



Aqualuer® 20-20

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

- For Effective Control of Adult Mosquitoes (including organophosphate resistant mosquitoes), Midges (Biting and Non-Biting) and Blackflies
- For ULV, Thermal and Barrier Applications using Ground and Aerial Equipment for control of Adult Mosquitoes and other biting flies.
- Formulation Allows Dilution with Water or Oil.

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 DANGER - PELIGRO

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).

First Aid	
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.
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 Swallowed:	<ul style="list-style-type: none">• Call a Poison Control Center or doctor immediately for treatment advice.• Have person sip a glass of water if able to swallow.• Do not induce vomiting unless told to do so by a poison control center or doctor.• Do not give anything by mouth to an unconscious person.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also call 1-800-858-7378 for emergency medical treatment advice.	
Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.	

PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals

DANGER: Corrosive. Causes irreversible eye damage. Causes skin irritation. Do not get in eyes, on skin, or on clothing. Harmful if absorbed through skin. Harmful if swallowed. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are barrier laminate, nitrile rubber, neoprene rubber, and viton. If you want more options, follow the instructions for category E on an EPA chemical-resistance category selection chart.

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

- Coveralls worn over short-sleeved shirt and short pants; Goggles or face shield;
- Chemical-resistant footwear plus socks;
- Chemical-resistant gloves made of any waterproof material (except for applicators using motorized ground equipment, pilots, and flaggers); and
- Chemical-resistant apron for mixers, loaders, persons cleaning equipment and persons exposed to the concentrate.

See Engineering Controls for additional requirements.

USER SAFETY REQUIREMENTS

Follow manufacturer's instruction 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.

ENGINEERING CONTROLS

Pilots must use an enclosed cockpit that meets 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 the use of the Global Positioning System (GPS) or mechanical flaggers.

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.

ENVIRONMENTAL HAZARDS

This product is extremely toxic to aquatic organisms, including fish and invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates.

When applying as a wide area mosquito adulticide, 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.

This pesticide 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 visiting the treatment area.

When applying as a wide area mosquito adulticide, 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.

PHYSICAL AND CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame. Keep away from oxidizers.

DIRECTIONS FOR USE

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

HOW TO APPLY AND WHERE TO USE

Aqualuer 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 including residential areas, industrial areas, commercial areas, urban areas, parks, campgrounds, woodlands, athletic fields, golf courses, playgrounds, recreational areas, overgrown waste areas, roadsides, and other areas where adult mosquitoes and flies may be found.

Apply **Aqualuer 20-20** with ULV cold aerosol generators, thermal aerosol generators, mist-blowers, backpack sprayers, or handheld sprayers. Backpack sprayers, handheld sprayers and low-pressure hand sprayers may be used for barrier or surface applications.

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 10 mph. Applications during the cool hours of night or early morning are usually preferable. Apply when wind speed is greater than 1 mph.

Do not retreat the same site more than once in 3 days. Do not exceed 25 applications at 0.007 lbs permethrin and 0.007 lbs PBO per acre per application, or 0.18 lbs of permethrin per acre per season and 0.18 lbs PBO per acre per year. 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.

Aqualuer 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, Apples, Broccoli, Brussels sprouts, Cabbage, Celery, Cauliflower, Cherries, Corn (fodder), Corn (forage), Corn (grain), Eggplant, Leafy Vegetables (except Brassica) (leafy amaranth, arugula, cardoon, celery, celtuce, chervil, chrysanthemum, corn salad, garden & upland cress, dandelion leaves, dock, endive, fennel, sea kale, head & leaf lettuce, orach, parsley, garden and winter purslane, radicchio, rhubarb, spinach, Swiss chard, and tamarila), Lettuce (head), Mushrooms, Onions (dry bulb), Peaches, Pears, Peppers (bell), Soybeans, Tomatoes, Vegetables (cucurbit: balsam apple, balsam pear, cantaloupe, fruit chayote, cucumber, cucurbits, West Indian gherkin, edible gourd, melon, muskmelon, pumpkin, squash, watermelon, Chinese waxgourd), Walnuts

Do not allow spray treatment to drift on 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.

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

Do not make applications during rain. Do not apply directly to sewers or drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur, except as directed by this label.

Not for use in outdoor residential misting systems. Not for use in metered release systems.

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 manufacturer's recommended swath width.

Spray equipment must be adjusted so the volume median diameter or mass median diameter is less than 30 microns (Dv 0.5 < 30 mm) and that 90% of the spray is contained in droplets smaller than 50 microns (Dv 0.9 < 50 mm). 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.

Apply at a rate not to exceed 0.007 pounds of permethrin per acre. An optimum swath is created when **Aqualuer 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.

Aqualuer 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 **Aqualuer 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 Based on a 15 Gallon Tank*						
Application Rate (Pounds of Permethrin 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 **Aqualuer 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.

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 **Aqualuer 20-20** with 3 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 (Dv 0.5 < 30 m) and that 90% of the spray is contained in droplets smaller than 48 microns (Dv 0.9 < 48 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. 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, 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 low-pressure direct spray, non-ULV equipment, apply **Aqualuer 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 into 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. Do not apply more than 0.18 lbs. permethrin a.i. per year to the same site.

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 **Aqualuer 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. **Aqualuer 20-20** may be applied at rates up to but not exceeding 0.007 lbs. permethrin per acre.

AERIAL APPLICATION

Apply **Aqualuer 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.

Aerial application of **Aqualuer 20-20** shall be made at altitudes ranging from 75 feet to 300 feet. 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.

Do not apply when ground wind speed exceeds 10 mph. Aerial applications of **Aqualuer 20-20** shall only be made when recommended by public health officials and trained personnel of mosquito abatement districts and other mosquito control programs.

For best results, apply **Aqualuer 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.

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

Aerial Application made at ≤ 200 feet above ground elevation:

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 (Dv 0.5 < 60 μm) and that 90% of the spray is contained in droplets smaller than 145 microns (Dv 0.9 < 145 μm). 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 made at > 200 feet above ground elevation:

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 70 microns (Dv 0.5 < 70 μm) and that 90% of the spray is contained in droplets smaller than 145 microns (Dv 0.9 < 145 μm). 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.

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: 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 Handling:

Nonrefillable container: Do not reuse or refill this container. Triple rinse or pressure rinse container promptly after emptying. **Containers ≤ 5 gallons:** 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 container 1/4 full with water and recap. Shake for 10 seconds. Pour rinse into application equipment or a mix tank or store rinse for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Containers > 5 gallons:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. 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 rinse into application equipment or a mix tank or store rinse for later use or disposal. Repeat this procedure two more times. **Pressure Rinse as Follows:** 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 rinse 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. Offer for recycling, if available.

READ ENTIRE LABEL BEFORE USING

Read the entire **Directions for Use, Conditions, Disclaimer of Warranties, and Limitation of Liability** before using this product. By using this product, User and Buyer accept the following Conditions and Disclaimer.

CONDITIONS: The Directions for Use of this product are believed to be adequate and should be followed carefully. However it is impossible to eliminate all risks associated with the use of this product. Injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of **Value Garden Supply**. All such risks shall be assumed by the User or Buyer.

DISCLAIMER: **Value Garden Supply** warrants that this product conforms to the chemical description on the label and is reasonably fit for the specific purposes referred to in the Directions For Use, subject to the inherent risks referred to above. To the extent provided by law, **Value Garden Supply** makes no other express or implied warranty of fitness or merchantability nor any other express or implied warranty. To the extent provided by law **Value Garden Supply** shall not be liable for any consequential, special, or indirect damages resulting from the use, handling or application of this product.

EPA Reg. No 769-985
EPA Est. No. 44616-MO-1

Value Garden Supply
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(248) 773-7460
www.allprovector.com
RM# 22039-9-13



SAFETY DATA SHEET



SECTION 1: IDENTIFICATION

PRODUCT NAME: AllPro Aqualuer 20-20
EPA REG. NUMBER: 769-985
PRODUCT NUMBER: 51040, 51041, 51042, 51043, 51044

MANUFACTURER: Value Garden Supply
ADDRESS: P.O. Box 585, St. Joseph, MO 64502
MANUFACTURER PHONE: (888) 603-1008
MANUFACTURER FAX PHONE: (952) 884-6149
EMERGENCY PHONE: (800) 858-7378

PRODUCT USE: 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.

SECTION 2: HAZARD IDENTIFICATION

HAZARD CLASSIFICATION(S): Corrosive to skin and eyes, acutely toxic if ingested or inhaled, skin sensitizer, aspiration hazard, and combustible liquid.

SIGNAL WORD: DANGER

HAZARD STATEMENTS: Causes severe skin and eye damage. May be fatal if swallowed and enters airways. Harmful if swallowed.

SYMBOLS: Corrosion, Health Hazard, and Exclamation Mark.



PRECAUTIONARY STATEMENTS:

- PREVENTION:** Do not breathe mists. Wash hands thoroughly after handling. Wear protective gloves and clothes, eye and face protection. Do not eat, drink or smoke when using this product.
- RESPONSE:** If swallowed, immediately call a poison control center or doctor. Rinse mouth. Do NOT induce vomiting. If on skin, take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. If inhaled, remove person to fresh air and keep comfortable for breathing. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- STORAGE:** Store locked up.
- DISPOSAL:** Dispose of contents at approved chemical waste disposal facility. Dispose of empty containers after triple rinsing, or according to label directions, in regular waste (see section 13 for specific instructions).

35% of this mixture consists of ingredients of unknown acute toxicity.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS*:	CAS NO.	% WT
Permethrin	52645-53-1	20.6%
Piperonyl Butoxide	51-03-6	20.6%
d-Limonene	5989-27-5	0-35%
Mineral Oil	64741-89-5	0-38%

A trade secret under 29 CFR 1200(i) is claimed for the remaining ingredients of this product.

* All ingredients in quantities > 1.0 % (> 0.1 % for carcinogens or teratogens) that are **potentially** hazardous per OSHA definitions

SECTION 4: FIRST AID MEASURES

EYES: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

SKIN: Take off contaminated clothing and rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION: Call a poison control center or doctor for treatment advice. Have person sip a glass of water, if able to swallow. Do NOT induce vomiting, unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

INHALATION: Get to fresh air. Call a poison control center or doctor for treatment advice.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Probable mucosal damage may contraindicate the use of gastric lavage.



SAFETY DATA SHEET



SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT: 135°F

AUTOIGNITION TEMPERATURE: N/A

EXTINGUISHING MEDIA: Carbon dioxide, foam, or dry chemical

SPECIAL FIRE FIGHTING PROCEDURES: Wear full protective clothing and self-contained breathing apparatus. Evacuate non-essential personnel from the area to prevent exposure to fire, smoke, fumes, or products of combustion. Prevent use of contaminated buildings, area and equipment until decontaminated. Smother to exclude air. Do not use water. Handle as an oil fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

NFPA HAZARD CLASSIFICATION:

<u>HEALTH</u>	<u>FIRE</u>	<u>REACTIVITY</u>	<u>SPECIAL</u>
1	2	0	N/A

NFPA HAZARD RATING CODES:

<u>INSIGNIFICANT</u>	<u>SLIGHT</u>	<u>MODERATE</u>	<u>HIGH</u>	<u>EXTREME</u>
0	1	2	3	4

SPECIAL CODES: OX = oxidiser, SA = simple asphyxiant, W = reacts with water

SECTION 6: ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear goggles with splash protection or face shield, rubber gloves (nitrile, neoprene, laminated, or Viton), rubber boots, long sleeves and long pants to prevent contact with spilled product.

SMALL SPILLS: Cover spill with absorbent material, such as sand, sawdust, earth, etc.. Sweep up and place in an approved chemical waste container. Wash the spill area with water and detergent. Do not allow wash water into sewers or other bodies of water.

LARGE SPILLS: Contain spill and prevent it from reaching sewers or surface waters. Cover spill with absorbent material. Sweep up and place in an approved chemical waste container. Wash the spill area with water and detergent. Do not allow wash water into sewers or other bodies of water.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Store in well-ventilated, secure area, out of reach of children and animals. Do not store near food, beverages or tobacco products. Prevent eating, drinking, tobacco use, and cosmetics application in areas where there is a potential for exposure to this product. Always wash thoroughly after handling. Do not contaminate water, food or feed by storage or handling. Store containers upright at room temperature. Avoid extreme temperatures.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>INGREDIENTS*:</u>	<u>CAS NO.</u>	<u>% WT</u>	<u>OSHA TWA</u>	<u>OSHA STEL</u>	<u>ACGIH TWA</u>	<u>ACGIH STEL</u>	<u>OTHER†</u>
Permethrin	52645-53-1	20.6%	NE	NE	NE	NE	NE
Piperonyl Butoxide	51-03-6	20.6%	NE	NE	NE	NE	NE
d-Limonene	5989-27-5	0-35%	NE	NE	NE	NE	30ppm
Mineral Oil	64741-89-5	0-38%	NE	NE	NE	NE	NE

* All ingredients in quantities > 1.0 % (> 0.1 % for carcinogens or teratogens) that are potentially hazardous per OSHA definitions

† AIHA WEEL 8 hour TWA or NIOSH REL 8 hour TWA

N/A = not applicable NE = not established

ENGINEERING CONTROLS: When product is being applied by airplane, pilots must use an enclosed cockpit that meets 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 the use of the global positioning system (GPS) of mechanical flaggers.

EYE PROTECTION: Goggles for splash protection, or face shield.

SKIN PROTECTION: Chemical resistant gloves (nitrile, neoprene, laminated, or Viton), rubber boots, long sleeves, long pants, and apron.

WORK HYGIENIC PRACTICES: Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove PPE immediately if product gets inside. Remove clothing immediately if contaminated, then wash thoroughly and put on clean clothing. Remove PPE after handling product. Wash outside of gloves before removing. Wash or dispose of contaminated PPE with hot water and detergent, separately. Dispose of clothing or other absorbent material that is heavily contaminated with product. Do not reuse.



SAFETY DATA SHEET



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Light yellow/orange liquid	VAPOR PRESSURE (mmHg at 20°C): 2
ODOR: Slight orange citrus odor	VAPOR DENSITY (AIR = 1): >1
ODOR THRESHOLD: N/A	pH: N/A
PHYSICAL STATE: Liquid	SPECIFIC GRAVITY: 0.842-0.846
BOILING POINT: 349°F (176°C)	DENSITY: 0.842-0.846g/ml
MELTING POINT: N/A	FLASH POINT: 135°F
FLAMMABILITY: N/A	AUTO IGNITION: 455°F
VISCOCITY (cSt at 40°C): 13	LEL/UEL: N/A
WATER SOLUBILITY: Miscible in water	OTHER SOLUBILITIES: Miscible in oil
DECOMPOSITION TEMPERATURE: N/A	PARTITION COEFFICIENT (n-octanol/water): N/A
EVAPORATION RATE (BuAc = 1): 0.2	% VOLATILE BY VOLUME: 98%

SECTION 10: STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Temperatures over 120°F

INCOMPATIBLE MATERIALS: Strong oxidizers

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE ORAL EFFECTS: Oral LD50 (Rat): >500 to <5,000 mg./kg. (female) >5,000 mg./kg. (male)

ACUTE RESPIRATORY EFFECTS: 4-hour LC50 (Rat): >2.02 mg/l. Contains petroleum distillates, which create an aspiration hazard.

ACUTE DERMAL EFFECTS: Dermal LD50 (Rat): >2,000 mg/kg. Permethrin is a skin sensitizer in some individuals. Limonene can cause severe damage to skin.

EYE EFFECTS: Limonene can cause severe damage to eyes.

CARCINOGENICITY: Permethrin: A statistically significant increase of lung and liver tumors was observed in female mice receiving diets containing 375 and 750 mg/kg/day over 85 weeks. Piperonyl Butoxide: Marginally higher incidences of benign liver tumors in mice were observed following lifetime high dose exposures. The significance of this observation is questionable and under review. The doses at which tumors were observed greatly exceeded human dietary intake. At anticipated dietary exposure levels, it is highly unlikely that piperonyl butoxide would result in carcinogenic effects. IARC has also concluded that there is no evidence for the carcinogenicity of white oils when administered by routes other than by interperitoneal injection. The solvent is not carcinogenic according to the OSHA Hazard Communication Standard.

TERATOGENICITY (birth defects): Permethrin and Piperonyl Butoxide were not teratogenic when tested in rats.

REPRODUCTIVE TOXICITY: Permethrin and Piperonyl Butoxide were not reproductive toxins when tested in rats.

MUTAGENICITY (genetic effects): Permethrin and Piperonyl Butoxide did not produce any mutagenic effects when tested in the Ames test.

SECTION 12: ECOLOGICAL INFORMATION

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. 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.



SAFETY DATA SHEET



Bee Warning: This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply to blooming crops or weeds while bees are visiting 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.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Do not contaminate water food or feed by storage or disposal.

Product 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. Do not reuse or refill this container. Triple rinse or pressure rinse container promptly after emptying. Then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke. **Triple Rinse as Follows - Containers 5 gallons or less in capacity:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a 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. **Containers greater than 5 gallons in capacity:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. 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. **Pressure Rinse as Follows:** 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.

SECTION 14: TRANSPORT INFORMATION

***DOT SHIPPING NAME:** Terpene Hydrocarbons, n.o.s., (d-Limonene), 3, UN2319, PGIII

HAZARD CLASS: 3

IDENTIFICATION NUMBER: UN2319

PACKAGING GROUP: III

* U.S. Department of Transportation

IMO: UN2319, Terpene Hydrocarbons, n.o.s., (d-Limonene), 3, PGIII

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: This chemical is a pesticide product registered by the United States Environmental Protections Agency and is subject to certain labeling requirements under federal pesticide law. The requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

Harmful if swallowed or absorbed through skin. Avoid contact with eyes, skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

SARA TITLE III: N/A

CERCLA: N/A

INDIVIDUAL STATES: N/A

SECTION 16: OTHER INFORMATION

This information is provided in good faith, but without express or implied warranty. For additional information, refer to the current American Conference of Governmental Industrial Hygienists (ACGIH) documentation for Threshold Limit Values (TLVs) for individual components, current American Industrial Hygiene Association (AIHA) documentation for Workplace Environmental Exposure Levels (WEELs), and the current U.S. DOT Emergency Response Guidebook.