only)	1-1/2	Apply specified dosage in 300 to 400 gallons of water per acre as a soil drench in rows when damage first appears. Additional applications may be necessary. Do not apply within 21 days of harvest. Do not exceed more than 3 applications per season.
Celery	Aphids* Leaf miners Leafhoppers Spittlebug Tarnished Plant bug	1	Apply specified dosage in 100 gallons of water as a full coverage spray** using not more than 200 gallons of finished spray per acre. Do not apply within 14 days of harvest. Do not exceed more than 3 applications per season.
Cucumbers	Spotted cucumber beetle Striped cucumber beetle Western-striped cucumber beetle	1	Apply specified dosage per acre in sufficient water for complete coverage. For application by irrigation systems: Apply specified dosage per acre. Follow all directions given under the CHEMIGATION section of this label. A total of 3 applications may be made per crop season regardless of rate, formulation or method of application used. Allow at least 7 days between applications and at least 1 day between last application and harvest.
Eggplant	Leaf miners	3/4 to 1	Apply specified dosage per acre in sufficient water for complete coverage. For application by irrigation systems: Apply specified dosage per acre.
	European corn borer Flea beetles		CHEMIGATION section of this label. A total of 3 applications may be made per crop season regardless of rate, formulation or method of application used. Allow at least 7 days between applications and at least 21 days between last application and harvest.

RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GUTHION 50% WP	REMARKS
VEGETABLES (Continued)			
Onions (Green and Dry)	Thrips	1 to 1-1/2	<p>Apply specified dosage per acre by air or ground equipment in sufficient water for complete coverage. For application by irrigation systems: Apply specified dosage per acre. Follow all directions given under the CHEMIGATION section of this label. A total of 3 applications may be made per crop season regardless of rate, formulation or method of application used.</p> <p>Allow at least 7 days between applications for dry bulb onions. Allow at least 10 days between applications for green onions.</p> <p>For dry onions, allow at least 28 days between last application and harvest.</p> <p>For green onions, allow at least 14 days between last application and harvest.</p>
Peppers	Leaf miners	3/4 to 1	<p>Apply specified dosage per acre by air or ground equipment in sufficient water for complete coverage. For application by irrigation systems: Apply specified dosage per acre. Follow all directions given under the CHEMIGATION section of this label. A total of 3 applications may be made per crop season regardless of rate, formulation or method of application used.</p> <p>Allow at least 7 days between applications and 21 days between last application and harvest.</p>
	European corn borers Flea beetles	1	

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RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GUTHION 50% WP	REMARKS
VEGETABLES (Continued)			
Potatoes	Colorado potato beetle	3/4	<p>Apply specified dosage per acre in sufficient water for complete coverage. For application by irrigation systems: Apply specified dosage per acre. Follow all directions given under the CHEMIGATION section of this label. A total of 3 applications may be made per crop season regardless of rate, formulation or method of application used.</p> <p>Allow at least 7 days between applications and 7 days between last application and harvest.</p> <p><u>NOTE:</u> Resistance of Colorado potato beetle has occurred in some areas. Consult your local Extension Service or MOBAY Sales representative for details.</p>
	Banded cucumber beetle Leaf miners	3/4 to 1	
	European corn borer Flea beetle Leafhoppers Spittlebugs Tarnished plant bug	1 to 1-1/2	
	Tuberworm	1-1/8 to 1-1/2	

RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GUTHION 50% WP	REMARKS
VEGETABLES (Continued)			
Tomatoes	Colorado potato beetle	3/4	<p>Apply specified dosage per acre by air or ground equipment in sufficient water for complete coverage. For application by irrigation systems: Apply specified dosage per acre. Follow all directions given under the CHEMIGATION section of this label. A total of 4 applications may be made per crop season regardless of rate, formulation or method of application used. The high rates should be used where heavy infestations of late instar lepidopterous larvae (large worms) and pinworms are present.</p> <p>Allow at least 7 days between applications.</p> <p>Rates of 1-1/2 pounds per acre or less may be applied up to day of harvest.</p> <p>Rates above 1-1/2 pounds require an interval of 14 days between last application and harvest.</p> <p>NOTE: Resistance of Colorado potato beetle has occurred in some areas. Consult your local Extension Service or MOBAY Sales Representative for details.</p> <p>*In some areas, these species may have developed resistance to organophosphate insecticides. GUTHION insecticide used alone may not provide satisfactory control in those areas. Consult your local agricultural advisor or cooperative extension service for recommendations.</p>
	Banded cucumber beetle <u>Drosophila</u> Green stink bug Leaf miners Whitefly	3/4 to 1	
	Aphids* European corn borer Flea beetles Grasshoppers Leafhoppers Thrips	1 to 1-1/2	
	Tuberworm	1-1/8 to 1-1/2	
	Fruitworm Hornworm Pinworm Yellow-striped armyworm	1-1/2 to 3	

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RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GUTHION 50% WP	REMARKS
<p><u>MELONS</u></p> <p>Honeydew Melons Muskmelon (Cantaloupe) Watermelons Other Melons</p>	<p>Leafhoppers Leaf miners</p>	<p>3/4 to 1</p>	<p>Apply specified dosage per acre in sufficient water to give complete coverage. For application by irrigation systems: Apply specified dosage per acre. Follow all directions given under the CHEMIGATION section of this label. A total of 3 applications may be made per crop season regardless of rate, formulation or method of application used.</p> <p>Allow at least 5 days between applications and at least 7 days between last application and harvest.</p>
<p><u>ORNAMENTALS</u></p> <p>Southern Pine Seed Orchards</p>	<p>Coneworm Seedworm</p>	<p>See Remarks</p>	<p>Use 4.5 pounds per 100 gallons of water (0.2% dilution) as a full coverage spray**. Use 2.25 pounds per 10 gallons of water (1% dilution) for low volume sprayers. Apply first application within 30 days following conelet closure, followed by 3 to 5 applications (at least 30 days apart). Apply approximately 5 to 10 gallons of the 0.2% dilution with high volume sprayers or approximately 1 to 2 gallons of the 1% dilution with low volume sprayers per tree. Thorough coverage of cones is necessary for maximum control.</p>

RECOMMENDED APPLICATIONS

CROP	INSECT	POUNDS GUTHION 50% W.P.	REMARKS
<p>ORNAMENTALS (Cont'd)</p> <p>Ornamentals Nursery Plants</p>	<p>Aphids* <u>Cerococcus</u> scale Euonymus scale Juniper scale Lace bugs Leafhoppers Mites Olive scale Oystershell scale <u>Pulvinaria</u> scale Thrips</p>	<p>3/4 to 1</p>	<p>Apply specified dosage per 100 gallons of water. Spray all foliage surfaces including the underside of leaves for complete coverage. For control of black pine leaf, brown soft, European elm, and Putnam scales, use the higher rate. Repeat as necessary.</p>
	<p>Brown soft scale Putnam scale</p>	<p>2</p>	
	<p>European elm scale Black pine leaf scale</p>	<p>1-1/2 to 2</p>	
	<p>Cone midge Cone moth</p>	<p>4 to 8</p>	<p>Apply specified dosage per 100 gallons of water. Time applications to coincide with moth flight when cones are open for pollination. Thorough coverage of cones is necessary for maximum control. Repeat as necessary.</p>
	<p>European pine shoot moth Nantucket pine tip moth</p>	<p>3/4 to 1-1/2</p>	<p>Apply specified dosage per acre in sufficient water for good coverage. Time applications to coincide with moth flights.</p>
	<p>Injury to hawthorn or American linden may occur under some conditions. Do not allow children or pets on treated area until material has been washed into soil and treated area is dry.</p>		
<p>Christmas Trees</p>	<p>Scale spp. Sawfly spp. European pine shoot moth Eastern pine shoot borer Nantucket pine tip moth</p>	<p>3/4 to 1-1/2</p>	<p>Apply specified dosage per acre by air or ground equipment in sufficient water to give complete coverage but not less than 1 gallon per acre. Time applications to coincide with susceptible pest development.</p>

Do not allow children or pets in treated area until material is dry.

*In some areas, these species may have developed resistance to organophosphate insecticides. GUTHION insecticide used alone may not provide satisfactory control in those areas. Consult your local agricultural advisor or cooperative extension service for recommendations.

**This concentration is calculated for conventional, hydraulic-type sprayers. When lower volumes of spray per acre are applied with concentrate sprayers, increase the concentration of GUTHION 50% Wettable Powder in the spray mixture in order to apply amount of GUTHION 50% Wettable Powder per acre equivalent to a full coverage spray. In Southern Pine Seed Orchards where conditions dictate an air application, apply dosage per acre equivalent to a full coverage ground spray in not less than one gallon of water per acre.

RESTRICTIONS

Do not use on other crops used for food or forage. Use only according to label directions. Application at rates above those shown may result in illegal crop residues. Do not graze livestock in treated orchards or groves for 21 days after treatment. Do not treat food crops grown in the greenhouse.

RE-ENTRY STATEMENTS FOR FARMWORKERS

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons. Do not enter treated areas for 24 hours after application unless protective clothing is worn, as described in the product labeling. Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

(The following may appear on Supplemental Labeling accompanying the product)
Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. Oral warnings should include those statements found under the label heading "Precautionary Statements" and "Re-entry Statements" included on this label. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: DANGER, area treated with GUTHION 50% Wettable Powder on (date of application). Do not enter treated areas for 24 hours after application unless protective clothing is worn, as described in the product labeling. If on skin, remove contaminated clothing and wash skin immediately with soap and warm water. If eyes are contaminated, wash with flowing water for at least 15 minutes. If swallowed, vomiting should be induced. (See Precautionary Statements on label).

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ROTATIONAL CROPS

Do not plant root crops other than those with registered azinphos-methyl uses in azinphos-methyl treated soil sooner than 6 months after the last application. Do not plant any other crop other than those with registered azinphos-methyl uses in treated soil sooner than 30 days after the last application.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER  POISON

Fatal if swallowed, inhaled, or absorbed through the skin. Do not get in eyes or on skin. Do not breathe dust or spray mist. Spray operator should work to windward to stay out of drift or mist.

When loading spray tank, or handling the powder at any other time, wear protective clothing, natural rubber gloves and goggles. For protection against GUTHION, when handling the powder, wear a pesticide mask or respirator jointly approved by the Mining Enforcement and Safety Administration (formerly the U.S. Bureau of Mines) and by the National Institute for Occupational Safety and Health under the provisions of 30 CFR Part 11.

Do not contaminate feed or foodstuffs. Keep out of reach of children and domestic animals. Keep all unprotected persons out of the operating area or vicinity where there may be danger of drift. Wash hands, arms, and face thoroughly with soap and warm water before eating or smoking. Wash all contaminated clothing with soap and hot water before reuse.

SYMPTOMS OF POISONING: A sense of "tightness" in the chest. Sweating. Contracted pupils. Stomach pains. Vomiting and diarrhea.

STATEMENTS OF PRACTICAL TREATMENT

In case of poisoning, call a physician immediately. Have patient lie down and keep quiet. If swallowed, vomiting should be induced. Administer water freely and induce vomiting by giving one dose (1/2 oz. or 15 ml.) of syrup of ipecac. If vomiting does not occur within 10 to 20 minutes, administer second dose. If syrup of ipecac is not available, induce vomiting by sticking finger down throat. Repeat until vomit fluid is clear. Never give anything by mouth to an unconscious person. Professional medical assistance should be secured immediately. If on skin, remove contaminated clothing and wash skin immediately with soap and warm water. If eyes are contaminated, wash with flowing water for at least 15 minutes.

TO PHYSICIAN:

ANTIDOTE - Administer atropine sulfate in large therapeutic doses. Repeat as necessary to the point of tolerance. 2-PAM is also antidotal and may be administered in conjunction with atropine.

Compound inhibits cholinesterase resulting in stimulation of the central nervous system, the parasympathetic nervous system, and the somatic motor nerves. Do not give morphine. Watch for pulmonary edema, which may develop in serious cases of poisoning even after 12 hours. At first sign of pulmonary edema, the patient should be placed in an oxygen tent and treated symptomatically.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and wildlife.

Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). Do not contaminate water by cleaning of equipment or disposal of wastes. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treated area. Protective information may be obtained from your Cooperative Agricultural Extension Service.

PROTECTIVE CLOTHING AND WORK SAFETY STATEMENTS

If handled indoors provide mechanical exhaust ventilation.

Keep all unprotected persons, children, livestock, and pets away from treated areas or where there is danger of drift.

Do not rub eyes or mouth with hands. If you feel sick in any way, STOP work and get help right away. See First Aid section of the label.

For questions regarding further treatment, or information about the product, call the National Pesticide Telecommunications Network at 800-858-7378.

HANDLE THE CONCENTRATE ONLY WHEN WEARING THE FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT:

Wear a protective suit of one or two pieces that covers all parts of the body except the head, hands, and feet. Wear chemical resistant gloves, chemical resistant apron, and chemical resistant shoes, shoe coverings, or boots. Wear goggles or a face shield and a pesticide respirator approved by the National Institute for Occupational Safety and Health under the provision of 30 CFR Part 11.

WEAR THE FOLLOWING PROTECTIVE CLOTHING DURING APPLICATION, EQUIPMENT REPAIR, EQUIPMENT CLEANING, DURING REENTRY TO TREATED AREAS, AND DISPOSAL OF THE PESTICIDE:

Wear a protective suit of one or two pieces that covers all parts of the body except the head, hands, and feet. Wear chemical resistant gloves and chemical resistant shoes, shoe coverings, or boots. Wear a chemical resistant hat during airblast application.

During application from an enclosed tractor cab or airplane cockpit, or other suitable vehicle in which the windows are rolled up, long sleeved shirt and long pants may be worn in place of the above protective clothing. Chemical resistant gloves must be available in the cab or cockpit and must be worn while exiting. This clothing is inadequate to protect you during equipment repair, equipment cleaning, re-entry, or during pesticide disposal.

IMPORTANT! BEFORE REMOVING GLOVES, WASH THEM WITH SOAP AND WATER. ALWAYS WASH HANDS, FACE, AND ARMS WITH SOAP AND WATER BEFORE SMOKING, DRINKING, EATING OR TOILETING.

After work, take off all clothing and shoes. Shower using soap and water. Do not wear contaminated clothing. Wash protective clothing and protective equipment with soap and water after each use. Respirators must be cleaned and filters replaced according to instructions included with the respirators. Personal clothing worn during use must be laundered separately from household articles. Clothing and protective equipment heavily contaminated or drenched with GUTHION azinphos-methyl must be destroyed according to state and local regulations. HEAVILY CONTAMINATED OR DRENCHED CLOTHING CANNOT BE ADEQUATELY DECONTAMINATED.

During aerial application, human flaggers are prohibited unless in totally enclosed vehicle.

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STORAGE AND DISPOSAL

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

Pesticide wastes are acutely hazardous. 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: Do not use container in connection with food, feed, or drinking water. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Handle and open container in a manner as to prevent spillage. If the container is leaking or material spilled for any reason or cause, carefully sweep material into a pile. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Dispose of pesticide as directed above. In spill or leak incidents, keep unauthorized people away. You may contact the Mobay Emergency Response Team for decontamination procedures or any other assistance that may be necessary. The Mobay Kansas City Emergency Response Telephone No. is 816-242-2582, or contact Chemtrec at 800-424-9300.

GUTHION is a Reg. TM of Bayer AG, Germany.