

Adept®

INSECT GROWTH REGULATOR IN WATER-SOLUBLE BAGS
FOR USE IN GREENHOUSES FOR CONTROL OF
SOIL INHABITING AND
FOLIAR FEEDING INSECTS

COMPOSITION

Active Ingredient: (% by weight)

Diflubenzuron

N-[[[4-Chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide* 25.0%

Inert Ingredients: 75.0%

TOTAL 100.0%

KEEP OUT OF REACH OF CHILDREN

CAUTION

Net contents:

FIRST AID

IF IN EYES

- Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.
- Remove contact lens if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice

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

EMERGENCY PHONE 800-292-5898

SAFETY DATA AND INFORMATION 203-573-3303

TRANSPORTATION EMERGENCY (CHEMTREC) 800-424-9300

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and Other Handlers Must Wear: A long-sleeved shirt and long pants; shoes plus socks; chemical-resistant gloves such as barrier laminate, butyl, nitrile, neoprene rubber or viton.

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

USER SAFETY REQUIREMENTS

Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

ENGINEERING CONTROLS

When handlers use closed systems (including water soluble bags), 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. Water-soluble packets when used correctly qualify as a closed loading system under the WPS. Handlers handling this product while it is enclosed in intact water-soluble packets may elect to wear reduced PPE of long-sleeved shirt, long pants, and socks.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.



Product of The Netherlands
Manufactured for:
Chemtura USA Corporation
Middlebury, CT 06749

EPA REG. NO. 400-477
EPA EST. NO.
009/032703

www.chemtura.com

USER SAFETY RECOMMENDATIONS

Users should:

- 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 pesticide is toxic to aquatic invertebrates. For terrestrial uses, do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift or runoff from treated areas may be hazardous to aquatic invertebrate organisms in neighboring areas. Do not contaminate water when disposing of equipment wastewater or rinsate.

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 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.

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
- chemical-resistant gloves
- shoes plus socks.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE—Store in a dry location.

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—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.

GENERAL INSTRUCTIONS AND INFORMATION

USE DIRECTIONS FOR CHEMIGATION WITHIN ENCLOSED STRUCTURES:

In addition to the above use rates and recommendations, the following precautions must be observed when using this product in any type of irrigation system:

Apply this product only through the following systems:

- 1) Overhead sprinklers such as impact or micro-sprinklers,
 - 2) Mist-type irrigation such as fog systems,
 - 3) Hand-held calibrated irrigation equipment such as the hand-held wand with injector.
- Do not apply this product through any other type of irrigation system.

Crop injury or lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place.

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

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 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.

SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

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 serves an average of at least 25 individuals daily at least 60 days of the year.

Chemigation systems connected to public water systems must contain a functional, reduced pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water systems should be 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.

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, or in cases where there is no water pump, when the water pressure decreases to the point where the 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.

**GENERAL INFORMATION
ORNAMENTALS**

ADEPT provides an effective means for controlling a variety of insect pests found in and around ornamental plants. ADEPT can be used in repeat applications as a soil treatment or foliar spray in enclosed commercial structures only, such as greenhouses, shadehouses, and interiorscapes.

Because of its mode of action, which results in a disruption of the normal molting process of the insect larvae, the action of ADEPT is slow and several days may elapse before the full effect is seen. Because of its specificity, ADEPT has shown little or no effect on beneficial insects and is therefore an excellent product for use in IPM programs.

Mixing Instructions: Do not allow bags to become wet before adding to the spray tank. Wear dry gloves when handling water-soluble bags. Minimize handling of bags since excessive handling may cause rupture. Fill the mixing tank with half the required amount of water and add water-soluble bag(s) of ADEPT. Then fill the tank with the remaining amount of required water. Wait two minutes for bag(s) to dissolve. Close tank and shake or agitate before and during use in order to ensure proper suspension of the wettable powder. Shake or reagituate sprayer before use if application is interrupted. Make up only the amount of application volume as required.

Compatibility: For broad spectrum insect control, ADEPT can be tank mixed with other insecticide products. However, do not mix with other products unless prior use has proven compatibility.

GENERAL PRECAUTIONS AND RESTRICTIONS

Application Restriction:

Do not apply this product to bodies of water where swimming is likely. **PLANT TOLERANCE:**

Neither the manufacturer nor the seller has determined whether or not ADEPT can be used safely on all ornamental plants. Prior to any large scale application on such plants, the user must determine the safety of ADEPT by testing a small number of the type of plants to be treated at the recommended rates and under the desired growing conditions. Observe the treated plants for symptoms of phytotoxicity, which may occur as interveinal chlorosis and/or marginal necrosis on sensitive plants. This may take up to three months for applications made to the soil. The user assumes all risks arising out of application to untested plants.

Precautions for water soluble package:

- Do not sell individual water soluble packages.
- Do not handle inner package with wet hands or gloves.
- Do not allow packages to become wet prior to adding to the spray tank.
- Handle outer container carefully to avoid breakage of inner water soluble packages.
- Always reseal outer container in a manner that protects remaining water soluble packages from moisture.
- Do not remove the water soluble packages from the container except for immediate use.
- Use the entire contents of a water soluble package, do not break open to use partial contents of water soluble package.

APPLICATION INSTRUCTIONS

SOIL INHABITING INSECTS - FUNGUS GNATS, SHOREFLIES: For control of certain soil inhabiting insects such as fungus gnats and shoreflies, ADEPT can be applied to potting media as a coarse spray (sprench) or higher volume drench application through conventional equipment or through chemigation. When applied according to the recommendations below, ADEPT will provide control for a period of 30 to 60 days. Repeat applications can be made at 4 to 8 weeks intervals as necessary to maintain control, but do not make more than four applications per crop. For optimum control throughout the production area and to prevent re-infestation of crops, it is recommended that breeding areas under benches and other non-crop areas be treated at the same time that the crop is treated.

Attention: Exceeding label rates, volumes or number of applications of ADEPT can cause serious foliar injury to crops, particularly to poinsettias, hibiscus and Reiger begonia. Do not apply ADEPT to poinsettias, hibiscus and Reiger begonia. No sensitivity has been observed with other bedding or pot crops including plugs and liners, however tests should be conducted to insure safety to any crop before extensive use.

NOTE: For optimum results, applications should be made to moist potting media.

Do not re-use potting media which has been treated with ADEPT. Do not apply to plants grown on capillary water mats.

For bed, bench and container grown plants:

Coarse Soil Spray (Sprench) Applications

For applications in ornamental production, ADEPT should be applied as a coarse spray or "sprench" to the soil surface. Mix 2 ozs. (2 bags) of ADEPT in 100 gals. of water and apply to the soil surface at a volume of 1 to 3 gallons of final solution per 100 sq. ft or approximately 1/4 to 3/4 fl. oz. per 6 inch pot.

For soil depths of less than 3 inches, e.g. plug trays, packs and flats, do not exceed a volume of 1 gallon per 100 sq.ft.

Higher Volume Drench Applications to Individual Containers

For drench applications to individual containers, ADEPT can be applied in water volumes higher than those recommended for coarse soil spray / sprench applications as long as the higher volumes can be reliably metered into each pot and evenly distributed over the soil surface to insure uniform treatment. Mix 1.0 oz. (1 bag) of ADEPT in 200 gals. of water and apply at the volumes recommended below:

Pot Diameter (inches)	Drench Volume (fl.oz./pot)	No. Pots Treated With 100 gals.
4	2	6400
5	4	3200
6	6	2130
8	10	1280
10	14	910
12	20	640

NOTE: The volumes recommended in the table above are based on average drench volumes used for application of commercial fungicides in the production of greenhouse ornamental crops. Based on these averages, each 100 gallon mix of ADEPT should treat the specified number of pots listed in the table above.

For soil drench applications which use a final volume either greater or less than those specified above, the user must alter the concentration of ADEPT in water in order to maintain the same amount of active ingredient applied to the given surface area of media. The table below outlines dilution rates for applications using alternate drench volumes:

Pot Diameter (inches)	GALLONS OF WATER REQUIRED PER 1 OZ. (1 BAG) OF ADEPT									
	Drench volume (fl.ozs./pot)									
	2	3	4	5	6	7	8	9	10	
4	200	300	400	500	600	700				
5	100	150	200	250	300	350	400	450	500	
6		100	134	168	200	234	266	300	334	
8				100	120	140	160	180	200	
10						100	114	130	144	

For infestations to breeding areas under benches and in other non-crop areas: Mix 4 to 8 ozs. (4 to 8 bags) ADEPT in 100 gals of water and apply at rate of 10-30 gals. per 1000 sq.ft. of area. Repeat applications at 4 to 8 week intervals to maintain control.

FOLIAR FEEDING INSECTS - ARMYWORMS, LEAFMINERS, WHITEFLIES: For control of certain foliar feeding insects such as armyworms and lepidopterous leafminers, and suppression of whiteflies, mix 4 to 8 ounces (4 to 8 bags) of ADEPT in 100 gallons of water and apply as a spray to the foliage through conventional spray equipment. The recommended spray volume is one gallon per 200 sq. ft. of bench area.

ADEPT has been found to aid in the control of whiteflies when used in combination or in rotation with other effective insecticides in an IPM program. For optimum suppression of whitefly, spray applications should thoroughly wet the leaf undersides. Begin applications at first sign of insects and repeat applications at 7 day intervals as needed to provide suppression on new foliage growth.

IMPORTANT NOTICE—Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions and instructions specified on the label under normal conditions of use, but neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product, contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

®ADEPT is a Registered Trademark of Chemtura Corporation

©Copyright 2006, Chemtura Corporation