



OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

May 21, 2024

Karen Larson
Vice President, Product Innovation & Government Affairs
Clarke Mosquito Control Products, Inc.
675 Sidwell Court
St. Charles, Illinois 60174

Subject: Label Amendment – Revise label with efficacy requirements and complete
Phenothrin Registration Review
Product Name: ANVIL 2+2 ULV
EPA Registration Number: 8329-61
Application Date: 11/9/2022 and 3/25/2021
Case Number: 477359 and 474727

Dear Karen Larson:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. “To distribute or sell” is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all of the information submitted with your application to support the Registration Review of the above referenced product in connection with the Phenothrin Final and/or Interim Decision, and has concluded that your submission is acceptable.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) lists examples of statements

EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions, please contact Elizabeth Andrews at 202-566-2467 or at Andrews.Elizabeth@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Campbell", written in a cursive style.

Scott Campbell, Acting Product Manager 03
Invertebrate and Vertebrate Branch I
Registration Division (7505T)
Office of Pesticide Programs

Enclosure

d-PHENOTHRIN (SUMITHRIN®)

GROUP

3A

INSECTICIDE

*[Front panel labeling for booklet labels]***Clarke ANVIL® 2+2 ULV***{Alternate Brand Name: ANVIL 2+2 ULV}**[Contains] [An Oil Soluble Synergized Pyrethroid] [For Kill of Adult Mosquitoes in Outdoor Residential and Recreational Areas]**[For [use in] Aerial or Ground Application [Equipment] to Kill Adult Mosquitoes]**[For Use Outdoors [to Kill Adult Mosquitoes] [in Residential and Recreational Areas]**[For Use Outdoors [in] [via] Ground Application [Equipment] to Knockdown and Kill Adult Mosquitoes [and] [Stable Flies] [in Residential and Recreational Areas]**[Also] [For use [outdoors]] [to kill] [in killing] Horn Flies and Biting and non-Biting Midges [via] [using] Ground Application [Equipment]***Active Ingredients**

Sumithrin® [3-Phenoxybenzyl-(1RS, 3RS; 1RS, 3SR)-2,2-dimethyl-3-(2-methylprop-1-enyl) cyclopropanecarboxylate	2.0%
Piperonyl Butoxide *	2.0%
Other Ingredients **	96.0%
	100.0%

Contains 0.14 lb. Sumithrin and 0.14 lb [Piperonyl Butoxide] [PBO] per gallon

* (butyl carbityl) (6-propylpiperonyl) ether and related compounds.

** Contains petroleum distillate

KEEP OUT OF REACH OF CHILDREN
CAUTION

[Refer to inside of label booklet for additional Precautionary Statements and Directions for Use including Storage and Disposal]

[Peel back [book][booklet] here and reseal after opening]

[ANVIL® is a Registered Trademark of Clarke Mosquito Control Products, Inc.]

[SUMITHRIN® is a Registered Trademark of Sumitomo Company Ltd.]

Manufactured [By][For]

CLARKE MOSQUITO CONTROL PRODUCTS, INC.

159 N. GARDEN AVENUE

ROSELLE, ILLINOIS 60172

EPA Reg. No.: 8329-61

EPA Est. No.:

NET CONTENTS: _____

LOT NO.: _____

ACCEPTED**05/21/2024**

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

8329-61

d-PHENOTHRIN (SUMITHRIN®)	GROUP	3A	INSECTICIDE
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Clarke ANVIL® 2+2 ULV*{Alternate Brand Name: ANVIL 2+2 ULV}*

[Contains] [An Oil Soluble Synergized Pyrethroid] [For Kill of Adult Mosquitoes in Outdoor Residential and Recreational Areas]

[For [use in] Aerial or Ground Application [Equipment] to Kill Adult Mosquitoes]

[For Use Outdoors [to Kill Adult Mosquitoes] [in Residential and Recreational Areas]]

[For Use Outdoors [in] [via] Ground Application [Equipment] to Knockdown and Kill Adult Mosquitoes [and] [Stable Flies] [in Residential and Recreational Areas]]

[Also] [For use [outdoors][to kill][in killing] Horn Flies and Biting and non-Biting Midges [via][using] Ground Application [Equipment]]

Active Ingredients	
Sumithrin® [3-Phenoxybenzyl-(1RS, 3RS; 1RS, 3SR)-2,2-dimethyl-3-(2-methylprop-1-enyl) cyclopropanecarboxylate	2.0%
Piperonyl Butoxide *	2.0%
Other Ingredients **	96.0%
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Contains 0.14 lb. Sumithrin and 0.14 lb [Piperonyl Butoxide] [PBO] per gallon

* (butyl carbityl) (6-propylpiperonyl) ether and related compounds.

** Contains petroleum distillate

KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
IF SWALLOWED:	Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN: Contains petroleum distillate. Vomiting may cause aspiration pneumonia.	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For Medical Emergencies, call 1-800-214-7753.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Caution. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE): Mixers, loaders, applicators and other handlers must wear: long sleeved shirt, long pants, shoes and socks, and chemical resistant gloves made of barrier laminate, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or Viton ≥ 14 mils. In addition, all handlers except for applicators using motorized ground equipment, pilots, and flaggers, must wear chemical-resistant gloves made of barrier laminate, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or Viton ≥ 14 mils. 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.

User Safety Recommendations: Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside, then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

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

ENVIRONMENTAL HAZARDS

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting 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.

Insecticide Resistance Management (IRM) Recommendations

For resistance management [Clarke] ANVIL® 2+2 ULV contains a Group 3A insecticide. Any insect population may contain individuals naturally resistant to [Clarke] ANVIL 2+2 ULV and other Group 3A insecticides. The resistant individuals may dominate the insect population if this group of insecticides is used repeatedly in the same area. Appropriate resistance management strategies should be followed.

To delay insecticide resistance, take the following steps:

- Rotate the use of [Clarke] ANVIL 2+2 ULV or other Group 3A insecticides with other labeled effective mosquito adulticides that have a different mode of action.
- Adopt an integrated pest management program for insecticide use that includes surveillance, uses historical information related to pesticide use, record keeping, and which considers biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, contact your local university specialist, certified pest control advisor, or Clarke representative.
- Contact your local extension specialist, technical advisor, and/or Clarke representative for any additional pesticide resistance management and/or IPM recommendations for the specific site and pest problem in your areas.
- For further information or to report suspected resistance, contact your local Clarke representative by calling 1-800-323-5727.

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

MANDATORY SPRAY DRIFT MANAGEMENT**Ultra-Low Volume Applications**

- Apply when ground wind speeds are equal to or greater than 1 mph.
- All types of applications should be conducted when temperatures at ground level are at or above 50 °F.

For Ground Applications:

- Create an optimum swath when possible. An optimum swath width can be achieved when [Clarke] ANVIL 2+2 ULV is applied from a truck that is being driven perpendicular to the wind direction. Direct the spray head of equipment to ensure even distribution of the spray cloud throughout the area.
- FOR BEST RESULTS treat when mosquitoes or other labeled insects are most active and weather conditions are conducive to keeping the spray cloud in the air column close to the ground.
- An inversion of air temperatures and a light breeze is preferable. Application during the cooler hours of the night or early morning is recommended.

For Aerial Applications:

- Do not apply by fixed wing aircraft at a nozzle height less than 100 feet (30.5m) above the ground or canopy, or by helicopter at a height less than 75 feet (22.9m) above the ground or canopy, unless specifically approved by the state or tribe based on public health needs.

Adult mosquito control applications should be limited to trained personnel.

- 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 supervision, or as allowed by state regulations for persons treating private property.
- This pesticide is toxic to aquatic organisms. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to aquatic organisms.
- 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 beyond the body of water to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or wash waters.
- 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 treat a site with more than 0.0036 lbs of Sumithrin or [piperonyl butoxide] [PBO] per acre in a single application or in any 24-hour period. Do not exceed 0.1 lbs of Sumithrin or [piperonyl butoxide] [PBO] per acre in any site in one year. More frequent applications may be made to prevent or control a threat to public health 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.

Use Restrictions:

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, or persons under contract to these entities only.

NOTE: DO NOT exceed 2 lbs of PBO per acre per year. When rotating products with other insecticides containing [Piperonyl Butoxide][PBO] ensure that the maximum label rate is not exceeded.

Not for use in outdoor residential misting systems.

USE INFORMATION

[Clarke] ANVIL 2+2 ULV is approved for application as a thermal aerosol and as an Ultra Low Volume (ULV) nonthermal aerosol (cold fog) in [mosquito adulticiding programs involving] outdoor residential and recreational areas where adult mosquitoes are present, and in vegetation surrounding parks, woodlands, swamps, marshes, overgrown areas and golf courses. [Clarke] ANVIL® 2+2 ULV may be applied over agricultural areas to kill adult mosquitoes within or adjacent to these areas.

Note: [Clarke] ANVIL 2+2 ULV cannot be diluted in water. Dilute this product with light mineral oil if dilution is preferred.

SPRAY DROPLET SIZE DETERMINATION

Ground equipment, wide-area mosquito abatement application: Spray equipment must be adjusted so that the volume median diameter (VMD) is less than 30 microns ($D_v 0.5 < 30 \mu\text{m}$) and that 90% of the spray is contained in droplets smaller than 50 microns ($D_v 0.9 < 50 \mu\text{m}$). Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a 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 equipment, wide-area mosquito abatement application: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ($D_v 0.5 < 60 \mu\text{m}$) and that 90% of the spray is contained in droplets smaller than 80 microns ($D_v 0.9 < 80 \mu\text{m}$). The effects of flight speed and, for non-rotary nozzles, 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.

GROUND ULV APPLICATION

Apply [Clarke] ANVIL 2+2 ULV [undiluted] through a standard ULV cold aerosol or non-thermal aerosol (Cold Fog) generator. Consult the following table for various flow rates and equivalent dose, using a swath width of 300 feet for acreage calculations.

Vary flow rate according to vegetation density and mosquito population. Use higher flow rate in heavy vegetation or when populations are high.

Sumithrin/PBO lb. per Acre	Flow Rates Fl.oz./Min.				Fl.oz. [Clarke] ANVIL 2+2 ULV per Acre
	5MPH	10MPH	15MPH	20MPH	
0.0036	9.8	19.7	29.5	39.3	3.245
0.0024	6.6	13.1	19.7	26.2	2.163
0.0012	3.3	6.6	9.8	13.1	1.081

[Clarke] ANVIL 2+2 ULV may also be applied undiluted with non-thermal, portable, motorized backpack equipment adjusted to deliver ULV particles of less than 100 microns VMD. Use 1.081 to 3.245 fluid ounces of the undiluted spray per acre (0.0012 to 0.0036 lb a.i./acre), with a 50-foot [15.2 m] swath while walking at an average speed of 2 mph [3.2 kph]. Do NOT use portable backpack equipment for application in enclosed spaces.

[Clarke] ANVIL 2+2 ULV may be applied through truck mounted thermal fogging equipment and vehicle speeds of 5 to 20 mph. To reduce oil requirement and sludge buildup in equipment, use a 60-100 second viscosity mineral “fog” oil, or other fuel-type oil. Dilute sufficiently to provide thorough coverage. Do not exceed 3.245 fluid ounces of [Clarke] ANVIL 2+2 ULV per acre. Use a clean, well-maintained and properly calibrated fogger. Do not wet foliage since oil base formulations may be phytotoxic. For use with hand-carried foggers, use same rates of active ingredient per acre and a swath width of 50 ft and a walking speed of 2 mph for flow calculations. Fog downwind, with the wind at your back. Do NOT use hand-carried thermal foggers in enclosed spaces.

[Clarke] ANVIL 2+2 ULV may be applied to kill mosquitoes using urban ULV application. For kill of resting or flying adult mosquitoes, biting and non-biting midges, horn flies and stable flies in areas such as utility tunnels,

underground basements underground passages, parking decks, crawl spaces or uninhabited buildings. [Clarke] ANVIL 2+2 ULV may be applied using vehicle-mounted mechanical foggers, ULV equipment, non-thermal foggers or other spray equipment suitable for this application. Do NOT use handheld equipment for this type of application in enclosed spaces.

AERIAL APPLICATION

[Clarke] ANVIL 2+2 ULV may be applied at rates of 1.081 to 3.245 fluid ounces per acre (0.0012 to 0.0036 lb a.i./acre) by fixed wing or rotary aircraft equipped with suitable ULV application equipment.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE AND SPILL PROCEDURES: Store upright at room temperature. Avoid exposure to extreme temperatures. In case of spill or leakage, soak up with an absorbent material such as sand, sawdust, earth, fuller's earth, etc. Dispose of with chemical waste.

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

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.]

[For Nonrefillable containers over 5 gallons:]

[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 the application equipment or a mix tank. Fill the container ¼ full with mineral oil. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. 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.]

[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 his rinsing procedure two more times. Then offer for recycling, if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.]

[IN CASE OF MEDICAL EMERGENCY,
CALL THE INTERNATIONAL POISON CONTROL CENTER
1-800-214-7753
IN CASE OF TRANSPORTATION EMERGENCY,
CALL INFO-TRAC 1-800-535-5053]

[FOR MORE INFORMATION CALL: 1-800-323-5727]

[NOTICE: To the extent provided by law, seller makes no warranty, expressed or implied, concerning the use of this product other than as indicated on the label. Buyer assumes all risk of use and/or handling of this material when use and/or handling is contrary to label instructions.]

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[SUMITHRIN® is a Registered Trademark of Sumitomo Company Ltd.]

Manufactured [By][For]
CLARKE MOSQUITO CONTROL PRODUCTS, INC.
159 N. GARDEN AVENUE
ROSELLE, ILLINOIS 60172

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