11688-6 04/25/1994 1/16

MEEN
BOTANICAL INSECTICIDE CONCENTRATE
INSECT GROWTH REGULATOR
INSECT GROWTH INHIBITOR
INSECT REPELLENT
INSECT FEEDING INHIBITOR
ADULT INSECT REPRODUCTIVE INHIBITOR/DISRUPTOR

Kills or repels various [*listed*] insect pests [*including* ...] on ornamentals, trees, lawns, shrubs, flowers, and vegetables in the yard and garden, and in and around interiorscapes and homes.

MEEN disrupts the molting ability of immature insects of many types, inhibits feeding, and acts to disrupt the reproductive capacity of many insect adults.

Active Ingredient:	
Azadirachtin	0.09%
Inert Ingredients	99.91%
Total	100.0%

EPA Registration No: 11688-6 EPA Establishment No:

Keep Out of Reach of Children

CAUTION

See Back Panel for Additional Precautionary Statements

Net Contents:

MANUFACTURED BY:
W.R. Grace & Co.-Conn
7379 Route 32
Columbia, MD 21044

ACCEPTED
APR 25 1994
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 11688-6

PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals

Caution: Harmful if swallowed. Avoid contact with skin, eyes, or clothing. Avoid contamination of feed and foodstuffs. Avoid breathing spray mist. In case of eye contact, flush eyes with plenty of water. If on skin, wash with soap and water. Wash contaminated clothes before reuse. If irritation persists, get medical attention.

Environmental Hazards:

This product may be hazardous to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of water.

Physical and Chemical Hazards: Flammable. Do not use or store near heat or open flame.

Storage and Disposal
Storage: Keep in original container. Store in a cool, dry place, away from direct sunlight, feed or foodstuffs. Keep container tightly sealed when not in use. Do not store below 50°F (10°C) or above 95°F (35°C).

Disposal: Do not reuse empty container. Securely wrap original container in several layers of newspaper and discard in trash. Rinse thoroughly before discarding in trash.

Directions for Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

General

- Botanical Insecticide Concentrate
- Insecticide, Repellant, Insect Growth Regulator
- All-Purpose Insect Control
- All-Purpose Insecticide
- Broad Spectrum Insecticide
- Broad Spectrum Insect Control
- Broad Spectrum Organic Insecticide
- Organic Insect Control
- Organic Insecticide

- Organic Active Ingredient
- Insect Anti-Feedant
- Multi-Purpose Insecticide
- Multi-Purpose Organic Insecticide
- Kills and/or repels insects/Japanese beetles.
- Kills larval stages of insects.
- Organically kills insects.
- Organically repels Japanese beetles.
- For Indoor and Outdoor Use
- Formulated for interiorscape use.

General Information

MEEN's effectiveness is based on several modes of action. It disrupts insects' delicate hormonal balance so they die before they molt to the next life stage. **MEEN** suppresses some insects' desire to feed and also repels many insects in areas that have been sprayed. These different modes of action result in broad spectrum control of the majority of insects that harm your yard and garden.

[*MEEN's effectiveness is based on three modes of action:*

1. *Anti-feedant: MEEN suppresses the insect's desire to feed and, therefore, no damage is caused.*
2. *Repellant: Insects simply stay away from areas sprayed with MEEN and, therefore, no damage is caused.*
3. *Insect Growth Regulator: MEEN disrupts the insect's delicate hormonal balance so it dies before it molts to the next life stage.*]

MEEN kills or repels a broad assortment of insect pests. **MEEN** spares many beneficial insects such as honey bees and lady bugs that prey on undesirable insects. Without beneficial insects to control pest populations, plants are even more vulnerable to new infestations.

Neem-based products have been extensively tested and used as effective insecticides in commercial greenhouses. The Neem seed has been the subject of extensive testing throughout the world [*since after WWII*]. Neem has been tested at major universities throughout the U.S. since 1982.

The active ingredient in **MEEN** is an organic. It comes from a natural source: an extract from the seeds of the neem tree, a renewal resource. Parts of the neem tree have been used over the centuries for highly effective insecticidal and medicinal purposes. The neem tree is native to India, Africa, and several other tropical countries. Over the years, people have stored their food grains, in the home, free

from pest infestation by adding whole or chopped neem seeds. The trees are also planted in backyards and common areas in order to repel insects.

Shake well before using.

Spray solutions should be used within 8 hours of mixing for maximum effectiveness. Do not store diluted spray solution for later use.

Not for use in food handling areas.

Since **MEEN** interferes with insect growth function, it is most effective when applied 2-3 times at 7-10 day intervals.

Application directly onto the target pest will increase efficacy. Time applications for early to mid-morning or in the late afternoon.

Do not add other chemicals to **MEEN** solutions.

Do not apply to wilted, stressed, or newly transplanted materials prior to root development. Do not apply to known sensitive plant species without prior testing.

Known Sensitive Plants

Do not apply **MEEN** to the following plant species due to potential plant damage:

Hibiscus flowers

The Following Section Contains Directions for Concentrate Products Use

(1) Foliar Application (Bedding & Potted Plants)
For use on bedding plants, potted and foliage plants, ornamentals, trees and shrubs, in and around homes to control the immature or larval forms of the following insect pests:

PESTS	USE DIRECTIONS
Leafhoppers Leafminers Whiteflies Thrips Mealybugs Loopers Caterpillars Aphids Fruitflies Beet armyworms Mexican Bean Beetles	Dilute **MEEN** to a concentration of 3 fl. oz. (6 tablespoons) of **MEEN** per gallon of water (1 part **MEEN** to 40 parts water). Mix thoroughly. Apply with a hand sprayer as a fine spray to leaf surfaces to run-off. Be sure to coat undersides of leaves as this is where many insects hide. Excessive application is unnecessary and should be avoided.

(2) Foliar Application (Trees & Shrubs)
For use on trees and shrubs on residential landscapes to control the immature larval stages of the following insect pests:

PESTS	USE DIRECTIONS
Leafhoppers Leafminers Gypsy moths Weevils Psyllids Webworms Hornworms Spruce budworms Pine sawflies Elm leaf beetle Bagworms Tent Caterpillars Grasshoppers	Dilute **MEEN** to a concentration of 3 fl. oz. (6 tablespoons) of **MEEN** per gallon of water (1 part **MEEN** to 40 parts water). Mix thoroughly. Apply with a hand sprayer as a fine spray to leaf surfaces to run-off. Be sure to coat undersides of leaves as this is where many insects hide. Excessive application is unnecessary and should be avoided.

(3) Lawn Application

For home lawns to control the following insect pests:

PESTS	USE DIRECTIONS
Mole crickets White grubs Sod webworms Fall armyworms Chinch bugs Hyperodes weevils Billbugs Crain flies	Dilute 2 fl. oz. (4 tablespoons) of **MEEN** in 1 gallon of water. Apply at the rate of 5 gallons spray solution per 2000 square feet. Apply **MEEN** at least 3 times on a 7-10 day interval to insure effective control of surface and sub-surface feeding pests. **MEEN** should not be applied to newly seeded lawns. Best timing for initial white grub application will vary by region but is generally early to mid summer and again in the fall. If in doubt, contact your local university research or extension specialist for the periods when white grubs are feeding in your area.

(4) Yard and Landscape MEEN Concentrate

For use around the home to control the following insects:

PESTS	USE DIRECTIONS
Aphids Caterpillars Gypsy moth larvae Immature tent beetles Webworms Bagworms Lace bugs Box elder bugs Leafhoppers Psyllids Sawfly larvae Wooly aphids	Always use freshly mixed spray solution. Use soft water whenever possible. Use with caution on new tender foliage, and do not apply to plants in direct sunlight. When insects are first noticed, apply a mixture of 3 fl. oz. (6 tablespoons) of **MEEN** per gallon of water (1 part **MEEN** to 40 parts water). Repeat applications 2-3 times on a 7-day interval. Heavy infestations may require more frequent applications on a 3-4 day interval until populations are reduced.

(5) House Plant Application

For use on house plants to kill or repel the following insect pests:

PESTS	USE DIRECTIONS
Leafhoppers Leafminers Whiteflies Thrips Mealybugs Loopers Caterpillars Aphids Fruitflies Beet armyworms Mexican bean beetles Fungus gnats	Dilute **MEEN** to a concentration of 0.42 fl oz. (2½ teaspoons) of **MEEN** per pint of water. Mix thoroughly. Adjust spray bottle nozzle to spray setting and apply **MEEN** to leaf surfaces until completely wet. Be sure to coat undersides of leaves especially those at the soil surface as this is where many insects hide. Excessive application is unnecessary and should be avoided.

(6) Vegetable and Fruit Crop Application

For use on vegetable and fruit crops to kill or repel the following insect pests:

PESTS	CROPS		USE DIRECTIONS
Armyworms	Broccoli	Cauliflower	Always use freshly mixed spray solution. Use soft water whenever possible. Use with caution on new tender foliage. When insects are first noticed, apply a mixture of 3 fl. oz. (6 tablespoons) of **MEEN** per gallon of water (1 part **MEEN** to 40 parts water). Repeat applications 2-3 times on a 7-day interval. Heavy infestations may require more frequent applications on a 3-4 day interval until populations are reduced.
Diamondback moths	Turnips	Celery	
Hornworms	Cabbage	Kohlrabi	
Imported cabbageworms	Tomatoes	Carrots	
Loopers	Melons	Spinach	
Melonworms	Kale	Turnip greens	
Pickleworms	Mustard	Brussels sprouts	
Tomato fruitworms	Peppers	Sweet potatoes	
Corn earworms	Lentils	Cucumbers	
Bollworms	Squash	Collards	
Budworms	Lettuce	Beets	
Whiteflies	Beans	Peas	
Thrips	Corn	Eggplants	
Borers	Potatoes	Ginger	
Aphids	Peanuts	Artichokes	
Squash bugs	Asparagus	Onions	
Tent caterpillars	Garlic	Turnips	
Mexican bean beetles	Parsley	Bok choy	
Pinworms	Radishes	Collard greens	
Colorado potato beetles	Rutabaga	Mustard greens	
European corn borers	Anise	Basil	
Cucumber beetles	Mint	Chives	
Leafminers	Dill	Marjoram	
Vine borers	Rosemary	Sage	
Cutworms	Sweet bay	Tarragon	
Weevils	Thyme	Wintergreen	
Bean leaf beetles	Almonds	Cashews	
Leafrollers	Pecans	Macadamia nuts	
Grape leaf skeletonizers	Pistachios	Walnuts	
Twig girdlers	Apples	Cherries	
Codling moths	Pumpkins	Cantaloupes	
	Peaches	Pears	
	Plums	Apricots	
	Figs	Oranges	
	Lemons	Limes	

The Following Section Contains Directions For Use Of The Product In A Hose-end Applicator

(7) Foliar Application (Bedding & Potted Plants)
For use on bedding plants, potted and foliage plants, ornamentals in and around homes to control the immature or larval forms of the following insect pests:

PESTS	USE DIRECTIONS
Leafhoppers Leafminers Whiteflies Thrips Mealybugs Loopers Caterpillars Beet armyworms Aphids	The 16 oz. hose end applicator for bedding & potted plants will treat approximately 650 square feet of plant material 3 times. Repeat application 2 to 3 times at an interval of 7-10 days. Apply to leaf surfaces to run-off. Be sure to coat undersides of leaves as this is where many insects hide. Excessive application is unnecessary and should be avoided. Do not apply to known sensitive plants without a prior small scale test application.

1. Remove plastic wrap from carton and detach hose-end attachment.
2. Screw the longer end of the hose-end attachment onto hose.
3. Set valve switch to off position (at right angle to line of water flow).
4. Remove child resistant cap from product bottle and screw bottle top onto hose-end attachment until tight.
5. Turn faucet on. Begin spraying by turning the valve switch located on top of the attachment clockwise until fully in line with water flow.
6. When spraying is complete, turn valve switch counter clockwise to stop product flow.
7. Turn off faucet.
8. Unscrew product bottle from hose-end attachment, recap bottle and if empty dispose of according to label directions. Unscrew hose-end attachment from hose.

(8) Foliar Application (Trees & Shrubs)
For use on trees and shrubs on home landscapes to control the immature larval stages of the following insect pests:

PESTS	USE DIRECTIONS
Leafminers Leafhoppers Gypsy moths Weevils Psyllids Webworms Hornworms Spruce budworms Pine sawflies Elm leaf beetle Grasshoppers	The 16 oz. hose end applicator for trees and shrubs will treat up to 5 ten foot trees. Repeat application 2 to 3 times at an interval of 7-10 days. Apply to leaf surfaces to run-off. Be sure to coat undersides of leaves as this is where many insects hide. Excessive application is unnecessary and should be avoided.

1. Remove plastic wrap from carton and detach hose-end attachment.
2. Screw the longer end of the hose-end attachment onto hose.
3. Set valve switch to off position (at right angle to line of water flow).
4. Remove child resistant cap from product bottle and screw bottle top onto hose-end attachment until tight.
5. Turn faucet on. Begin spraying by turning the valve switch located on top of the attachment clockwise until fully in line with water flow.
6. When spraying is complete, turn valve switch counter clockwise to stop product flow.
7. Turn off faucet.
8. Unscrew product bottle from hose-end attachment, recap bottle and if empty dispose of according to label directions. Unscrew hose-end attachment from hose.

(9) Lawn Application

For use on home lawns to control the immature larval stages of the following insect pests:

PESTS	USE DIRECTIONS
Mole crickets White grubs Sod webworms Fall armyworms Chinch bugs Hyperodes weevil Billbugs	The 16 oz. hose-end applicator for lawns will treat approximately 1,000-2,000 square feet. [*The 32 oz. hose-end applicator for lawns will treat approximately 2,000-4,000 square feet.*] Apply **MEEN** at least 3 times on a 7-10 day interval to insure effective control of surface and sub-surface feeding pests.

1. Remove plastic wrap from carton and detach hose-end attachment.
2. Screw the longer end of the hose-end attachment onto hose.
3. Set valve switch to off position (at right angle to line of water flow).
4. Remove child resistant cap from product bottle and screw bottle top onto hose-end attachment until tight.
5. Turn faucet on. Begin spraying by turning the valve switch located on top of the attachment clockwise until fully in line with water flow.
6. When spraying is complete, turn valve switch counter clockwise to stop product flow.
7. Turn off faucet.
8. Unscrew product bottle from hose-end attachment, recap bottle and if empty dispose of according to label directions. Unscrew hose-end attachment from hose.

(10) Hose-end Sprayer Refill[a]

1. Remove child resistant cap from product bottle and screw bottle top onto hose-end attachment until tight.
2. Turn faucet on. Begin spraying by turning the valve switch located on top of the attachment clockwise until fully in line with water flow.
3. When spraying is complete, turn valve switch counter clockwise to stop product flow.
4. Turn off faucet.
5. Unscrew product bottle from hose-end attachment, recap bottle and if empty dispose of according to label directions. Unscrew hose-end attachment from hose.

[a] Will also contain appropriate application directions as per the foregoing.

The Following Section Contains Directions For Use Of The Product As A Repellant

Repellency Against Japanese Beetles and Other Pests

MEEN™ repels a variety of pests including armyworms, aphids, and Japanese beetles. Apply to plants at labeled rate, being sure to completely cover foliage and flowers. Apply just before pests emerge or at first sign of infestation. Repeat applications every 3-7 days or immediately after significant rainfall.

Warranty

W.R. Grace & Co.-Conn. warrants that the material contained herein shall substantially conform to the chemical composition stated herein. The foregoing warranty is in lieu of all other warranties expressed and implied, including the implied warranties of merchantability and fitness for a particular purpose which are expressly disclaimed. Buyer's sole remedy shall be replacement of defective material or refund of the purchase price. In no event shall Grace be liable for any injury, loss, or damage, direct, indirect, incidental, or consequential arising out of the use of this material.