



OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

October 8, 2025

Lisa Adamson
Regulatory Manager
Control Solutions, Inc.
5903 Genoa-Red Bluff
Pasadena, TX 77507-1041

Subject: Label Amendment - Registration Review Mitigation for Permethrin
Product Name: PBO/PERMETHRIN 20:20
EPA Registration Number: 53883-274
Application Date: March 24th, 2021
Case Number: 668248

Dear Lisa Adamson:

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

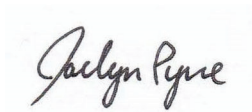
Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide, Fungicide, and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded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

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling and must be used at your next label

printing. 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.

If you have any questions about this letter, please contact Samantha Carter by phone at (202) 566-1179, or via email at carter.samantha@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "Jaclyn Pyne". The signature is written in a cursive, flowing style.

Jaclyn Pyne
Team Leader, RMIB3
Pesticide Re-evaluation Division
US EPA Office of Pesticide Programs

ENCLOSURE: Stamped label

Italics and brackets indicate optional statements.

PERMETHRIN	GROUP	3A	INSECTICIDE
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PBO/Permethrin 20:20

[Alt. Brand Name: Vector-Flex™ 20:20]

[Alt. Brand Name: Vector-Flex™ 20:20 Synergized Permethrin Formulation, Vector-Ban Ultra, Vector Mist Ultra, Mosquito Mist Ultra, Mosquito Mist Flex, Mosquito Mist Pro, Vector Mist Pro, Vector-Ban Pro, Professional Mist Pro]

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.

A Synergized Permethrin Formulation

- Controls Adult Mosquitoes (including organophosphate resistant mosquitoes), Midges (Biting and Non-Biting) and Blackflies.
- Quick Knockdown and Effective Control of Target Insects.
- ULV, Thermal and Barrier Applications using Ground and Aerial Equipment for control of Adult Mosquitoes and other biting flies.
- For surface and barrier applications using handheld equipment.
- May be Applied Undiluted, or Diluted with Water or Oil.
- For ULV applications at rates up to 0.007 lbs. a.i. per acre.
- For barrier application at rates up to 0.1 lbs. a.i. per acre.
- Can be used with injector mixing systems or other insecticide mixing systems.
- For use in Residential Mosquito Misting Systems

For outdoor use only.

ACTIVE INGREDIENTS:

*Permethrin	20.6%
**Piperonyl Butoxide	20.6%

OTHER INGREDIENTS:.....	58.8%
TOTAL.....	100.0%

*(3-phenoxyphenyl)methyl(+/-)*cis/trans* 3-(2,2-dichloroethenyl)2,2-Dimethyl cyclopropanecarboxylate. *cis/trans* ratio: min. 35% (+/-) *cis* and max. 65% (+/-) *trans*.

** (butylcarbityl)(6-propylpiperonyl) ether and related compounds. Contains 1.75 pounds of Permethrin and 1.75 pounds of Piperonyl Butoxide per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicado ampliamente. (To the User: If you cannot read English, do not use this product until the label has been fully explained to you.)

See Side [Back] Panel [Inside Booklet] for Additional Precautionary Statements

Manufactured By:
Control Solutions, Inc.
5903 Genoa-Red Bluff
Pasadena, TX 77507

Net Contents:

EPA Registration No. 53883-274
EPA Establishment No.

ACCEPTED

10/08/2025

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

53883-274

FIRST AID	
If Swallowed:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • 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.
If In Eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
Note to Physician: Contains petroleum distillates. 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. In case of an emergency with this product contact SafetyCall® International at (866) 897-8050.	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE)

Mixers, loaders, applicators, and other handlers must wear:

- Long-sleeve shirt and long pants,
- Shoes plus socks,
- Chemical-resistant gloves made of barrier laminate, butyl rubber (≥ 14 mils), nitrile rubber (≥ 14 mils), neoprene rubber (≥ 14 mils), natural rubber (≥ 14 mils), polyethylene, PVC (≥ 14 mils), or viton (≥ 14 mils)
- Chemical-resistant apron for mixers/loaders, persons cleaning equipment, and persons exposed to the concentrate.

Applicators using ULV cold foggers or fog/mist generators in outdoor spaces must wear:

- Long-sleeve shirt and long pants,
- Shoes plus socks, and
- Chemical-resistant gloves made of barrier laminate, butyl rubber (≥ 14 mils), nitrile rubber (≥ 14 mils), neoprene rubber (≥ 14 mils), natural rubber (≥ 14 mils), polyethylene, PVC (≥ 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 materials that have been drenched or heavily contaminated with this 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. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Engineering Controls: Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticide [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 extremely 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 washwaters.

Bee Warning: 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 on blooming crops or weeds while bees are foraging the treatment areas, 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. **Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms.**

PHYSICAL AND CHEMICAL HAZARDS

Do not use, pour, spill 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. Except when applying as a wide area mosquito adulticide application, only protected handlers may be in the area during application. Except when applying as a wide area mosquito adulticide application, do not apply this product in a way that will contact workers or other persons, either directly or through drift.

Note: 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.

RESISTANCE MANAGEMENT

For resistance management, [this product] contains a Group 3A insecticide. Any insect population may contain individuals naturally resistant to [this product] and other Group 3A insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance, take the following steps:

- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. DO NOT rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact your local sales representative.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

WIND

Avoid applications during gusty wind conditions

HANDHELD TECHNOLOGY APPLICATIONS

Take precautions to minimize spray drift.

HOW TO APPLY AND WHERE TO USE

PBO/Permethrin 20:20 is designed for application as an Ultra-Low Volume (ULV) or thermal aerosol to control adult mosquitoes and flies of nuisance, public health or disease vector importance in areas such as but not limited to: residential areas, industrial areas, commercial areas, urban areas, parks, campgrounds, woodlands, athletic fields, golf courses, playgrounds, recreational areas, overgrown

waste areas, roadsides, corrals, feedlots, animal confinements/houses, swine lots and zoos and other areas, where adult mosquitoes and flies may be found.

PBO/Permethrin 20:20 is recommended for application with ULV cold aerosol generators, mist-blowers, backpack sprayers, or handheld sprayers. Mist-blowers, backpack sprayers, handheld sprayers and low-pressure hand sprayers may be used for barrier or surface applications.

For soil or foliar applications, do not apply by ground within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds.

Do not apply the product into fish pools, ponds, streams, or lakes.

Do not allow to enter indoor or outdoor drains unless labeled for drain treatments.

No permita la entrada a desagües internos o externos a menos que el etiquetado indique que está permitido el uso del producto para tratamiento de desagües.



Do not apply to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment.

Spot treatments must not exceed two square feet in size (for example, 2 ft. by 1 ft. or 4 ft. by 0.5 ft.).

Do not apply or irrigate to the point of runoff.

Treat surfaces to ensure thorough coverage but avoid runoff.

Follow proper disposal procedures on this label

Siga las indicaciones del etiquetado para el desecho apropiado del producto.

Do not make applications during rain. Avoid making applications when rainfall is expected before the product has sufficient time to dry (minimum 4 hours).

Rainfall within 24 hours after application may cause unintended runoff of pesticide application.

FOR BEST RESULTS treat when mosquitoes or insects are most active and weather conditions are conducive to keeping the fog near the ground e.g. cool temperatures, and consistent wind speeds are not greater, than 15 mph. Applications during cool hours of night or early morning are usually preferable.

Do not retreat site more than once in 3 days. Do not exceed 25 applications at 0.007 lbs. permethrin per acre per application or 0.025 lbs. PBO per acre per application, or 0.18 lbs. of permethrin per acre per season or 2.0 lbs. PBO per acre per year. When targeting *Aedes Taeniorhyncus* and other difficult species applications of PBO may be made up to 0.08 lbs. PBO per acre. More frequent treatments 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.

PBO/Permethrin 20:20 can be applied over specific growing crops and range grasses prior to harvest for the control of adult mosquitoes and biting flies within or adjacent to these areas. Application can only be made where the following crops are present:

Almonds	Leafy Vegetables (except Brassica)
Apples	Lettuce, head
Broccoli	Mushrooms
Brussels sprouts	Onions, dry bulb
Cabbage	Peaches
Celery	Pears
Cauliflower	Peppers, bell
Cherries	Soybeans
Corn, fodder	Tomatoes
Corn, forage	Vegetables, cucurbit
Corn grain	Walnuts
Eggplant	
Range Grasses	

Do not allow spray treatment to drift on pastureland, cropland, (other than crops listed) or water supplies. In treatment of corrals, feedlots, animal confinements/houses, swine lots and zoos, cover any exposed drinking water, drinking fountains and animal feed before application.

PBO/Permethrin 20:20 provides effective control of adult mosquitoes, black flies, gnats, biting and non-biting midges, stable flies, horse flies, deer flies, sheep flies, horn and heel flies, and nuisance flying insects such as houseflies.

Air temperatures should be greater than 50° F when conducting all types of applications.

GROUND APPLICATION

Vehicle-Mounted ULV Cold Aerosol Generators (Cold Fog): Apply through non-thermal ULV application equipment and base all acreage calculations on the equipment manufacturers recommended swath width. Spray equipment must be adjusted so the volume median diameter or mass median diameter is less than 30 microns ($D_v 0.5 < 30 \mu m$) and that 90% of the spray is contained in droplets smaller than 48 microns ($D_v 0.9 < 48 \mu m$). 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 product acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rates(s) are properly calibrated. Apply at a rate not to exceed 0.007 pounds of permethrin per acre. An optimum swath is created when **PBO/Permethrin 20:20** is applied from a truck being driven perpendicular to the wind direction. Direct the spray head of the equipment to ensure an optimum distribution of the spray cloud throughout the area. For best results, apply when insects are most active and meteorological conditions are conducive to keeping the spray cloud near the ground. An inversion of air temperatures and a light breeze of approximately 1 to 3 mph is preferable. During applications consistent ground wind speeds should not exceed 10 mph. Application of this product during cooler hours of the night or early morning is recommended.

PBO/Permethrin 20:20 may be applied through all ULV Cold Aerosol Generators, or other similar equipment designed for non-thermal ULV aerosol applications. The desired application rate may be obtained from the chart below or by altering the dilution rate of **PBO/Permethrin 20:20**, the flow rate of the insecticide from the application equipment and the vehicle speed. Some examples are provided in the following chart. When an alternate rate is required, adjust the flow rate accordingly, provided the droplet size and spectrum remain within the label specifications.

FLOW RATE (Fluid Ounces Per Minute)						
Dilutions Base on a 15 Gallon Tank*						
Application Rate (Pounds of a.i./Acre)	Vehicle Speed (MPH)	Undiluted	Diluted 1: 3	Diluted 1:4.5	Diluted 1:6.5	Diluted 1: 9
0.0015	10	0.7	2.8	3.7	5.25	6.7
	15	1.05	4.2	5.5	7.88	10.0
	20	1.4	5.6	7.3	10.50	14.0
0.0035	10	1.55	6.2	8.6	11.7	15.6
	15	2.35	9.3	12.8	17.5	23.3
	20	3.1	12.5	17.2	23.4	
0.007	10	3.1	12.4	17.0	23.2	
	15	4.65	18.6	25.5		
	20	6.2	24.7			

***Dilution Instructions:** Fill tank with the recommended amount of water, start agitation then add the correct amount of **PBO/Permethrin 20:20**. The use of metering pumps, injector systems or other mixing systems is optional. Note: When using oil as a diluent, agitate well before use.

Where dense vegetation is present, use higher rates of application and/or a slower speed for best results. All applications should be conducted when temperatures are greater than 50° F.

BACKPACK OR HANDHELD SPRAYER APPLICATION: Apply through non-thermal ULV application equipment and base acreage calculations on a 300-foot swath. To apply undiluted at 0.007 pounds of permethrin per acre adjust equipment to an output rate of 1.24 ounces per minute and walk at 4 mph. To apply 0.0035 pounds of permethrin per acre, dilute 1 part **PBO/Permethrin 20:20** with 5 parts of diluent and apply at a rate of 3.8 ounces per minute and walk at 4 mph.

THERMAL AEROSOL APPLICATION: For use in truck-mounted, handheld or other thermal fogging equipment. Spray equipment must be adjusted so the volume median diameter or mass median diameter is less than 30 microns ($D_v 0.5 < 30 \mu m$) and that 90% of the spray is contained in droplets smaller than 48 microns ($D_v 0.9 < 48 \mu m$). 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 product acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rates(s) are properly calibrated. Apply this product mixed with water or oil at a rate not to exceed 0.007 lbs. per acre. Base acreage calculations on a 300 feet swath. For best results, direct the thermal fog into and allow to drift through areas where adult mosquitoes are found.

BARRIER APPLICATIONS: To exclude and control resting or flying adult mosquitoes in areas such as animal quarters, roadsides, urban areas, residential areas, commercial areas, industrial areas, golf courses, parks, recreational areas, tire piles and all public areas where adult mosquitoes occur or find harborage. May be used to treat aggregation and harborage areas such as the perimeter of residential buildings, commercial buildings, storage buildings, crawl spaces, transport trailers, abandoned or uninhabited buildings and other areas where adult mosquitoes find harborage.

When this product is applied as a barrier application using low pressure hand sprayers, hydraulic sprayers or ground ULV equipment, do not apply within 100 feet (30 meters) of lakes and streams.

To apply this product using low pressure hand sprayers or other similar equipment, for the control of mosquitoes on resting or aggregation surfaces, mix 0.126 oz. (3.73 ml) in one gallon of water and apply sufficient spray to dampen the surface - approximately 700-750 square feet of treated area. Use equipment that is capable of delivering an even distribution of the labeled rate over the treatment area. For application using backpack or truck-mounted mist-blower equipment apply **PBO/Permethrin 20:20** undiluted at a rate not to exceed 7.3 oz. per acre. If diluted apply at a rate not to exceed 0.1 lbs. permethrin a.i. per acre. Diluted or undiluted applications may be made onto foliage at the perimeter of

areas such as recreational areas, parks or golf courses from which mosquitoes or flies are to be excluded. Applications may be directed into harborage areas or other resting areas where adult mosquitoes or flies may be found.

URBAN ULV MOSQUITO CONTROL APPLICATIONS: For control of resting or flying adult mosquitoes, biting flies and biting midges in harborage areas such as but not limited to utility tunnels, sewers, storm drains and catch basins, pipe tunnels, basements, underground passages, parking decks, crawl spaces under buildings, abandoned buildings or uninhabited buildings. Apply **PBO/Permethrin 20:20** diluted or undiluted using mechanical foggers, hand-held or truck-mounted ULV equipment, thermal foggers or other spray equipment suitable for this type of application. **PBO/Permethrin 20:20** may be applied at rates up to but not exceeding 0.007 lbs. permethrin per acre. Do not apply by fixed wing aircraft at a height less than 100 feet, or by helicopter at a height less than 75 feet unless specifically approved by the state or tribe based on public health needs.

Ultra Low Volume Applications

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 person 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 person under their supervision, or as allowed by state regulations for persons treating private property.

This pesticide is extremely 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 site with more than 0.007 lb. a.i./A in a single application or in any 24-hour period. Do not exceed 0.18 lb. a.i./A 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 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, of if specifically approved by the state or tribe during a natural disaster recovery effort.

Mandatory Spray Drift Management

For Ground Applications:

- User must only apply with the nozzle height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to select nozzle and pressure that deliver medium or coarser droplets (ASABE S572).
- Do not apply when wind speeds exceed 15 mph at the application site.
- Do not apply during temperature inversions.
- Create an optimum swath when possible. An optimum swath width can be achieved when this product 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 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 cooler

hours of the night or early morning is recommended.

AERIAL APPLICATION

Apply **PBO/Permethrin 20:20** either diluted or undiluted at rates up to 0.007 lbs. Permethrin/PBO per acre by fixed wing or rotary aircraft equipped with a spraying system capable of making a ULV application. For aerial applications of **PBO/Permethrin 20:20**, use ULV equipment and nozzles such as rotary atomizers or similar spray equipment. Spray equipment must be adjusted so 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 100 microns ($D_v 0.9 < 100 \mu m$). 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 rates(s) are properly calibrated. The effects of flight speed and, for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered.

Aerial application made at >200 feet above ground elevation: Spray equipment must be adjusted so that the volume median diameter product is less than 70 microns ($D_v 0.5 < 70 \mu m$) and that 90% of the spray is contained in droplets smaller than 145 microns ($D_v 0.9 < 145 \mu m$). 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.

Aerial application of **PBO/Permethrin 20:20** shall be made at altitudes ranging from 100 feet to 300 feet. Do not apply when ground wind speed equals 0 MPH or when ground wind exceeds 15 MPH. Aerial applications of **PBO/Permethrin 20:20** shall only be made when recommended by public health officials and trained personnel of mosquito abatement districts and other mosquito control programs. To ensure best results applications shall be made when temperatures are greater than 50° F.

For best results, apply **PBO/Permethrin 20:20** when insects are most active and meteorological conditions are conducive to keeping the spray cloud near the ground. Aerial applications using aircraft equipped with global positioning systems (GPS) may be needed to compensate for windy conditions and to ensure drift into target areas.

Ultra Volume (ULV) Aerial Application

Do not apply within 450 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds). Applications made by mosquito control districts and other public health officials are exempt from this requirement.

Mandatory Spray Drift Management

- Do not release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to select nozzle and pressure that deliver medium or coarser droplets (ASABE S641).
- Do not apply when wind speeds exceed 15 mph at the application site. If the wind speed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- If the windspeed is 10 miles per hour or less, applicators must use ½ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use ¾ swath displacement upwind at the downwind edge of the field.
- Do not apply during temperature inversions.
- 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 Aerial Application

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

IN FLORIDA: Do not apply by aircraft unless approved by the Florida Department of Agriculture and Consumer Services.

Spray Drift Advisories

**THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.**

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

BOOM HEIGHT – Ground Boom

- For ground equipment, the boom should remain level with the crop and have minimal bounce

SHIELDED SPRAYERS

- Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

- When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

- Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

- Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.
- Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Handheld Technology Applications

- Take precautions to minimize spray drift.

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 person under their supervision, or as allowed by state regulations for persons treating private property.

DIRECTIONS FOR USE IN OUTDOOR RESIDENTIAL MISTING SYSTEMS

When using this product, installers and service technicians must comply with the license, certification, or registration requirements of the state(s), tribe(s), or local authority(ies) where they are installed.

Do not apply this pesticide when people, pets, and/or food are present.

Do not make applications during rain.

Do not use in an evaporative cooling system.

Direct nozzles to spray towards the target area and away from swimming pools, water bodies, or eating and cooking areas.

Do not set nozzles to direct mist near outside air condition systems or other home air intakes.

If used in a system with a reservoir tank for the end use dilution, the system reservoir tank must be locked. Securely attach the end use pesticide label and a dilution statement to the system reservoir tank in a weather protected area or plastic sleeve. The dilution statement must be phrased as follows. This container holds ___parts **PBO/Permethrin 20:20** to ___ parts water.

If used in a direct injection system, the pesticide container must be locked. Securely attach the end use label to the pesticide container in a weather protected area or plastic sleeve.

If the system works on an automatic timer, set the timing for application when people, pets, and/or food are unlikely to be present.

If the system works when a person operates a remote activation device, then application of this pesticide when people, pets, and/or food are present is prohibited.

Contact the system manufacturer for guidance or assistance to ensure compliance with the following requirement:

This product must only be used in systems that have been calibrated to apply no more than the maximum application rate of 0.05 grams (0.00011 lbs. permethrin) per 1000 cubic feet per day. This is the equivalent of 0.24 ml of product per 1000 cubic feet per day.

DILUTION TABLE FOR AUTOMATIC MISTING SYSTEMS

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Tank size (gallons)	Fluid ounces concentrate per gallon of water	Fluid ounces of concentrate to add to tank
1	For 1:100 dilution:	.58
15		8.5
20		11.5
30		17.5
55		32
1	For 1:55 dilution	1.16
15		17
20		23
30		35
55		64
TO REFILL A PARTIALLY FILLED TANK: Determine the amount of additional solution (in gallons) required to re-fill the tank. Multiply the number of gallons required to refill the tank times 1.16 to determine the amount of this concentrate to add when refilling (to achieve 0.09% synergized permethrin solution.)		

STORAGE AND DISPOSAL

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

Do not pour or dispose down-the-drain or sewer. Call your local solid waste agency for local disposal options.

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: Pesticide, spray mixture or rinse water that cannot be used according to label instructions must be disposed of at or by an approved waste disposal facility.

Container Disposal: Nonrefillable Container: Metal or Plastic Container. Do not reuse or refill container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities, such as burning of plastic containers. If burned, stay out of smoke. Triple rinse as follows:

[Containers 5 gallons or less: Empty the remaining contents into application equipment and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into mix 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. Once cleaned, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill or by other procedures approved by State and local authorities. Do not cut or weld metal containers.]

[Containers larger than 5 gallons: Empty the remaining contents into application equipment. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip 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. Once cleaned, offer for recycling or reconditioning if appropriate.]

[Pressure rinse as follows (all sizes): Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.]

[Refillable container: Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. Return container to point of purchase for reuse with seal intact and in salable condition. Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices. After filling and before transporting, check for leaks. Do not refill or transport damaged or leaking container.

To clean the container before final disposal, empty the remaining contents from the container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing process two more times.

NOTICE: Buyer and user assume all risk and liability of use, storage and/or handling of this product not in accordance with the terms of this label.