



Pesticide Labeling

Prepared by Brunswick County
Mosquito Control

Jeff Brown





There is no such thing as a completely “Safe” Insecticide

Mosquito control products must be applied following the label instructions. The Environmental Protection Agency (EPA) regulates pesticides and their labels.



A Pesticide Label is a Federal Law



DUET[®] HD Dual-Action Adulticide

For Aerial Application. Dual-Action Adulticide containing Prallethrin which provides Quick Knockdown, and Synergized Sumithrin[®] which provides effective kill of Adult MOSQUITOES, GNATS, BITING AND NON-BITING MIDGES and BLACK FLIES in Outdoor Residential and Recreational Areas.

For use only by federal, state, tribal, or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

Active Ingredients:

| | |
|---|---------|
| Prallethrin: (RS)-2-methyl-4-oxo-3-(2-propynyl) cyclopent-2-enyl-(1RS)-cis, trans-chrysanthemate | 1.00% |
| Sumithrin[®]: 3-Phenoxybenzyl-(1RS, 3RS, 1RS, 3SR)-2,2-dimethyl-3-(2-methylprop-1-enyl) cyclopropanecarboxylate | 5.00% |
| * Piperonyl Butoxide | 5.00% |
| Other Ingredients | 89.00% |
| | 100.00% |

Contains 0.093 pounds of Prallethrin/Gallon, 0.467 pounds of Sumithrin[®]/Gallon and 0.467 pounds of PBO/Gallon

*(butylcarbityl) (6-propylpiperonyl) ether and related compounds

applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or wash waters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply to or allow drift onto blooming crops or weeds when bees are foraging the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

USE RESTRICTIONS



North Carolina Penalties



- Any person, who shall be adjudged to have violated any provision of this Article, or any regulation of the Board adopted pursuant to this Article, shall be guilty of a Class 2 misdemeanor. In addition, if any person continues to violate or further violates any provision of this article after written notice from the Board, the court may determine that each day during which the violation continued or is repeated constitutes a separate violation subject to foregoing penalties.
- A civil penalty of not more than two thousand dollars (\$2000) may be assessed by the Board against any person who violates or directly causes a violation of any provision of this Article or any rule adopted pursuant to this article.



What not to Do

- **Public Operator Licensing** (pages 17-18) North Carolina Pesticide Laws and regulations
- To obtain a license, an applicator must pass a written, or written and oral, exam to show knowledge of pesticide laws, safety, uses and application techniques. Mosquito control uses the public Health Category (page 18).
- **The applicators license may be denied, revoked or suspended if he:**
 1. makes false claims for his services
 2. makes unlawful pesticide recommendations or applications
 3. operates faulty or unsafe equipment or operates the equipment in a faulty, careless or negligent manner
 4. violates rules, regulations or orders of the Pesticide Board
 5. refuses or neglects to keep required records or makes false records or reports
 6. operates unlicensed equipment,
 7. uses fraud to get a license or refuses to comply with license or permit restrictions
 8. aids or abets another person to evade licensing requirements
 9. makes false or misleading statements concerning pests found on land
 10. impersonates any state, county or city inspector or official
 11. stores or disposes of pesticides or pesticide containers improperly
 12. applies any pesticide for any purpose or in any manner not in accordance with the label registered in North Carolina, or
 13. fails to pay license fees or operates without a license.



Keep a Label and an MSDS sheet in your truck. (refer to it often)



Cyome

DUET® HD

Dual-Action Adulticide

For Home/Indoor Use: Control house flies, cockroaches, fleas, bedbugs, and mosquitoes. For Agricultural Use: Control house flies, mosquitoes, and flies. For Commercial Use: Control house flies, mosquitoes, and flies.

For use only by federal, state, tribal, or local government officials responsible for public health or vector control, or by persons authorized by the appropriate regulatory authority as defined in Section 171. Do not use if you are under the influence of alcohol, drugs, or any other substance that could impair your judgment or ability to operate this product safely.

| | |
|---|---------|
| Active ingredients: | |
| Deltamethrin (2.1%) and clothianidin (2.1%) | 1.0% |
| Permethrin (0.05%) and pyrethrin (0.05%) | 1.0% |
| Disulfoton (0.02%) and malathion (0.02%) | 0.04% |
| Inert ingredients | 97.94% |
| Total ingredients | 100.00% |

Contains 12.5 fl. oz. (375 mL) of product. Use 1.25 fl. oz. (37.5 mL) per 1,000 sq. ft. of treated area.

KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Avoid contact with treated areas. Do not use if you are under the influence of alcohol, drugs, or any other substance that could impair your judgment or ability to operate this product safely.

Do not use if you are under the influence of alcohol, drugs, or any other substance that could impair your judgment or ability to operate this product safely.

PHYSICAL AND CHEMICAL PROPERTIES

Do not use in an open flame.

DIRECTIONS FOR USE

This is a solution of Duet HD. Do not dilute.

USE RESTRICTIONS

Do not use on lawns, golf courses, or areas where children or pets are present.

CONTENTS

12.5 fl. oz. (375 mL)

REGISTRATION NO.

16667-01

Handling, storage, and disposal instructions are provided on the label and in this Material Safety Data Sheet (MSDS). It is the user's responsibility to read and understand these instructions before using this product.

DUET HD Dual-Action Adulticide may be applied to areas where house flies, mosquitoes, and flies are present. Do not use if you are under the influence of alcohol, drugs, or any other substance that could impair your judgment or ability to operate this product safely.

USE RESTRICTIONS

Do not use on lawns, golf courses, or areas where children or pets are present.

PRECAUTIONARY STATEMENTS

Avoid contact with treated areas. Do not use if you are under the influence of alcohol, drugs, or any other substance that could impair your judgment or ability to operate this product safely.

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Avoid contact with treated areas. Do not use if you are under the influence of alcohol, drugs, or any other substance that could impair your judgment or ability to operate this product safely.

PHYSICAL AND CHEMICAL PROPERTIES

Do not use in an open flame.

DIRECTIONS FOR USE

This is a solution of Duet HD. Do not dilute.

USE RESTRICTIONS

Do not use on lawns, golf courses, or areas where children or pets are present.

CONTENTS

12.5 fl. oz. (375 mL)

REGISTRATION NO.

16667-01

STORAGE AND DISPOSAL

Store in original container. Do not use if you are under the influence of alcohol, drugs, or any other substance that could impair your judgment or ability to operate this product safely.

PREVENTION

Use proper handling and storage practices.

CONTAINER HANDLING

Do not use if you are under the influence of alcohol, drugs, or any other substance that could impair your judgment or ability to operate this product safely.

HAZARD IDENTIFICATION

Avoid contact with treated areas. Do not use if you are under the influence of alcohol, drugs, or any other substance that could impair your judgment or ability to operate this product safely.

EXPOSURE CONTROLS

Use proper handling and storage practices.

PERSONAL PROTECTIVE EQUIPMENT

Use proper handling and storage practices.

STABILITY

Use proper handling and storage practices.

REACTIVITY

Use proper handling and storage practices.

TOXICOLOGY

Use proper handling and storage practices.

ENVIRONMENTAL FATE

Use proper handling and storage practices.

ECOLOGICAL TOXICITY

Use proper handling and storage practices.

METHODS AND APPARATUS

Use proper handling and storage practices.

RESULTS AND CONCLUSIONS

Use proper handling and storage practices.

REFERENCES

Use proper handling and storage practices.

ADDITIONAL INFORMATION

Use proper handling and storage practices.



Parts of the Label

- **Brand Name**
- **Active Ingredients**
- **Inert Ingredients**
- **Hazards to Humans and Domestic Animals**
- **Environmental Hazards**



Parts of the Label Cont.

- **Physical and Chemical Hazards**
- **Directions for use**
- **Reentry Statement**
- **Category of Applicator**
- **Storage and Disposal Directions**
- **Statement of use Classification**



Parts of the Label Cont.

- **Signal words**
- **Symbol**
- **Statement of Practical Treatment**
- **Name and Address of Manufacturer**
- **Registration and Establishment Numbers**
- **Net Contents**



Brand Name



- Appears boldly on the label
- It is the name by which the product is advertised.
In this case Duet HD



Active Ingredients and Inert Ingredients



Active Ingredients:

| | |
|--|---------------|
| Prallethrin: (RS)-2-methyl-4-oxo-3-(2-propynyl) cyclopent-2-enyl-(1RS)-cis, trans-chrysanthemate | 1.00% |
| Sumithrin®: 3-Phenoxybenzyl-(1RS, 3RS, 1RS, 3SR)-2,2-dimethyl-3-(2-methylprop-1-enyl) cyclopropanecarboxylate | 5.00% |
| * Piperonyl Butoxide | 5.00% |
| Other Ingredients | <u>89.00%</u> |
| | 100.00% |

Contains 0.093 pounds of Prallethrin/Gallon, 0.467 pounds of Sumithrin®/Gallon and 0.467 pounds of PBO/Gallon

*(butylcarbityl) (6-propylpiperonyl) ether and related compounds

- **Active ingredients** – Listed by either chemical name or common name. Must be stated as a percentage by weight or pounds per gallon of concentrate
- **Inert Ingredients** – Need not be listed on most products, but the percent of their content must be.



Hazards to Humans and Domestic Animals



KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Personal Protective Equipment (PPE): Mixers, loaders, applicators, and other handlers must wear long-sleeved shirt, long pants, shoes and socks. See engineering controls for additional requirements.

User Safety Requirements: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

- These statements warn you of possible poisoning to humans and animals. Special precautions, including necessary protective equipment, appear here. If the product carries serious risk, proper poison treatment is listed.



Environmental Hazards



ENVIRONMENTAL HAZARDS

This pesticide is highly toxic to aquatic organisms, including fish and aquatic invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates. Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of

applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or wash waters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply to or allow drift onto blooming crops or weeds when bees are foraging the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

- Warnings may include general statements about birds, fish, and wildlife or include statements about toxicity to honey bees, surface and ground water contamination, and endangered species.



Physical and Chemical Hazards



PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

- Warnings appear here about potential fire, explosion, or chemical hazards



Directions for use

- Provides an explanation of the correct use of the product.
- It also tells you what pests the product is registered to control, where the product can be used, how much to use, and in what form to use it
- This section also states whether the product is for general or restricted use.

SPRAY DROPLET SIZE DETERMINATION

Aerial Equipment, wide area mosquito abatement application: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ($D_v 0.5 < 60 \mu m$) and that 90% of the spray is contained in droplets smaller than 115 microns ($D_v 0.9 < 115 \mu m$). The effects of flight speed and, for non-rotary atomizers, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant, or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

AERIAL APPLICATION

DUET® HD Dual-Action Adulticide may be applied at rates of 0.33 to 0.99 fluid ounces of DUET® HD Dual-Action Adulticide per acre by fixed wing or rotary aircraft equipped with suitable ULV application equipment. Appropriate spray systems include rotary atomizers, flat fan, high pressure, and high pressure impaction nozzles characterized and oriented to achieve the droplet characteristics specified in this label.

Do not apply by fixed wing aircraft at a height less than 100 feet above the ground or canopy, or by helicopter at a height less than 75 feet above the ground or canopy unless specifically approved by the state or tribe based on public health needs. When making aerial application at an altitude of less than 100 feet, apply only when wind speed at altitude is greater than or equal to 5 mph. When making application at an altitude of 100 feet or greater, apply only when wind speed at altitude is greater than or equal to 3 mph.



Directions for use (cont.)

- Provides an explanation of the correct use of the product.
- It also tells you what pests the product is registered to control, where the product can be used, how much to use, and in what form to use it
- This section also states whether the product is for general or restricted use.

USE RESTRICTIONS

For use only by federal, state, tribal, or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel only.

IN FLORIDA: Aerial applications of this product require trained personnel to perform industry accepted assays to monitor resistance formation in targeted mosquitoes.

Do not treat a site with more than 0.0036 lb. of each a.i., Sumithrin and piperonyl butoxide and 0.00072 lbs. prallethrin per acre in a single application or in any 24-hour period. Do not apply more than 0.0108 lb. each of Sumithrin and piperonyl butoxide and 0.0022 lb. prallethrin to the same treatment area in a 7 day period. Do not apply more than 0.0216 lb. each of Sumithrin and piperonyl butoxide and 0.0043 lb. prallethrin to the same treatment area in 1 month. Do not exceed 0.1 lb. of Sumithrin or piperonyl butoxide or 0.02 lb. prallethrin per acre in any site in one year. More frequent applications may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

NOTE: When rotating products with other insecticides containing piperonyl butoxide, do not exceed 2 lbs PBO per acre per year.



Directions for use (cont.)



- Provides an explanation of the correct use of the product.
- It also tells you what pests the product is registered to control, where the product can be used, how much to use, and in what form to use it
- This section also states whether the product is for general or restricted use.



Reentry Statement



**Not applicable to this Ground Based
ULV product**

- Some products require that a person without protective clothing not enter the treated area until a certain amount of time has passed.
- Does not apply for mosquito spraying applications



Storage and Disposal Directions



- Pesticide labels will have some basic guidelines for pesticide storage. The pesticide storage area should be well marked with warning signs and should be locked to prevent unauthorized entry.
- Improper disposal of excess pesticide, spray mixture, rinsate, or the container is a violation of federal law. Read and follow label instructions for proper disposal.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a cool, dry place. Keep container closed.

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

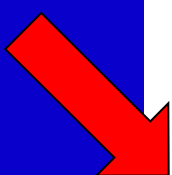
CONTAINER HANDLING: *[For Refillable Containers]* Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into rinsate collection system. Repeat this rinsing procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

CONTAINER HANDLING: *[For Nonrefillable containers of 5 gallons or less]* Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with mineral oil and recap. Shake for 10 seconds. Pour rinsate into application equipment or a rinse tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.



Statement of use Classification

For Aerial Application. Dual-Action Adulticide containing Prallethrin which provides Quick Knockdown, and Synergized Sumithrin® which provides effective kill of Adult MOSQUITOES, GNATS, BITING AND NON-BITING MIDGES and BLACK FLIES in Outdoor Residential and Recreational Areas.




For use only by federal, state, tribal, or local government officials responsible for public health or vector control, or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications, or by persons under their direct supervision.

- The label must show whether the pesticide is for general or restricted use.



Signal Words

- **Danger** "Highly Toxic" **POISON**
- **Warning** "Moderately Toxic"
- **Caution** "Slightly Toxic"



| ACTIVE INGREDIENTS: | |
|--|---------|
| Permethrin (3-Phenoxyphenyl)methyl (±) cis, trans-3-(2,2-dichloroethyl)-2,2-dimethylcyclopropanecarboxylate | 30.00% |
| Piperonyl Butoxide, Technical Equivalent to 80% (butylcarbityl) (6-propylpiperonyl) ether and 20% related compounds | 30.00% |
| INERT INGREDIENTS..... | 40.00% |
| | 100.00% |

Contains petroleum distillates.
Contains 2.52 pounds of Permethrin and 2.52 pounds of Piperonyl Butoxide per gallon.

CAUTION
KEEP OUT OF REACH OF CHILDREN

Most Mosquito control products have the signal word "Caution"



Symbol



- The skull and cross bones symbol attracts attention to highly toxic materials. The symbol is accompanied by the signal word **DANGER** and the word **POISON**.



Statement of Practical Treatment



- Emergency first aid is spelled first aid is spelled out in this section

Engineering Controls: Pilots must use an enclosed cockpit that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Human flagging is prohibited. Flagging to support aerial applications is limited to use of the Global Positioning System (GPS) or mechanical flaggers.



Name and Address of Manufacturer

Manufactured By:

CLARKE MOSQUITO CONTROL PRODUCTS, INC.

159 N. GARDEN AVENUE

ROSELLE, ILLINOIS 60172 U.S.A.

- The law requires the manufacturer to identify itself by name and address.



Registration and Establishment Numbers

EPA Reg. No.: 8329-105

EPA Est. No:

NET CONTENTS: _____

LOT NO.: _____

- E.P.A. Est. No. Identifies the factory where the product was made.
- E.P.A, Reg. No. Shows the product is properly registered with the Environmental Protection Agency (EPA)



Net Contents

NET CONTENTS 55 GALS.

- The net contents tells you the amount in the container.



RTFL (Read The Full Label)



DUET® HD
Dual-Action Adulticide

KEEP OUT OF REACH OF CHILDREN

INDICATIONS AND USES

PRECAUTIONS

STORAGE AND DISPOSAL

ADDITIONAL INFORMATION

KEEP OUT OF REACH OF CHILDREN

INDICATIONS AND USES

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Reading entire residential and non-residential insecticide labels which describe use related to emergency workers, and in agriculture surrounding public health needs, always, residents, emergency services staff and others.

DUET® HD Dual-Action Adulticide may be applied over sprays of insecticide, but not over any, including, but not limited to, malathion or other insecticide sprays applied to the same area.

ADDITIONAL INFORMATION

KEEP OUT OF REACH OF CHILDREN

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Read it often!!



Good Hunting!