

**DIRECTIONS FOR USE**

**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 under-leaf 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 a spore-former, tolerance requirements for 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 tank forage. 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 dangerous to Thuricide HPC if the mix is used promptly.

**GROUND APPLICATION:** Use recommended amounts 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 volume hydraulic sprayers. Wet foliage thoroughly with spray but not to the point of excessive runoff. For most bladders use recommended amount in 10 gallons of water. To prevent washoff by rain add a sticker to the finished spray.

**AERIAL APPLICATION:** Use recommended 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.

**CONTAINER DISPOSAL:** Do not reuse empty container. Destroy or discard in safe place.

**NOTICE:** Sperry Inc. makes no warranty, express or implied, including the warranties of merchantability and/or fitness for any particular purpose concerning this material, except those which are contained on this label.

**RECOMMENDATIONS:** Thorough coverage is essential when using Thuricide HPC Concentrate.

Crop	Pest	Oz. per acre
ALFALFA	Alfalfa caterpillar	1
ALMONDS*	Redhumped caterpillar	1.2
ALMONDS* CHERRIES	Tank caterpillar	1.2
*Apply when caterpillars are actively feeding (2nd-4th instar)		
APPLES - PEARS	Rebanded flatfoot or tufted apple bud moth variegated leafminer Tent caterpillar Fruit tree leafminer Gypsy moth	1.2
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.		
BROCCOLI - BRUSSELS SPROUTS	Diamondback moth	1.1
CABBAGE - CAULIFLOWER	Imported cabbage worm	1.1
COLLARDS - PAIL MUSTARD	Green imported worm	1.2
GREENS - TURNIP GREENS	Cabbage looper	1.2
BEANS - BEETS - CARROTS - CELERY	Cabbage looper	1.2
CHARD - CHINESE CABBAGE (Cabbage)	Cabbage looper	1.2
LETTUCE - ENDIVE	Cabbage looper	1.2
ESCAROLE - GARLIC - KHLABAI	Cabbage looper	1.2
LENTILS - LETTUCE - ONIONS	Cabbage looper	1.2
PARSLEY - RADISHES - SPINACH	Cabbage looper	1.2
SQUASH	Cabbage looper	1.2
CUCUMBERS - MELONS	Cabbage looper	1.2
Begin treatment when worms are small to avoid damage and carrying to the harvested crop.		
EGGPLANT - PEPPERS	Tomato hornworm "tomato fru-eater" Cabbage looper	1.1 1.2
CURPANTS - BLUEBERRIES	Omnivorous leaf-eater	1.2
CANEBERRIES - BLACKBERRIES	Omnivorous leaf-eater	1.2
DEWBERRIES - RASPBERRIES	Omnivorous leaf-eater	1.2
Apply by ground equipment only. Begin treatment as soon as possible after hatching and before larvae are protected by leaf folds.		

Crop	Pest	Oz. per acre
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 of heavy worm populations. If necessary, 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 (FUNDAL OR GALECROB) SP-OR-EC**

Crop	Insecticide	Pest	Rate per acre
COTTON	Thuricide HPC	Tobacco budworm	1 pt
	chlor dimetorm SP	Cotton bollworm	1/2 lb
	or		
	chlor dimetorm 4EC		1/2 pt
Use Thuricide HPC plus chlor dimetorm for a combined ovicide-larvicidal 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 GALECROB labels.			

**DIRECTIONS FOR USE OF TANK MIX COMBINATIONS OF THURICIDE HPC AND ELCAR INSECTICIDE (EPA REG NO 31273) IN THE SOUTHWEST ONLY**

Crop	Insecticide	Pest	Rate per acre
COTTON	Thuricide HPC	Cotton bollworm	1 pt 1 qt
	Elcar	Tobacco budworm	1 lb 1/2 lb
Use THURICIDE HPC in combination with ELCAR for an increased larvicidal 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 on an egg deposition continues at 3-5 day intervals.			



**ACTIVE INGREDIENTS:** *Bacillus thuringiensis* Berliner, potency of 4,000 International Units (at least 6 million viable spores) per milligram.  
**INERT INGREDIENTS:** Petroleum hydrocarbon solvent

\*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.

LOT

NET 1 U.S. GALLON



Sandoz, Inc. Crop Protection, 480 Camino Del Rio South, San Diego, CA 92108  
Made in U.S.A.

**ACCEPTED**

JUL 22 1981

U.S. DEPARTMENT OF AGRICULTURE  
 FEDERAL AGENCY FOR TOBACCO REGULATION  
 RECEIVED  
 JUL 22 1981  
 EPA Reg. No. 11273-2

# le-HPC

## CONCENTRATE

Concentration of 4,000 International Units

0.8%  
 3.0%  
 96.2%  
 100.0%

**KEEP OFF CHILDREN**

**DO NOT APPLY TO OPEN WOUNDS OR CUTS**

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Use temperatures above 90° F.

EPA Est. No. 36299 CA 1  
 EPA Reg. No. 11273 2

Rio South, San Diego, CA 92108

Crop	Pest	Rate
COTTON	Cabbage looper	1.2
	Cabbage looper	1.1
	Yellow horn caterpillar	1.2
PEANUTS	Podworm	1.2
	Podworm	1.2
POTATOES	Cabbage looper	1.2
	Soybean looper	1.1
SOYBEANS	Cabbage looper	1.1
	Cabbage looper - Green cloverworm	1.1
	Podworm	1.2
SUGARBETS	Cabbage looper	1.2
	Omnivorous leafhopper	1.2
TOBACCO	Cabbage looper	1.1
	Tobacco budworm	1.1
TOMATOES	Tomato hornworm	1.2
	Tomato fruitworm	1.2
WATERMELONS Florida	Worm	1.1
	Grape leafhopper	1.2
GRAPES	Omnivorous leafhopper	1.1
	Cabbage looper	1.2
MINT	Cabbage looper	1.2
	Cabbage looper	1.2
STRAWBERRIES	Cabbage looper	1.2
	Leafhopper	1.2
SUGAR MAPLE	Spring & Fall cankerworm	1.2
	Fall webworm	1.2
PEACHES NECTARINES	Leafhopper	1.2
	Leafhopper	1.2
BANANAS (Florida)	Banana borer	1.2
	Banana borer	1.2
ORANGES	Fruit tree leucosticte	1.2
	Orange dog	1.2
ORANGES	Citrus cutworm	1.2
	Citrus cutworm	1.2
HERBES	Tom Caterpillar	1.2
	Leafhopper	1.2

Crop	Pest	Rate
PECANS	Redhumped caterpillar	1.2
	Fall webworm	1.2
WALNUTS	Leafhopper	1.2
	Leafhopper	1.2
SHADE TREES ORNAMENTALS FOREST	Spring & Fall cankerworm	1.1
	Fall webworm	1.2
STANDARD SOYBEANS GRAINS	Podworm	1.2
	Podworm	1.2

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 5 ounces THURICIDE HPC. The spray mixture may be applied either by treating the top 4 inches of grain as it is being augered 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	4 oz
12	113	30	14 oz
16	201	53	24 oz
20	314	84	1 qt. 2 oz
24	452	120	1 qt. 20 oz
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 8 inches after each application.

Stored grain may be treated any time, 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 bugged grain, apply spray mixture to entire grain mass, and mix thoroughly prior to bagging. THURICIDE HPC at 1 qt. 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 1 qt. per 100 gallons of water for control of listed insects on crops on this package label.

- To achieve adequate coverage of large trees or dense foliage, aerial application of not less than 15 gpa is preferred.
- Suppression only.
- FUNDAL 4EC (EPA Reg. No. 2139 100) Nor Am Ag Prod. Inc.
- FUNDAL SP (EPA Reg. No. 2139 98) Nor Am Ag Prod. Inc.
- GALECRON 4EC (EPA Reg. No. 100 551 AA) Ciba Geigy Corp.
- GALECRON SP (EPA Reg. No. 100 554 AA) Ciba Geigy Corp.
- GYPSE MOTHS: 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 spray 14 days later. Use one quart of THURICIDE HPC in 1.4 gallons finished spray per acre. Incorporate in the spray mix an evaporative retardant such as morasses. Cargill's Insecticide Base polyethylene glycol E-400 and a film forming sticker. To obtain thorough coverage use spray equipment suitable to deliver droplets such as average diameter of less than 300 microns.

