

PM 10 55947-49

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

JUN 9 1994

FREDERICK F. PISZKIEWICZ
SANDOZ AGRO INC.
1300 EAST TOUHY AVE.
DES PLAINES, IL 60018

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Subject: Label Amendment Submission of 05/2/94 Response to PR Notice 93-7
EPA Reg. No. 55947-49
THURICIDE-HPC HIGH POTENCY AQUEOUS CONCENTRATE

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

By the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
- AND
- WITHIN one year from date of this acceptance.



Recycled/Recyclable
Printed with Soy/Canola Ink on paper that
contains at least 50% recycled fiber

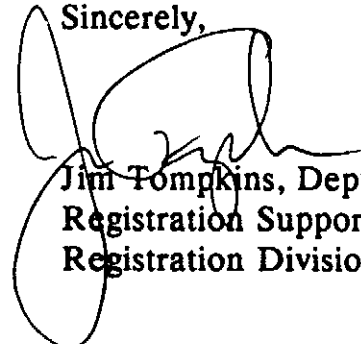
Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs (7505C)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Sincerely,



Jim Tompkins, Deputy Chief
Registration Support Branch
Registration Division (7505W)

Attachment

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division

Frederick F. Piszkiwicz
SANDOZ AGRO INC
1300 EAST TOUHY AVE
DES PLAINES IL 60018

Comment for: EPA Reg Nr.55947-49
THURICIDE-HPC HIGH POTENCY AQUEOUS CONCENTRATE

The following specific comments pertain to your WPS
labeling submission concerning the product
cited above:

Correct the typographical errors circled on your proposed
label.

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SANDOZ AGRO, INC.

thuricide®-HPC

HIGH POTENCY AQUEOUS CONCENTRATE
For Control of Insect Pests In Vegetables,
Fruits, Nuts, Field Crops, Shade Trees,
Ornamentals and Forest

ACCEPTED
with COMMENTS
In EPA Letter Dated

JUN 9 1994

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

55947-49

ACTIVE INGREDIENTS:

Bacillus thuringiensis Variety Kurstaki, potency of 4,000

International Units (at least 6 million viable spores)

per milligram* 0.8%

INERT INGREDIENTS: 99.2%

TOTAL 100.0%

* Equivalent to 4.0 billion International Units per quart.

KEEP OUT OF REACH OF CHILDREN

CAUTION

AVOID INHALATION OR CONTACT WITH EYES
OR OPEN WOUNDS.

APPLY THIS PRODUCT ONLY AS SPECIFIED
ON THIS LABEL.

STORE IN A COOL PLACE

Activity may be impaired by storage at temperatures above 90° F.

Protect from freezing.

EPA Reg. No. 55947-49
EPA Est. No. 55947-CA-2

NET CONTENTS:
53 GALLONS (200 L)

SANDOZ
AGRO, INC.
Des Plaines, IL 60018

LOT NO.: _____

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DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Do not apply this product through any type of irrigation system.

Personal Protective Equipment:

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering controls statements:

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

GENERAL

Apply at first sign of infestation when worms are small and repeat at weekly intervals as needed to maintain control. THURICIDE® HPC attacks the larval gut and must be eaten by the insect to be effective. Thorough underleaf coverage is, therefore, essential for best results. After eating THURICIDE HPC, worms stop feeding and die within 2-3 days. Since the active ingredient, Bacillus thuringiensis, is exempt from tolerance requirements, THURICIDE HPC may be applied up to the day of harvest.

MIXING

Always shake or stir THURICIDE HPC thoroughly before use. Pour recommended amount of THURICIDE HPC onto surface of water in a nearly filled spray tank. Maintain agitation. Use the higher rates against very heavy worm infestations or where it is difficult to get good coverage due to rank foliage. Do not allow dilute sprays to stand in the tank for more than 12 hours. Combinations with chemical insecticides, fungicides, spreader-stickers, and stickers in the tank are generally not deleterious to THURICIDE HPC if the mix is used promptly.

GROUND APPLICATION

Use recommended amount of THURICIDE HPC in a minimum of 5 to 50 gallons of water, depending on the type of crop and requirements of state regulations. Add a sticker, adhesive or deposit builder where heavy dew or rain is encountered.

GROUND APPLICATION, TREES

Use recommended amount of THURICIDE HPC in 100 gallons of water in high pressure, high gallonage, hydraulic sprayers. Wet foliage thoroughly with spray but not to the point of excessive runoff. For mist blowers use recommended amount in 10 gallons of water. To prevent washoff by rain add a sticker to the finished spray.

AERIAL APPLICATION

Use recommend amount of THURICIDE HPC in 5 to 20 gallons of water. A sticker should be added under conditions of heavy dew or rain. Apply early morning or evening when the air is calm.

STORAGE AND DISPOSAL

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

STORAGE

Store in a cool place. Activity may be impaired by storage of temperatures above 90° F. Protect from freezing.

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 dispose of in a sanitary landfill, or by incineration if allowed by State and local authorities.

RECOMMENDATIONS

Thorough coverage is essential when using THURICIDE HPC Concentrate.

LIMITED WARRANTY AND LIABILITY

NOTICE: Read this Limited Warranty and Liability before buying or using the product. If terms are not acceptable, return it at once unopened.

It is critical that this product be used and mixed only as specified on the label. The laws of a State may make some or all of this paragraph inapplicable or may give you rights in addition to your rights hereunder. Except to the extent prohibited by applicable law, the exclusive remedy of the user or buyer and the limit of liability of this Company or any other Seller for any and all losses, personal injuries or damages resulting from the use of this product, shall be the purchase price paid by the user or buyer for the quantity of product involved. Except to the extent prohibited by State Law, there is no warranty, and this Company and other Sellers disclaim of liability for losses, personal injury or damages: (i) arising from any use of this product in a manner or for a purpose not recommended in its label directions, or from mixing the product before use with any substance except as recommended by the product's label; (ii) arising from handling or storage in violation of label instructions; (iii) for all indirect, special or consequential damages; (iv) when not reported to this Company within one year of discovery. THERE ARE NO IMPLIED WARRANTIES AND NO WARRANTIES OF MERCHANTABILITY OR FITNESS.

Crop	Pest	Qts. per acre
ALFALFA	Alfalfa Caterpillar	¼
ALMONDS ¹	Redhumped Caterpillar	1-2
ALMONDS ¹ , CHERRIES ¹	Tent Caterpillar	1-2
Apply when caterpillars are actively feeding (2nd-4th instar)		
APPLES ¹ , PEARS ¹	Redbanded Leafroller	
Apply when eggs or newly hatched larvae first appear. Continue applying as a part of the normal cover spray program until pest is adequately controlled.		
	Tufted Apple Budmoth	
	Variegated Leafroller	1-2
	Tent Caterpillar	
	Fruit Tree Leafroller	
	Gypsy Moth	
BROCCOLI, BRUSSELS SPROUTS,	Diamondback Moth	½-1
CABBAGE, CAULIFLOWER, COLLARDS,	Imported Cabbage Worm	½-1 ½

KALE, MUSTARD-GREENS, TURNIP GREENS	Green Cloverworm Cabbage Looper	½-1 ½ 1-2
BEANS, BEETS, CARROTS, CELERY, CHARD, CHINESE CABBAGE (Choy sum), COS LETTUCE, ENDIVE, ESCAROLE, GARLIC, KOHLRABI, LENTILS, LETTUCE, ONIONS, PARSLEY, RADISHES, SPINACH, SQUASH	Cabbage Looper	1-2
CUCUMBERS, MELONS Begin treatment when worms are small to avoid damage and scarring to the crop.	Cabbage Looper	1-2
EGGPLANT, PEPPERS	Tomato Hornworm Tomato Fruitworm ² Cabbage Looper	½-1 ½ 1-2
CURRANTS, BLUEBERRIES, CANEBERRIES (BLACKBERRIES, DEWBERRIES, RASPBERRIES) Apply by ground equipment only. Begin treatment as soon as possible after hatching and before larvae are protected by leaf folds.	Omnivorous Leafroller	1-2
COTTON	Tobacco Budworm Cotton Bollworm	1-2

For the suppression of light to moderate infestations, apply at first sign of egg laying or newly hatched worms (1st and 2nd instar larvae). Reapply at 3-5 day intervals to sustain worm suppression or until adequate reduction of worm population is achieved. Use THURICIDE® HPC under a pest management program that includes close scouting. If heavy worm populations occur, it may be necessary to apply an insecticide with rapid knockdown and good larvicidal activity as a replacement. Apply from 5-15 gallons total spray per acre with ground equipment and from 2-5 gallons total spray per acre with aerial equipment.

DIRECTIONS FOR USE OF TANK-MIX COMBINATIONS OF THURICIDE HPC AND CHLORDIMEFORM (FUNDAL³ OR GALECRON⁴ SP OR 4EC).*

Crop	Insecticide	Pest	Rate per acre
COTTON	THURICIDE HPC	Tobacco Budworm	½-1 pt.
	+ chlordimefc. 1 SP*	Cotton Bollworm	+ ¼ - ¼ LB.
	or chlordimeform 4EC*		or ¼ - ½ pt.

Use THURICIDE HPC plus chlordimeform for a combined ovicide/larvicide effect. Use the low rates for suppression of light infestations, and the high rates for suppression of moderate infestations. Apply at first sign of egg laying or newly hatched worms. Reapply at 3-5 day intervals to sustain suppression, or until adequate worm reduction is achieved. Apply from 2-5 gallons total spray per acre with aerial equipment. Follow all restrictions, safety precautions and directions contained on the FUNDAL or GALECRON labels.

DIRECTIONS FOR USE OF TANK-MIX COMBINATIONS OF THURICIDE HPC AND ELCAR INSECTICIDE (EPA REG. NO. 55947-59) IN THE SOUTHWEST ONLY

Crop	Insecticide	Pest	Rate per acre
COTTON	THURICIDE HPC	Cotton Bollworm	1 pt.-1qt.
	+ ELCAR*	Tobacco Budworm	+ 1/10 - 1/8 lb.

Use THURICIDE HPC in combination with ELCAR* for an increased larvicide effect. Use the low rate combination for light infestations, and use the high rate combination for control of moderate infestations. Apply at first sign of egg deposition or newly hatched worms, and repeat at 3-7 day intervals, as long as egg deposition continues.

* Not registered for use in California.

Crop	Pest	Qts. per acre
COTTON	Cabbage Looper	1-2
PEANUTS	Cabbage Looper	1/2-1 1/2
	Velvetbean Caterpillar	
POTATOES	Podworm ²	1-2
	Cabbage Looper	1-2
SOYBEANS	Soybean Looper	1-1 1/2
	Cabbage Looper, Green	
SUGARBEETS	Cloverworm, Velvetbean	1/2-1 1/2
	Caterpillar	
TOBACCO	Podworm ²	1-2
	Cabbage Looper	
TOMATOES	Omnivorous Leafroller	1-2
	Cabbage Looper	
WATERMELONS (Florida)	Tobacco Budworm	1-1 1/2
	Tobacco Hornworm	
GRAPES	Tomato Hornworm	1/2-1 1/2
	Cabbage Looper	
GRAPES	Tomato Fruitworm ²	1-2
	Rindworm Complex	1/2-1 1/2
MINT	Grape Leaf Folder	1-2
	Omnivorous Leafroller	1/2-1 1/2
MINT	Cabbage Looper	1-2

Start treating as soon as possible after hatching and before larvae are protected by leaf folds. Apply by ground equipment in up to 200 gallons total spray per acre to obtain thorough coverage of leaf surfaces.

Crop	Pest	Qts. per acre
STRAWBERRIES Use 20 gallons water minimum per acre when using ground equipment and 5 gallons water minimum per acre by aircraft.	Cabbage Looper	
	Roughskinned Cutworm	1-2
SUGAR MAPLE	Spring & Fall Cankerworm	
	Fall Webworm	
	Tent Caterpillar	1-2
	Gypsy Moth	
PEACHES, NECTARINES	Redhumped Caterpillar	
	Tent Caterpillar	1-2
	Omnivorous Leafroller	
BANANAS (Hawaii) Use calibrated ground equipment with adequate water to apply to point of runoff.	Banana Skipper	1-2
ORANGES	Fruit Tree Leafroller	1-2
	Orange Dog	½-1
	Citrus Cutworm	1-2
ORANGES Use 50 gallons water minimum to 600 gallons maximum per acre when using ground equipment, and 10 gallons water minimum per acre by aircraft.		
FILBERTS¹ Apply when caterpillars are actively feeding (2nd-4th instar). Apply at 10% egg hatch.	Tent Caterpillar*	1-2
	Filbert Leafroller**	1-2
PECANS¹	Redhumped Caterpillar	
	Fall Webworm	1-2
	Tent Caterpillar	
	Tent Caterpillar	
WALNUTS¹ Use 100 gallons water minimum per acre when using ground equipment, and 10 gallons water minimum per acre by aircraft.	Fall Webworm	
	Omnivorous Leafroller	1-2
	Redhumped Caterpillar	¼-1
KIWI	Omnivorous Leafroller	1-2
	Fruittree Leafroller	
SHADE TREES, ORNAMENTALS FOREST	Cabbage Looper	
	Spring and Fall Cankerworm	
	Fall Webworm	½-1
	Tent Caterpillar	
	Redhumped Caterpillar	½-2
	Oakmoth Larvae	1-2
STORED SOYBEANS, GRAINS	Gypsy Moth	
	Indian Meal Moth	
	Almond Moth	

- 1) To achieve adequate coverage of large trees or dense foliage, aerial application of not less than 15 gpa is preferred.
- 2) Suppression only.
- 3) FUNDAL 4EC (EPA Reg. No. 2139-100) Nor-Am Ag Prod., Inc.
FUNDAL SP (EPA Reg. No. 2139-98) Nor-Am Ag Prod., Inc.
- 4) GALECRON 4EC (EPA reg. No. 100-551-AA) Ciba-Geigy Corp.
GALECRON SP (EPA Reg. No. 100-554-AA) Ciba-Geigy Corp.
- 5) GYPSY MOTH: Aerial Application

THURICIDE HPC may also be applied by air to prevent excessive defoliation by Gypsy Moth. For best results, spray when leaf expansion reaches 40%-50%, and respray 14 days later. Use two quarts of THURICIDE HPC in 1-4 gallons finished spray per acre. Incorporate in the spray mix on evaporation retardant, such as molasses, Cargill's Insecticide Base polyethylene glycol E-400, and a film-forming sticker. To obtain thorough coverage use spray equipment suitable to deliver droplets with an average diameter of less than 300 microns.

To control and prevent Indian Meal Moth and Almond Moth infestations of stored grains and soybeans, prepare a spray mixture which includes one gallon of water for every 6 ounces THURICIDE HPC. The spray mixture may be applied either by treating the top 4 inches of grain as it is being augured into storage (applying 0.6 pint of mixture per bushel in the grain stream), or by treating the surface of grain after it is in the bin. The table below can be used as a guide in determining the total amount of THURICIDE HPC needed according to the bin diameter or the number of bushels to be treated.

Bin Diameter (ft.)	Surface Area (sq. ft.)	Bushels (to 4 inch depth)	THURICIDE HPC Rate
8	50	13	6 oz.
12	113	30	14 oz.
16	201	53	24 oz.
20	314	84	1 qt. 2 oz.
24	452	120	1 qt. 20oz.
28	615	163	2 qts. 8 oz.
32	804	214	2 qts. 28 oz.

To insure thorough coverage when making applications to the grain surface after it is in the bin, apply spray mixture in three applications. Mix the grain with a scoop or rake to a depth of 4 inches after each application.

Stored grain may be treated anytime, but for best results, treat grain at the time it is placed into storage or shortly thereafter, or in the early spring prior to egg laying. Full season control is normally experienced. Retreat only if reinfestation occurs.

For the protection of bagged grain, apply spray mixture to entire grain mass, and mix thoroughly prior to bagging. THURICIDE HPC at 1 ½ qts. per 10 gallons of water will treat approximately 100 bushels.

Treated grain may be used at any time after treatment.

GREENHOUSE APPLICATION

THURICIDE HPC may also be used in the greenhouse and on flowers at ½-1qt. per 100 gallons of water for control of listed insects on crops on this package label.

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STATE SLN (24c)

The following are based on Special Local Need registrations only.

Crop	Pest	Qts. per acre
<u>CALIFORNIA</u>	<u>EPA SLN NO. CA-780121</u>	
AVOCADOS	Amorbia Moth,	
	Omnivorous Leafroller,	2 to 4
	Omnivorous Looper,	
	Orange Tortrix	

Applications may be made twice per year. Do not use in less than 100 gallons of water by aircraft nor in less than 50 gallons of water by ground rig. A special permit must be obtained from the county agricultural commissioner prior to this use.