

264-806

3/15/2004

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAR 15 2004

Jamin Huang  
Bayer CropScience LP  
P.O. Box 12014  
2 T.W. Alexandria Drive  
Research Triangle Park, NC 27709

Dear Mr. Huang:

Subject: Revised Endangered Species Statements; Revised Directions for Use  
Calypso 4 Flowable Insecticide  
EPA Registration No. 264-806  
Your Submission Dated March 12, 2004

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable with the following provision:

- Using the correct format, illustrated in Pesticide Registration (PR) Notice 2001-5, add the correct action identification symbol for resistance management to the upper right quadrant of the front label panel.

A stamped copy is enclosed for your records. Please submit one (1) final printed copy for the referenced label, incorporating the above changes, before releasing the product for shipment. If you have any questions regarding this letter, please feel free to contact Kable Bo Davis at (703) 306-0415.

Sincerely yours,

Daniel Kenny  
Product Manager (01)  
Insecticide-Rodenticide Branch  
Registration Division (7505C)

Enclosure

KD: 306-0415: IRB/PM01

CONCURRENCES

SYMBOL ▶	7505C							
SURNAME ▶	K. Davis							
DATE ▶	3/15/04							

# Calypso™ 4 Flowable Insecticide

**FOR CONTROL OF CERTAIN INSECTS INFESTING VARIOUS CROPS**  
**SHAKE WELL BEFORE USING**

**ACTIVE INGREDIENT:** Thiacloprid

[3-[(6-chloro-3-pyridinyl)methyl]-2-thiazolidinylidene]cyanamide ..... 40.4%

**INERT INGREDIENTS:** ..... 59.6%

Contains 4 pounds of thiacloprid per gallon.

EPA Reg. No. 264-806

EPA Est. No. 264-MO-002

## KEEP OUT OF REACH OF CHILDREN WARNING - AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail).

For **MEDICAL** And **TRANSPORTATION** Emergencies **ONLY** Call 24 Hours A Day 1-800-334-7577

For **PRODUCT USE** Information Call 1-866-99BAYER (1-866-992-2937)

### FIRST AID

<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor for treatment advice.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>

For **MEDICAL** Emergencies Call 24 Hours A Day 1-800-334-7577.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

**NOTE TO PHYSICIAN:** No specific antidote is available. Treat the patient symptomatically.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS (& DOMESTIC ANIMALS) WARNING

May be fatal if swallowed. Harmful if inhaled or absorbed through the skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid breathing spray mist. Avoid contact with the eyes, skin or clothing.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear long-sleeved shirt and long pants, waterproof gloves and shoes plus socks.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturers instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ACCEPTED  
with COMMENTS  
In EPA Letter Dated:

MAR 15 2004

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.  
264-806

**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.

**ENVIRONMENTAL HAZARDS**

This product is highly toxic to marine/estuarine invertebrates. Do not apply directly to water, areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

**Surface Water Label Advisory**

This product may contaminate water through run-off following rainfall events.

**Groundwater Label Advisory**

The degradate YRC2984 sulfonic acid has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

**DIRECTIONS FOR USE**

**It is a violation of Federal law to use this product in any manner inconsistent with its labeling. Read entire label before using this product.**

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

Not for use on residential sites. Do not store in or around residential sites.

Do not apply this product through any kind of irrigation equipment.

Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, nontarget crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

**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 intervals. 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 and shoes plus socks.

**STORAGE AND DISPOSAL**

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

**STORAGE**

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. Do not store in or around residential sites.

**PESTICIDE DISPOSAL**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL**

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

## MIXING INSTRUCTIONS

To prepare the spray, add a portion of the required amount of water to the spray tank and with agitation add Calypso™ 4 Flowable. Complete filling tank with balance of water needed. Maintain sufficient agitation during both mixing and application.

Calypso™ 4 Flowable may also be used with other pesticides and/or fertilizer solutions as recommended under specific crop use directions (see NOTE below). When tank mixtures of Calypso™ 4 Flowable and other pesticides are involved, prepare the tank mixture as recommended above. When pesticide mixtures are needed, add wettable powders first, Calypso™ 4 Flowable, or other flowables second, and emulsifiable concentrates last. Ensure good agitation as each component is added. Do not add the second component in the mixture until the tank contains at least 1/2 of desired amount of water. If a fertilizer solution is added, a fertilizer pesticide compatibility agent may be needed. Maintain constant agitation during both mixing and application to ensure uniformity of spray mixture.

**NOTE:** Test compatibility of the intended tank mixture before adding Calypso™ 4 Flowable insecticide to the spray or mix tank. Add proportionate amounts of each ingredient in the appropriate order, to a pint or quart jar, cap, shake for 5 minutes, and let set for 5 minutes. Poor mixing or formation of precipitates that do not readily redispense indicates an incompatible mixture that should not be used. For further information, contact your local Bayer CropScience representative.

## RESISTANCE MANAGEMENT

Some insects are known to develop resistance to insecticides after repeated use. As with any insecticide, the use of this product should conform to resistance management strategies established for the use area. Consult your agricultural advisor for resistance management strategies and recommended pest management practices for your area.

Calypso™ 4 Flowable Insecticide contains a Group 4 insecticide called thiacloprid. Insect biotypes with acquired or inherent tolerance to Group 4 products may eventually dominate the insect population if Group 4 products are used repeatedly as the predominant method of control for targeted species. This may eventually result in partial or total loss of control of those species by Calypso™ and to other Group 4 products.

The active ingredient in Calypso™ is a member of the chloronicotinyl/neonicotinoid (CNI) chemical group and is active at the nicotinic acetylcholine receptor site. Avoid using a block of more than three consecutive applications of Calypso™, and/or other Group 4 products with the same or similar mode of action. Following a CNI block of treatments, Bayer CropScience strongly encourages the rotation to a block of applications with effective products of a different mode of action before using additional applications of CNI products. Using a block rotation or windowed approach, along with other IPM practices, is considered an effective use strategy for preventing or delaying an insect pest's ability to develop resistance to this class of chemistry.

*Other Group 4, CNI products include Actara™, Assail™ and Provado®.*

Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations. For more information on managing insecticide resistance, visit Insecticide Resistance Action Committee (IRAC) on the web at <http://plantprotection.org/IRAC/>.

## ENDANGERED SPECIES

Under the Endangered Species Act, it is a Federal Offense to use any pesticide in a manner that results in the death of a member of an endangered species.

To protect the endangered bird species, the Southwestern Willow Flycatcher, the Least Bell's Vireo, and the Cactus Ferruginous Pygmy-Owl, do not use thiacloprid in California or Arizona in areas south of a latitude of 35°.

To protect the Karner Blue Butterfly in Wisconsin and Michigan, consult your county extension agent, or pesticide state lead agency for information concerning this endangered species in the area where you intend to use this product. If this species is present, do not apply within one mile of sandy habitats that support wild lupine plants.

To protect the Indiana Bat and the Gray Bat in the states of Alabama, Arkansas, Connecticut, Georgia, Iowa, Illinois, Indiana, Kansas, Kentucky, Maryland, Michigan, Missouri, North Carolina, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Rhode Island, Tennessee, Virginia, Vermont, and West Virginia, do not apply from one-half hour before dusk to one-half hour after dawn.

## ROTATIONAL CROP RESTRICTIONS

Roots, tubers and bulb vegetables whose tops are not used for feed may be rotated with cotton after a plant back interval of 30 days. Leafy vegetables may be rotated after a 6 month plant back interval. Do not plant any other crop in the treated area for at least one year after application.

**RECOMMENDED FOLIAR APPLICATIONS**

**COTTON**

CROP	PEST	RATE	SPECIFIC DIRECTIONS
COTTON	Aphids Fleahopper	0.75 - 1.5 fl oz/acre	Apply specified dosage per acre as aphids or fleahoppers begin to build. Two applications at a 7- to 10-day interval may be required to achieve best results. Scout fields and retreat if needed.
	Plant Bugs Whiteflies	1.5 - 3 fl oz/acre	Apply specified dosage per acre as plant bug nymphs begin to build. Repeat applications at a 7- to 10-day interval as long as pest pressure continues. Begin applications when whitefly adults appear prior to development of nymphs. Make application on a 7-day interval as long as pest pressure continues. Whiteflies are known for their ability to develop resistance. It is recommended to switch to a pesticide of alternative chemistry with a different mode of action to continue control after a maximum of 3 applications.

**RESTRICTIONS AND PRECAUTIONS: Cotton**

- Thorough coverage with direct contact of the spray material to the target pests is required for optimum control. Addition of an organosilicone-based spray adjuvant at a rate not to exceed the adjuvant manufacturer's recommended use rate may improve coverage. Applications made with less than 5 gallons per acre may result in slower activity and/or less overall control from a single application than an application made with higher gallonages.
- Use lower rates early to mid season and increase to higher rates as the crop matures and penetration becomes increasingly difficult.
- Applications may be made by ground or air.
- Allow a minimum of 7 days between applications and 14 days between last application and harvest.
- Do not apply more than 9 fluid ounces (0.28 lb AI) of Calypso™ per acre per season.
- Do not apply more than a total of 6 field applications per season.

### APPLES

CROP	PEST	RATE PER APPLICATION		SPECIFIC DIRECTIONS
<b>POME FRUIT</b> Apple Crabapple Loquat Mayhaw Pear (oriental) Quince	Aphids (except wooly apple aphid) Leafminers Leafhoppers Mirid Bugs	0.5 - 1 fl oz per 100 gal	2 - 4 fl oz per acre <sup>1</sup>	Apply specified dosage as a dilute or concentrate foliar spray as needed. Target most sensitive stages of pest for best results.  For optimal leafminer control, target when most eggs have been laid and larvae are in the sap-feeding stage, or at the time of egg hatch. Depending on local conditions, for first generation control, make first application at pink and/or around petal fall or as recommended by your local pest control adviser. A second application for that generation may be required 7-14 days after the first under severe pressure, when extended flight is encountered, when more than one species is to be controlled or when generations are overlapping. A single application may result in suppression only. Calypso™ will not control tissue feeding larvae.
	Apple Maggot Codling Moth European Apple Sawfly Oriental Fruit Moth Plum Curculio <b>Suppression Only:</b> Scale insects	1 - 2 fl oz per 100 gal	4 - 8 fl oz per acre <sup>1</sup>	Apply low rate for low to moderate populations of white leafhoppers and high rate for high populations or for other leafhopper species.  Two applications are needed for best control of mirid bugs; make the first application at pink followed by a second application at petal fall.  Consult your local Extension Agent and/or University specialists for codling moth and oriental fruit moth recommendations. Utilize pheromone traps to establish biofix and begin applications around peak egg deposition and prior to egg hatch. Prolonged moth flights may require repeat applications.  For plum curculio the adult stage is being targeted. Start applications around petal fall (or earlier) and follow with one to two cover sprays to cover the oviposition period.  Applications on 7 to 14 day intervals starting at time of adult emergence with succeeding applications to cover the oviposition period are required for best results against apple maggot.  For best results against scale insects, time applications to the crawler stage.

**RESTRICTIONS AND PRECAUTIONS: Apples**

- Apply low rate for low to moderate populations and high rate for high populations or for improved or prolonged control.
- Allow 7 or more days between applications.
- Allow at least 30 days between last application and harvest.
- Aerial application of Calypso™ may result in slower activity and reduced control relative to results from ground application.
- Do not apply more than 8 fluid ounces (0.25 lb AI) per acre in a single application.
- Do not apply more than a total of 16 fluid ounces (0.5 lb AI) per acre per year.
- Follow good management practices and do not expose bees to direct application.

**PEARS**

CROP	PEST	RATE PER APPLICATION		SPECIFIC DIRECTIONS
PEAR	Pear Psylla Aphids Codling Moth Mealybugs Leafminers Pear Midge <b>Suppression Only:</b> Scale Insects	1 - 2 fl oz per 100 gal	4 - 8 fl oz per acre <sup>1</sup>	Apply specified dosage as a dilute or concentrate foliar spray as needed.  Target most sensitive stages of pest for best results.  For pear psylla control the higher end of the rate range is recommended.  For optimal control of mealybug use maximum gallonage for tree size applied with ground application equipment. Insure good spray coverage of the trunk and scaffolding limbs or other resting sites of the mealybug.  For optimal leafminer control, target when most eggs have been laid and larvae are in the sap-feeding stage, or at the time of egg hatch. Depending on local conditions, for first generation control, make first application at pink and/or around petal fall or as recommended by your local pest control adviser. A second application for that generation may be required 7-14 days after the first under severe pressure, when extended flight is encountered, when more than one species is to be controlled or when generations are overlapping. A single application may result in suppression only. Calypso™ 4 Flowable will not control tissue feeding larvae.  Consult your local Extension Agent and/or University specialists for codling moth recommendations. Utilize pheromone traps to establish biofix and begin applications around peak egg deposition and prior to egg hatch. Prolonged moth flights may require repeat applications.  For best results against scale insects, time applications to the crawler stage.

**RESTRICTIONS AND PRECAUTIONS: Pears**

- Allow 7 or more days between applications.
- Allow at least 30 days between last application and harvest.
- Aerial application of Calypso™ may result in slower activity and reduced control relative to results from ground application.
- Do not apply more than 8 fluid ounces (0.25 lb AI) per acre in a single application.
- Do not apply more than a total of 16 fluid ounces (0.5 lb AI) per acre per year.
- Follow good management practices and do not expose bees to direct application.

<sup>1</sup> The amount of Calypso™ required per acre will depend on tree size and volume of foliage present. The rate per acre is based on a standard of 400 gallons of dilute spray solution per acre for large trees. For example, to calculate the rate for aphid control on smaller trees, multiply 0.5-1 fluid ounces times the number of 100 gallons of spray solution required to thoroughly wet, just prior to the point of runoff, one acre of the trees being treated. For concentrate sprays, apply the same amount of product per acre as would be applied in a dilute spray based on tree size and foliage volume.

**OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES; RESERVOIRS; RIVERS; PERMANENT STREAMS, MARSHES OR NATURAL PONDS; ESTUARIES AND COMMERCIAL FISH FARM PONDS.**

**Spray Drift Management:** The interaction of many equipment and weather related factors determines the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

**Buffer Zone Requirements:** For aerial applications, do not apply within 100 feet of lakes; reservoirs; rivers; permanent streams, marshes or natural ponds; estuaries and commercial fish farm ponds.

**Recommendations For Aerial Applications:** The spray boom should be mounted on the aircraft so as to minimize drift caused by wing tip vortices. The minimum practical boom length should be used, and must not exceed 75% of the wing span or rotor diameter.

**Importance of Droplet Size:** An important factor influencing drift is droplet size. Small droplets (<150 to 200 microns) drift to a greater extent than large droplets. Within typical equipment specifications, applications should be made to deliver the largest droplet spectrum that provides sufficient control and coverage. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible and by avoiding excessive spray boom pressure. Spray should be released at the lowest possible height consistent with good pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided.

**Airblast (Air Assist) Specific Recommendations for Tree Crops and Vineyards:** Airblast sprayers carry droplets into the canopy of trees/vines via a radially, or laterally directed air stream. The following specific drift management practices should be followed:

- Adjust deflectors and aiming devices so that spray is only directed into the canopy;
- Block off upward pointed nozzles when there is no overhanging canopy;
- Use only enough air volume to penetrate the canopy and provide good coverage;
- Do not allow the spray to go beyond the edge of the cultivated area (i.e., turn off sprayer when turning at end rows);
- Only spray inward, toward the orchard or vineyard, for applications to the outside rows.

**Wind Speed Restrictions:** Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size, canopy and equipment specifications determine drift potential at any given wind speed.

Do not apply when winds are greater than 15 mph and avoid gusty and windless conditions. Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

**Restrictions During Temperature Inversions:** Do not make aerial or ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however if fog is not present, inversions can also be identified by the movement of smoke from a ground source. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical mixing.

**IMPORTANT: READ BEFORE USE**

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

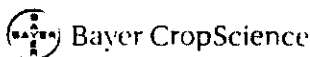
**CONDITIONS:** The directions for use of this product are believed to be adequate and should be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Bayer CropScience. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** BAYER CROPSCIENCE MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of Bayer CropScience is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. Bayer CropScience disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

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**NET CONTENTS: 1 GALLON**

Calypso is a trademark and Provado is a registered trademark of Bayer.  
Assail is a trademark of Nippon Soda Co., Ltd.  
Actara is a trademark of the Syngenta Group Co.



**Bayer CropScience LP**  
P.O. Box 12014, 2 T.W. Alexander Drive  
Research Triangle Park, North Carolina 27709  
1-866-99BAYER (1-866-992-2937)

Calypso 4 Flowable Insecticide (PENDING) Submitted 12/10/03, 3/11/04, 3/12/04.