

ACCEPTED

NOV .5 2001

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 400-505

HARVADE®-4198SC

HARVEST GROWTH REGULANT FOR COTTON

Net contents: Active Ingredients: (% by weight)

dimethipin* (2,3-dihydro-5,6-dimethyl-1,4-dithiin-1,1,4,4-tetraoxide)	32.7%**
thidiazuron (N-phenyl-N'-1,2,3-thiadiazol-5-ylurea)	8.4%**
Inert Ingredients:	58.9%

*U.S. Patent Nos. 4,319,033 and 4,464,538
 **Contains 3.2 lb. of dimethipin and 0.8 lb. of thidiazuron per gallon.
 **Contains 384 grams of dimethipin and 96 grams of thidiazuron per liter.

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID	
IF SWALLOWED	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR ON CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • 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.	
UNIROYAL CHEMICAL EMERGENCY PHONE	203-723-3670
SAFETY DATA AND INFORMATION	203-573-3303
TRANSPORTATION EMERGENCY (CHEMTREC)	800-424-9300

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

PERSONAL PROTECTIVE EQUIPMENT

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance selection chart.

Applicators and Other Handlers Must Wear: Long-sleeved shirt and long pants; chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride; shoes plus socks; protective eyewear.

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.

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.



ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by disposal of equipment washwaters. Do not apply when weather conditions favor drift from target area.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all label directions carefully before use.

Do not apply this product through any type of irrigation system.

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 48 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 made of any waterproof material; shoes plus socks; protective eyewear.

GENERAL INFORMATION

HARVADE®-4198SC is a plant growth regulant that effects certain plant processes which lead to defoliation and lint maturation in cotton. Since HARVADE-4198SC must enter the plant through the leaves for optimum activity, it must be applied in a manner that will allow maximum penetration through the leaf surface. Complete coverage of the entire plant is essential for optimum effectiveness. HARVADE-4198SC MUST BE USED WITH A MINIMUM OF ONE-HALF (0.5) PINT PER ACRE OF CROP OIL CONCENTRATE SPRAY ADJUVANT.

HARVADE-4198SC also may improve the harvest operation by desiccating most mature morningglory species. Desiccation/defoliation of other weed species such as sicklepod, croton, teaweed and trumpet creeper has been observed. Good coverage of weeds is necessary for best results.

MIXING INSTRUCTIONS

ALWAYS SHAKE OR STIR WELL BEFORE USE. Fill the spray tank with 2/3 of the required amount of water. Add the desired amount of HARVADE-4198SC, the selected crop oil concentrate and remaining required amount of water. The HARVADE-4198SC and crop oil concentrate will suspend easily with minimum agitation. To assure that container content is emptied - TRIPLE RINSE (OR EQUIVALENT) INTO SPRAY TANK. PRESSURE RINSE IS PREFERRED.

CROP OIL CONCENTRATE REQUIRED WITH HARVADE-4198SC

A petroleum-based crop oil concentrate (83-17) such as those listed below must be added to the spray mixture at 0.5 to 1.0 pint per acre: Agridex¹, Chem-Oil², Herbimax³, Peptoil⁴, Prime Oil⁵, Super Oil⁶, Surf-Oil⁷ or Agra-Oil⁸. These are trademarks of ¹Helena Chemical Co., ²Coastal Chemical, ³United Ag Products, ⁴Drexel Chemical Co., ⁵Agro Distribution LLC, ⁶Universal Crop Protection Alliance, ⁷Jimmy Sanders, Inc., and ⁸Chem Nut, Inc. The commercial crop oil concentrate chosen must be cleared for application to growing crops. NOTE: USE 0.5 PINT WHEN TEMPERATURE IS 85°F OR ABOVE. USE 1 PINT OF CROP OIL CONCENTRATE PER ACRE WHEN THE WEATHER IS COOL.

COMPATIBILITY

HARVADE-4198SC is compatible with most commonly used cotton desiccants, defoliants, and insecticides. However, do not mix HARVADE-4198SC with cacodylic acid products, because they are antagonistic to HARVADE-4198SC activity. Also, tank-mixes with organophosphates may increase non-target crop phytotoxicity. Consult your supplier or Uniroyal Chemical for details.

USE PRECAUTIONS

1. Do not plant rotational crops within six (6) months after application. Do not plant rotational crops of carrot, onion or spinach earlier than nine (9) months after application. Do not plant lettuce earlier than nine (9) months after application, and only following deep plowing (12 to 15 inches).
2. Keep drift from non-target areas. Do not apply when weather conditions favor drift from treated areas.
3.
 - a. Do not apply this product directly to, or permit mist to drift onto, citrus, broccoli, almonds, grapes, peppers, tomatoes, lettuce, alfalfa, sugarbeets, cantaloupe or wheat. These crops may sustain significant injury if contacted.
 - b. Do not apply this product to, or permit mist to drift onto, soil that will subsequently be seeded to peppers, tomatoes, lettuce, broccoli, alfalfa or sugarbeets. Significant crop injury may occur from such an application.
 - c. Do not apply this product to, or permit mist to drift onto, irrigation water that will subsequently be applied to peppers, tomatoes or lettuce.
4. **Practices to Reduce the Potential for Drift onto Non-target Crops.**
 - a. Do not apply this product by ground or air when wind speeds exceed ten (10) miles per hour at the time of application. Follow local recommendations if wind speeds of less than ten (10) miles per hour are specified in those recommendations.
 - b. Use of low nozzle pressure (20 to 30 psi) is recommended.
 - c. Do not apply this product when a temperature inversion is present or when conditions favor development of an inversion prior to completing application.
 - d. Do not apply this product by air within one-half (1/2) mile of a lettuce crop. Do not apply this product by ground within 100 feet of a lettuce crop.
5. **Practices to Reduce the Potential for Drift onto Non-target Crops: Rio Grande Valley of Texas.**
 - a. Do not apply this product by ground or air when wind speeds exceed ten (10) miles per hour at the time of application. Follow local recommendations if wind speeds of less than ten (10) miles per hour are specified in those recommendations.
 - b. Use of low nozzle pressure (20 to 30 psi) is recommended.
 - c. Do not apply this product when a temperature inversion is present or when conditions favor development of an inversion prior to completing application.
 - d. Use the largest nozzle orifice possible that permits proper deposition and coverage of product.
 - e. FOR CITRUS CROPS, do not apply this product by air when citrus in flush is within five (5) miles downwind of the point of application. Do not apply this product by ground when citrus in flush is within one-half (1/2) mile downwind of the point of application.

FOR DEFOLIATION OF RAIN-BELT COTTON

For use in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Virginia, eastern Texas (including the Rio Grande Valley) and eastern Oklahoma.

APPLICATION EQUIPMENT

Nearly all spray application equipment is suitable for applying HARVADE-4198SC if fine spray droplets can be deposited uniformly over the crop canopy. If aerial equipment is used, it should be fitted with a fixed boom set at 45 to 90° relative to the trailing edge of the wing and flown 10 to 12 feet above the crop canopy.

TIMING OF APPLICATION FOR RAIN-BELT COTTON

Apply 7 to 14 days prior to anticipated harvest. Optimum defoliation will be obtained when HARVADE-4198SC is applied to mature cotton plants; i.e. when 60% or more of the bolls are open, when the last boll to be harvested is no more than four nodes above the last cracked boll showing fiber (4NACB), when last boll to be harvested is hard to cut through and seed coat is light brown, or when there is no active growth and lower leaves have purple tinge.

RATE OF APPLICATION FOR RAIN-BELT COTTON

One gallon of HARVADE-4198SC will treat 10 acres of cotton, when applied at the 12 fl. oz. per acre rate.

Aerial Application: Under conditions that promote excessive regrowth, mix 10 to 12 fl. oz. of HARVADE-4198SC and 0.5 to 1.0 pint of crop oil concentrate with sufficient water to make up a minimum of 5 gallons of spray solution per acre. Use the higher rate when the crop is more vigorous and robust, or when the night temperature falls below 65°F. Use the lower rate when the night temperature is above 65°F. If cotton is rank or conditions favor regrowth, see APPLICATION NOTES.

Ground Application: Under conditions that promote excessive regrowth, mix 10 to 12 fl. oz. of HARVADE-4198SC and 0.5 to 1.0 pint of crop oil concentrate with sufficient water to make up a minimum of 10 to 20 gallons of spray solution per acre. Use the higher rate when the crop is more vigorous and robust, or when the night temperature falls below 65°F. Use the lower rate when the night temperature is above 65°F. If cotton is rank or conditions favor regrowth, see APPLICATION NOTES.

APPLICATION NOTES FOR RAIN-BELT COTTON

Partial defoliation from the first application of HARVADE-4198SC may result from one or more of the following situations:

- Rank cotton foliage is dense enough to prevent spray droplets from reaching the bottom leaves.
- Plants are actively growing, with new growth and fruiting evident at the top.
- Less than 60% of the bolls are open.
- Cotton is drought stressed. (Under this condition, applications should be made before mid morning or at late afternoon).
- Night temperatures are below 60°F for 3 to 4 nights either before or after application.
- Rainfall occurs within 24 hours after application.

Under these conditions a second application of HARVADE-4198SC at 5 to 6 fl. oz./A may be required 5 to 7 days after the initial application. **Do not use more than a total of 20 fl. oz. of HARVADE-4198SC per acre per year on your cotton crop.**

PRECAUTIONS - SEQUENTIAL APPLICATIONS

Do not apply a sequential application of HARVADE-4198SC following any defoliant or desiccant except HARVADE-4198SC used alone. Reduced activity of the second treatment will result.

FOR DEFOLIATION OF STRIPPER AND OTHER IRRIGATED COTTON

For use in New Mexico, and the High Plains of western Texas, Oklahoma, and Kansas.

APPLICATION EQUIPMENT

Nearly all spray application equipment is suitable for applying HARVADE-4198SC if fine spray droplets can be deposited uniformly over the crop canopy. If aerial equipment is used, it should be fitted with a fixed boom set at 45 to 90° relative to the trailing edge of the wing and flown 10 to 12 feet above the crop canopy.

TIMING OF APPLICATION

FOR STRIPPER AND OTHER IRRIGATED COTTON

Optimum defoliation will be obtained when HARVADE-4198SC is applied to mature cotton. It may be used alone or tank mixed with other registered cotton harvest aids.

Under growing conditions for stripper cotton, HARVADE-4198SC will initiate the defoliation process if applied when the last bolls to be harvested are mature. This normally occurs 14 to 21 days before harvest. Application of CYCLONE® brand desiccant 7 to 10 days after HARVADE-4198SC is necessary to complete the defoliation process.

®CYCLONE is a registered trademark of Syngenta

RATE OF APPLICATION FOR STRIPPER AND OTHER IRRIGATED COTTON

One gallon of HARVADE-4198SC will treat 10 acres of cotton, when applied at 12 fl. oz. per acre.

Aerial Application: Mix 12 fl. oz. of HARVADE-4198SC and 0.5 to 1.0 pint of crop oil concentrate designated above with sufficient water to make up a minimum of 2 gallons of spray solution per acre. Use CYCLONE at 16 fl. oz./A at 7 to 10 days after HARVADE-4198SC to complete the defoliation process.

Ground Application: Mix 12 fl. oz. of HARVADE-4198SC and 0.5 to 1.0 pint of crop oil concentrate designated above with sufficient water to make up 10 to 20 gallons of spray solution per acre. Use CYCLONE at 16 fl. oz./A at 7 to 10 days after HARVADE-4198SC to complete the defoliation process.

ALWAYS SHAKE OR STIR THIS PRODUCT WELL BEFORE USE

STORAGE AND DISPOSAL

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

STORAGE: Store in original container only. After partial use, replace lid and close tightly. Store in a secure place that is temperate and dry. Keep from freezing. Do not store below 40° F. ALWAYS SHAKE OR STIR WELL BEFORE USE.

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

EQUIPMENT CLEANING: Do not allow the spray solution to dry in the application equipment. Immediately following application, clean all equipment (mix tanks, pumps, transfer line, application tanks, sumps, booms, nozzles, and all related equipment) thoroughly with tank cleaner and water. Do not contaminate water by disposal of equipment washwaters. Should small quantities of HARVADE-4198SC remain in inadequately cleaned equipment, they may be released during subsequent applications and may cause damage to crops. In limited trials, certain tank cleaners have shown promise in cleaning dried tank residues. The procedure for removing dried residues requires allowing the diluted cleaning solution to stand in equipment, filled to capacity, for 7 DAYS followed by thorough flushing. UNIROYAL CHEMICAL COMPANY, INC. ACCEPTS NO LIABILITY FOR DAMAGE TO CROPS DUE TO INADEQUATELY CLEANED EQUIPMENTS.

CONTAINER DISPOSAL:

Plastic Containers: Triple rinse (or equivalent). Pressure rinse is preferred. 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.

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.

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