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MAYOR

CITY OF BIRMINGHAM

FINANCE DEPARTMENT

PURCHASING DIVISION

P-100 CITY HALL
710 NORTH 20TH STREET
BIRMINGHAM, ALABAMA 35203-2227

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December 9, 2014

INVITATION TO BID 15-01

Sealed bids for ULV Mosquito Control Sprays for a period of one (1) year and month to month thereafter upon mutual agreement of both parties, will be received by the Purchasing Agent, P-100 First Floor City Hall, Birmingham, Alabama, until 2:00 p.m., January 21, 2015, at which time and place they will be publicly opened and read.

Bidder's wishing to bid can download the complete solicitation including the specifications and bid form via the internet at www.birminghamal.gov (go to the link titled **Bidding Opportunities**), or by visiting the Purchasing Office at the address shown above, or by calling (205) 254-2265, fax (205) 254-2484 and requesting a copy be mailed to you. Any addenda will be available on the internet. Bidder is responsible for checking the website for addenda until bid opening date. Addenda will be mailed to only those vendors who were provided a copy in person or by mail.

All quotations are to be F.O.B. Birmingham Alabama delivered.

It is required for any contract exceeding \$10,000.00 that the bidder submits with his bid either a certified check, a cashier's check, or a bid bond payable to the City of Birmingham in the amount of \$500.00. In order for any bid award to be considered that exceeds \$10,000.00, your bid must be accompanied by an acceptable bid bond or check. Bid bond checks will be returned to all unsuccessful bidders after the formal award is made and to the successful bidder after acceptance of award. Should the successful bidder fail to accept the award, the bid bond or check shall be forfeited.

The City follows a policy of nondiscrimination. No contractor with the City should discriminate on the basis of race, sex, religion, or national origin. Failure by the vendor to carry out these requirements is a material breach of its obligations, which may result in its termination or such other remedy as the City deems appropriate.

No bid may be withdrawn for a period of sixty (60) days after the date of the bid opening.

The City reserves the right to reject any or all bids submitted or part of any bid, and to waive any informalities.

Bids must be submitted in a sealed envelope marked, "**SEALED BID – ULV MOSQUITO CONTROL SPRAYS – 2:00 P.M., 1/21/15.**" Bids may be hand delivered to Room P-100 1st Floor City Hall, Birmingham, Alabama, or mailed to City of Birmingham, P. O. Box 11295, Birmingham, Alabama 35202-1295. (**DO NOT MAIL BID TO ROOM P-100 1ST FLOOR CITY HALL**). However bids sent by any express carrier (Federal Express, UPS, Airborne, etc.) must be mailed to 710 North 20th Street and specify delivery to Room P-100, First Floor City Hall.

It is the bidder's responsibility to make sure that his bid is in the possession of the Purchasing Agent on or before January 21, 2015. Bids received after this time will not be considered.


W. E. Caffee, Asst. Purchasing Agent

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B.N. 12/14/14

SPECIFICATIONS FOR ULV MOSQUITO CONTROL SPRAYS

GENERAL:

The City of Birmingham is seeking bids for ULV Mosquito Control Sprays as specified later in this document. The City intends to award to the lowest priced, responsive, responsible bidder on a line item basis. For the purchase of personal property, the City's policy is to apply a local preference option, as allowed by State of Alabama Code, Section 41-16-50, in determining the low bidder.

The proposed contract shall extend for a minimum time frame of one (1) year, with a month-to-month extensions thereafter, at the prices originally bid, upon mutual agreement of both parties. This extension phase is not to exceed twenty-four (24) months. Prior to the end of the initial contract year or during any extension phase of this contract, the successful bidder shall give the City an advanced thirty (30) days written notice if they wish to terminate the contract. During the extension phase of the contract should any product bid have a manufacturer's price increase which applies across the board to all sales of the product (ex: new price list published), the City shall allow the bidder to increase the bid price by the exact dollar amount of the manufacturer's price increase. Bidder must provide to the City printed documentation from the manufacturer of any such price increase at least thirty (30) days prior to implementing any increase in price. No increase in price shall be allowed during the first twelve (12) months of the contract. Should any product herein experience a manufacturer's price reduction during the contracted period, the City is to immediately receive the benefit of such reduction.

No bid may be withdrawn for a period of sixty (60) days after the date of the bid opening.

Failure to adhere to any or all terms, conditions and specifications as set forth in the contract may result in the immediate termination of the contract. Should termination occur, the holder of the contract may be declared a "non-responsible vendor". This declaration may result in the rejection of any future bids submitted by the vendor for a period of time to be determined by the City.

The City will issue purchase order(s) to the successful bidder for the goods and/or services (bid items) that are the subject of the bid. Unless otherwise agreed in a writing that is signed by both parties, the entire agreement between the City and the successful bidder concerning the bid items is comprised of the terms, conditions, specifications and requirements stated in (a) the contemplated purchase order(s), (b) this Invitation to Bid and Specifications and (c) your bid (collectively, the "Contract Requirements"). These writings supersede all former proposals, offers, negotiations, representations or agreements, either written or oral, concerning the provision of vendor's goods and/or services. By acceptance of the City's purchase order(s), the successful vendor agrees to abide by and perform its responsibilities related to the bid items in compliance with the Contract Requirements.

Each bidder is to extend prices and provide a total for the bid being submitted. In order for any bid award to be considered that exceeds \$10,000.00 your bid must have been accompanied by an acceptable bid bond, certified check or cashier's check in the amount of \$500.00. Bid bond checks will be returned to all unsuccessful bidders after the formal award is made and to the successful bidder after acceptance of award. Should the successful bidder fail to accept the award, the bid bond or check shall be forfeited.

Successful bidder shall not assign this contract to any other party without prior written approval of the City of Birmingham. Contract shall not be assigned to an unsuccessful bidder who was rejected because he was not a responsive or responsible bidder.

The contract shall become effective from the date noted in the Notification of Award Letter, which will be mailed to the successful vendor.

**SPECIFICATIONS FOR ULV MOSQUITO CONTROL SPRAYS
cont'd**

The City reserves the right to cancel the contract, in whole or in part, and seek new bids at any time the city determines that the service, item(s) and/or product line(s) being supplied is/are failing to perform satisfactorily.

Any bid that imposes a service fee or any other type of fee on any order not exceeding a minimum order quantity or minimum purchase order dollar amount, will be determined a non-responsive bid and will not be considered for award.

Any bid that stipulates a reversal of freight charges if a minimum quantity or purchase order amount is not ordered, will be determined a non-responsive bid and will not be considered for award.

All bids submitted are to be F.O.B. Birmingham Alabama delivered.

Should other mosquito products currently not shown on the bid form, be required during the life of the contract, the City reserves the right to seek verbal bids from only the responsive respondents of this Invitation To Bid, and to make an award of these additional items to the lowest responsive, responsible bidder (s) for the remaining life of this contract.

Bids may be solicited for products included in this contract where immediate/emergency need exists, including large quantities. The decision of the Purchasing Agent as to what constitute a biddable situation shall be final and shall not be construed as a breach of contract.

Contract award to purchase the materials covered in this bid document shall be construed under and governed by the laws of the State of Alabama and each party hereto irrevocably agrees to be subject to the jurisdictions of the courts of the State of Alabama.

The City's standard payment term is Net-30 Days from acceptance. Exception may be allowed for discounted early payment, such as 2%-10, Net 30 Days. The reference date for all such discounted early payment terms will be the date the invoice is received or the date the goods are received, whichever is later. In the event of a dispute the City's records shall prevail. **The City will not consider any bids requiring C.O.D. payments.**

Bidder (and its employees, agents and any subcontractors) shall not discriminate on the basis of race, color, national origin, or sex in the performance of the services contemplated hereunder. Failure by the bidder to carry out these requirements is a material breach of its obligations, which may result in its termination or such other remedy as the City deems appropriate.

Bidder acknowledges and agrees that, consistent with federal law and City's public policy, it will encourage disadvantaged business enterprise (DBE) participation to the extent permitted by law. A "disadvantaged business enterprise" is a for-profit small business concern (i) at least 51% owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51% of the stock is owned by one or more such individuals; and (ii) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it. In accordance with federal law, a "socially and economically disadvantaged individual" includes African-Americans, Hispanic Americans, Native American, Asian-Americans, women, and any additional groups designated as socially and economically disadvantaged by the federal Small Business Administration.

**SPECIFICATIONS FOR ULV MOSQUITO CONTROL SPRAYS
cont'd**

Successful bidder acknowledges and agrees that the City has the right to deduct from total amount of consideration to be paid, if any, to the successful bidder under this agreement all unpaid, delinquent, or overdue license fees, taxes, fines, penalties and other amounts due the City from the successful bidder.

Any potential vendor who is not currently set up as a vendor in the City of Birmingham vendor file will be required to submit a completed W-9 tax form prior to any award. The W-9 tax form may be submitted with your bid or no later than seven (7) working days of receipt of notice of intent to award.

The City of Birmingham must have a copy of the successful bidder's current City of Birmingham business license prior to formal award of contract. Each bidder may submit a copy of his/her license along with his/her bid. However, bidder must provide a copy of his/her current business license no later than seven (7) working days of receipt of notice of intent to award. Failure to submit the requested information will result in the notice of intent to award being revoked.

Successful Vendor (located in the State of Alabama or located outside of the State of Alabama, but employs one or more employees within the State of Alabama) represents and warrants that it does not knowingly employ, hire for employment, or continue to employ an "unauthorized alien", as defined by the Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535 (H.B.56) of the Alabama Legislature, as amended from time to time (the "Act") and that, during the performance of this contract, Vendor shall participate in the E-Verify program as required under the term of the Act. Vendor agrees to comply with all applicable provisions of the Act. As a condition for the award of any contract, Vendor shall provide documentation establishing that the Vendor is enrolled in the E-Verify program, or a signed, written statement that the Vendor does not have a presence (one or more employees) in the State of Alabama. Vendor may submit applicable documentation with his/her bid or no later than seven (7) working days of receipt of notice of intent to award.

Any questions concerning these specifications should be addressed to the Purchasing Division, Phone: (205) 254-2265 – Fax: (205) 254-2484 between the hours of 8:00 a.m. and 4:00 p.m., Monday through Friday.

INTENT: The City of Birmingham intends to alternate the use of these ULV Mosquito Control Sprays in their mosquito control program. Therefore, the products will be purchased in an alternating fashion also. Each product will be purchased as needed during the term of the contract. Minimum purchase quantity will be 605 gallons (eleven, 55 gallon drums).

SPECIFICATIONS

USE APPLICATION: All material shall be approved for use in ULTRA low volume ground equipment of non-thermal type.

DEVIATIONS: No deviations from the given requirements shall be allowed. Bidder shall state in full and all deviations when bidding. Any material that fails to meet the specifications when tested by a competent laboratory shall render this contract null and void.

PACKAGING: Bidders shall bid all material in fifty-five (55) gallon containers.

**SPECIFICATIONS FOR ULV MOSQUITO CONTROL SPRAYS
cont'd**

DELIVERY: Ten (10) working days from receipt of order.

PRODUCTS:

Biomist 3+15 ULV

See enclosed sample label and MSDS for detail product specification.

Mosquitomist Two

See enclosed sample label and MSDS for detail product specification.

Anvil 2-2

See enclosed sample label and MSDS for detail product specification.

Mosquito Master 4-12

See enclosed sample label and MSDS for detail product specification.

Any bid submitted must be accompanied by a sample label and MSDS for the product(s) being bid along with any brochures or documentation needed to fully describe the product being bid.

TRAINING: Product training seminar for City crews and do particle size testing on each of four (4) ULV ground sprayers. Coordinate activities with Cedric D. Hill, Public Works Department, phone (205) 254-6344.



BIOMIST® 3+15 ULV

For Use Outdoors as an Ultra-Low Volume (ULV) Application to Control Adult Mosquitoes in Residential and Recreational Areas. Also for use against Biting and Non-Biting Nidges and Blackflies.

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

ACTIVE INGREDIENTS

Permethrin (3-phenoxyphenyl) methyl (+/-) cis, trans-3-(2,2-dichloroethyl)-2,2-dimethyl cyclopropanecarboxylate	3.0%
Piperonyl Butoxide*	15.0%
OTHER INGREDIENTS**	82.0%
	100.0%

Contains 0.222 pounds of Permethrin and 1.113 pounds of PBO per gallon

*PBO, (butyl carbyl) (6-propylpiperonyl) ether and related compounds

** Contains petroleum distillate

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

Have product container or label with you when calling a poison control center or doctor, or going for treatment. For Medical Emergencies, call the International Poison Control Center at 1-800-214-7753.

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.
IF INHALED:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth. Call a poison control center or doctor for further treatment advice.
IF IN EYES:	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 the eye. Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN: Product contains a petroleum distillate. Vomiting may cause aspiration pneumonia.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing.

Personal Protective Equipment (PPE): Some materials that are chemical-resistant to this product are: barrier laminate, nitrile rubber, neoprene rubber, or viton. Mixers, loaders, applicators, and other handlers must wear long-sleeve shirt and long pants, shoes plus socks. In addition, all handlers except for applicators using motorized ground equipment, pilots and floggers, must wear chemical-resistant gloves. In addition, mixers/loaders, persons cleaning equipment, and other persons exposed to the concentrate must wear a chemical-resistant apron. 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 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 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 pesticide 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. Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or wash waters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply 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. Not for use in metered release systems. Not for use in outdoor residential misting systems. Do not contaminate crop land (other than crops listed) or potable water supplies with spray drift. Do not make applications during rain.

USE INFORMATION

BIOMIST 3+15 ULV is approved for applications as an ultra low volume (ULV) nonthermal aerosol (cold fog) to control adult mosquitoes in residential and recreational areas and other areas these insects occur, such as but not limited to parks, campsites, woodlands, athletic fields, golf courses, residential areas and municipalities, gardens, playgrounds, and overgrown waste areas.

BIOMIST 3+15 ULV can be applied over specific growing crops and range grasses prior to harvest for the control of adult mosquitoes within or adjacent to these areas. Application can be made where the following crops are present:

Alfalfa	Corn, grain	Onion, bulb
Almond	Corn, stover	Peach
Apple	Corn, sweet, kernel + cob with husks removed	Peanut, hull
Artichoke	Eggplant	Peanut, shell
Asparagus	Fruit, pome, group 11	Potato
Avocado	Garlic	Soybean, seed
Broadleaf	Range grasses	Subsah
Broadleaf sprouts	Horseradish	Tomato
Carrot	Leaf petioles subgroup 4B	Vegetable, crucifer, group 9*
Cauliflower	Leafy greens subgroup 4A	Walnut
Celery	Lettuce, head	Watercress
Cherry	Mushroom	
Corn, forage		

* 40 CFR 180.41 Crop Group 9: Crucifer Vegetables, includes Crop Subgroup 9A (broccoli) and Crop Subgroup 9B (squash/cucumber).

In the treatment of corns, feedlots, swine lots, poultry ranges and zoos cover any exposed drinking water, drinking fountains and animal feed before application.

For best results treat when mosquitoes are most active and weather conditions are conducive to keeping the spray cloud close to the ground. An inversion of air temperatures and a light breeze is preferable. Application in calm air conditions is to be avoided. Apply only when wind speed is greater than 1 mph. Air temperature should be greater than 50°F when conducting all types of applications.

Do not treat a site with more than 0.007 lb. permethrin and 0.035 lb. PBO per acre in a 3-day period. Retreatments within a 3-day period shall not exceed 0.007 total lbs. permethrin or 0.035 total lbs. PBO in any site. Do not exceed 25 applications at maximum labeled rate (0.005 lbs permethrin/0.025 lbs PBO per acre) at any site in one year. When targeting *Aedes triseriatus* and other difficult species, applications may be made up to 0.007 lbs permethrin and 0.035 lbs PBO (4.0 fl. oz. BIOMIST 3+15 ULV) per acre. Do not exceed 0.18 lbs of permethrin or 0.90 lbs PBO per acre per site per year. When rotating this product with other insecticides containing PBO, do not exceed 2 lbs PBO per acre per site per year. More frequent applications may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or is specifically approved by the state or tribe during a natural disaster recovery effort.

SPRAY DROPLET SIZE DETERMINATION

Ground-based Application: Spray equipment must be adjusted so that the volume median diameter (VMD) is less than 30 microns (Dv 0.5 < 30 um) and that 90% of the spray is contained in droplets smaller than 50 microns (Dv 0.9 < 50 um). 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 Application made at or below 200 feet above ground elevation: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns (Dv 0.5 < 60 um) and that 90% of the spray is contained in droplets smaller than 100 microns (Dv 0.9 < 100 um). 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 greater than 200 feet above ground elevation: Spray equipment must be adjusted so that the volume median diameter produced is less than 70 microns (Dv 0.5 < 70 um) and that 90% of the spray is contained in droplets smaller than 145 microns (Dv 0.9 < 145 um). 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 instru-

ment 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 APPLICATION

Apply BIOMIST 3+15 ULV through standard ULV cold aerosol or non-thermal aerosol (Cold Fog) generators undiluted at a flow rate of 3.1 to 17.4 fluid ounces per minute, and an average vehicle speed of 10 MPH. If a different vehicle speed is used, adjust rate accordingly. These rates are equivalent to 0.0058 to 0.005 pounds of Permethrin and 0.0044 to 0.0264 pounds of PBO per acre. An accurate flow meter must be used to ensure the proper flow rates. Vary flow rate according to vegetation density and mosquito population. Use higher flow rate in heavy vegetation or when populations are high.

Permethrin/ PBO Pounds per Acre	Application Rates: Fl.oz./Minute				Fl.oz. BIOMIST 3+15 ULV per Acre
	5 MPH	10 MPH	15 MPH	20 MPH	
0.005/0.025	2.7	17.4	26.1	34.9	2.88
0.0025/0.0125	4.4	8.7	13.1	17.4	1.44
0.00088/0.0044	7.5	3.1	4.6	6.1	0.51

Failure to follow the above directions may result in reduced effectiveness..

AERIAL APPLICATION

BIOMIST 3+15 ULV may be applied (undiluted at rates of 0.0025 to 0.005 pounds Permethrin (1.44 to 2.88 fl.oz. BIOMIST 3+15 ULV) per acre by fixed wing or rotary aircraft equipped with suitable ULV application equipment. 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. Aerial applications shall only be made when recommended by public health officials and trained personnel of mosquito abatement districts and other mosquito control programs.

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

STORAGE & 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 Non-Refillable Containers:

Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent), then 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 the container before final disposal is the responsibility of the person disposing of the container. 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 rinseate into rinseate collection system. Repeat this rinsing procedure two more times. Then 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.

IN CASE OF MEDICAL EMERGENCY, CALL THE INTERNATIONAL POISON CONTROL CENTER 1-800-214-7755

IN CASE OF TRANSPORTATION EMERGENCY, CALL INFO-TRAC 1-800-553-5053

FOR MORE INFORMATION CALL 1-800-323-5727

MANUFACTURED FOR:
CLARKE MOSQUITO CONTROL PRODUCTS, INC.
159 N. GARDEN AVENUE
ROSELLE, ILLINOIS 60172

EPA REG. NO. 8329-33

EPA EST. NO. 8329-IL-01

BIOMIST® is a trademark of Clarke Mosquito Control Products, Inc.

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/handling of this material when use and/or handling is contrary to label instructions.

NET CONTENTS: Marked on Container
LOT NO. _____

Material Safety Data Sheet

Date last revised: 24 June 2005

I. General Information

Chemical Name and Synonyms Permethrin Piperonyl Butoxide	Trade Name & Synonyms Blomist 3+15 ULV
Chemical Family Synergized Synthetic Pyrethroid	EPA Registration Number 8329-33
Proper DOT Shipping Name Agricultural Insecticide, N.O.I., Non-Hazardous	DOT Hazard Classification Non-Hazardous
Manufacturer Clarke Mosquito Control Products, Inc.	Manufacturer's Phone Number (630) 894-2000
Manufacturer's Address 159 North Garden Avenue Roselle, Illinois 60172	INFOTRAC (Transportation/Spill Emergency) 1-800-535-5053 Poison Control Center (Medical Emergency) 1-800-214-7753

II. Ingredients

Principal Hazardous Components	CAS #	Percent
Permethrin (3-Phenoxyphenyl)methyl (+) cis, trans-3-(2,2-dichlorethenyl)-2,2-dimethyl-cyclopropanecarboxylate	52645-53-1	3.0%
Piperonyl Butoxide, Technical – Equivalent to 80% (butylcarbityl) (6-propylperonyl) ether and 20% related compounds	51-03-6	15.0%
Inert Ingredients* *Contains petroleum distillates		82.0%

III. Physical Data

Boiling Point (°F): Not Established	Specific Gravity (H₂O = 1): 0.877
Vapor Pressure (mm Hg.): Not Established	Vapor Density (Air = 1): Not Established
Solubility In Water: Not Established	pH: Not Applicable
Appearance: Liquid, light brown color	Odor: Odorless

IV. Fire & Explosion Hazard Data

Flash Point (Test Method): > 250 °F (Tag Closed Cup)
Extinguishing Media: Foam, carbon dioxide, or dry chemical
Special Fire Fighting Procedures: Use self-contained breathing apparatus. Cool fire exposed areas and equipment. Do not use direct stream of water. Material may float and ignite.

V. Health Hazard Data

Toxicity: Oral LD₅₀: >5,000 mg/kg	Single dose oral toxicity is moderate. Amounts ingested incidental to industrial handling are not likely to cause injury.
Dermal LD₅₀: >2,000 mg/kg	
Primary Route of Entry: Inhalation, Dermal, Oral	Effect of Acute Overexposure: Blurred vision
Exposure Limits: Not established by OSHA or ACGIH	

EMERGENCY FIRST AID

Skin Contact: Remove contaminated clothing and wash affected areas of skin with soap and water.
Eye: Hold eye open and rinse slowly and gently with water for 15-20-minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.
Inhalation: Remove affected person to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.
Ingestion: Call a physician or Poison Control Center immediately. Do not induce vomiting. Do not give anything by mouth to an unconscious person.
Note to Physician: Product contains petroleum distillate. Gastric lavage is indicated if material was taken internally. Vomiting may cause aspiration pneumonia.

Material Safety Data Sheet

Date last revised: 24 June 2005

Biomist 3+15 ULV

VI. Reactivity Data

Stability:	Do Not store near heat or flame
Incompatibility	Not Available
Hazardous Decomposition Products	None

VII. Environmental Protection Procedures**Spill Response:**

In case of spill or leakage, soak up with an absorbent material such as sand, sawdust, Fuller's earth, etc. Clean spill area of residues and absorbent. Contaminated absorbent should be disposed of according to local, state and federal regulations.

Storage:

Store product sealed and upright in its original labeled container at room temperature, in a dry locked place out of reach of children. Do not contaminate water, food, or feed by storage or disposal. Avoid exposure to extreme temperatures.

Waste 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: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or dispose of in a landfill or by other approved State and local procedures. For guidance, contact your State Water Board or Regional Office of the EPA.

Other Precautions: Do not contaminate water by cleaning of equipment or disposal of wastes.

VIII. Special Protection Information

Eye Protection: OSHA-approved safety glasses, goggles or face shield suggested when mixing or loading tank.

Skin Protection: Handlers should wear protective clothing and chemical resistant gloves when mixing or loading tank

Respiratory Protection: Not likely to be needed

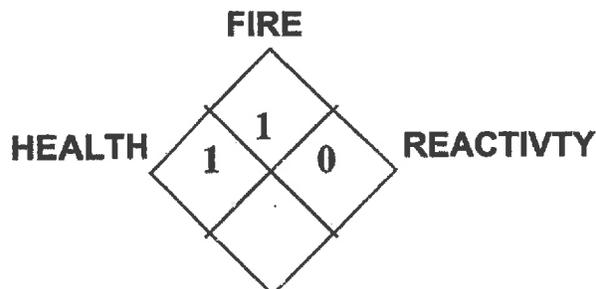
Ventilation: Not required.

Other: IMPORTANT. Read and observe all precautions and instructions on the label.

IX. Additional Regulatory Information**SARA Title III Data****Section 313: (Title III Superfund Amendment and Reauthorization Act)**

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Ingredient	CAS Number	Percentage (by weight)
Permethrin	52645-53-1	3.0%
Piperonyl butoxide	51-03-6	15.0%

**NFPA Code Key**

- 4 = Severe
- 3 = Serious
- 2 = Moderate
- 1 = Slight
- 0 = Minimal

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.



MOSQUITOMIST™ TWO U.L.V.

For Use Outdoors to Control Adult Mosquitoes in Residential and Recreational Areas.

Active Ingredient	
Chlorpyrifos	
[0,0-dimethyl 0-(3,5,6-trichloro-2-pyridyl) phosphorothioate	24.0%
Other Ingredients	75.4%
100.0%	
Contains petroleum distillates	
Contains 1.98 pounds chlorpyrifos per gallon.	

KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
Have product container or label with you when calling a poison control center or doctor, or going for treatment. For Medical Emergencies, call the International Poison Control Center at 1-800-214-7733.	
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.
IF IN EYES:	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 the eye. Call a poison control center or doctor for treatment advice.
IF INHALED:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth. Call a poison control center or doctor for further treatment advice.
NOTE TO PHYSICIAN: Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. Atropine is antidotal. 2-PAM may be effective as an adjunct to atropine. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia.	

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE): Mixers and loaders involved in ground application must wear coveralls over long-sleeved shirt and long pants, shoes plus socks, chemical-resistant gloves and a NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any R, P, or HE filter. Applicators involved in ground ULV application must use an enclosed cab as described in the Engineering Controls section of this label and must wear long-sleeved shirt and long pants, shoes plus socks, and chemical-resistant gloves. Aerial applicators and pilots must use an enclosed cockpit and wear long-sleeved shirt, long pants, shoes and socks.

Engineering Controls: Ground applicators must use an enclosed cab that has a nonporous barrier that totally surrounds the occupant and prevents contact with pesticides outside the cab. Applicators must be provided and have immediately available for use in an emergency when they must exit the cab in the treated area: coveralls, chemical-resistant gloves, and a respirator of the type specified in the PPE section of this labeling. Take off any PPE that was worn in the treated area before reentering the cab and store all such PPE in a chemical-resistant container, such as a plastic bag, to prevent contamination of the inside of the cab.

Mixers and loaders involved in aerial application must use a closed system designed by the manufacturer to enclose the pesticide to prevent it from contacting handlers or other people and which is used and maintained in accordance with the manufacturer's written operating instructions. Mixers and loaders using a closed system must wear protective eyewear if the system operates under pressure, and must have immediately available for use in an emergency, such as a broken package, spill, or equipment breakdown coveralls, chemical-resistant gloves, chemical-resistant footwear, chemical-resistant apron and a respirator of the type specified in the PPE section of this labeling.

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.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish, aquatic invertebrates, small mammals and birds. 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 beyond the body of water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or wash waters.

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

Combustible. 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.

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.

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.

MOSQUITOMIST TWO ULV is formulated for adult mosquito control in outdoor residential, recreational and other non-cropland areas. For best results treat when mosquitoes are most active and weather conditions are conducive to keeping the spray cloud close to the ground. An inversion of air temperatures and a light breeze are preferable. Application in calm air conditions is to be avoided. Apply only when ground wind speed is greater than 1 mph. Air temperatures should be greater than 50 F when conducting applications.

This product may be applied undiluted or diluted with a suitable diluent such as a high grade mineral oil and applied accordingly by air or ground as long as the maximum rate of active ingredient per acre does not exceed 0.01 pounds.

Do not treat a site with more than 0.01 pounds of chlorpyrifos per acre in a twenty-four hour period. Do not exceed 0.28 pounds of chlorpyrifos per acre per year. More frequent applications may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

Do not contaminate food or feed products. Do not allow spray treatment to drift onto pastureland, cropland, poultry ranges or potable water supplies. Do not use on crops for food forage or pasture. In treatment of corrals, feed lots, swine lots, and zoos, cover any exposed drinking water, drinking water fountains and animal feed before application.

SPRAY DROPLET SIZE DETERMINATION

Ground-based Application: For application as an ultra low volume (ULV) nonthermal aerosol (cold fog), spray equipment must be adjusted so that the volume median diameter (VMD) is between 8 and 30 microns ($0 \leq D_v 0.5 \leq 30 \mu m$) and that 90% of the spray is contained in droplets smaller than 50 microns ($D_v 0.9 < 50 \mu m$). 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 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: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ($D_v 0.5 < 60 \mu m$) and that 90% of the spray is contained in droplets smaller than 115 microns ($D_v 0.9 < 115 \mu m$). The effects of flight speed and, for non-rotary 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

ULV Nonthermal Aerosol (Cold Fog) Application: Apply MOSQUITOMIST TWO ULV through standard ULV cold aerosol or non-thermal aerosol (Cold Fog) generators undiluted at a flow rate of 2.0 to 4.3 fluid ounces per minute at an average vehicle speed of 10 mph. This is equivalent to 0.005 to 0.01 pounds of chlorpyrifos per acre based on an effective swath width of 300 feet. If a different vehicle speed is used, adjust rate accordingly. An accurate flow meter must be used to ensure the proper flow rate.

Chlorpyrifos per acre	Application Rate (Fl.oz./Minute)				Fl. oz. per acre
	5 mph	10 mph	15 mph	20 mph	
0.01	2.15	4.30	6.45	8.60	0.71
0.005	1.00	2.00	3.00	4.00	0.33

For proper application, mount the applicator so that the nozzle is at least 4 1/2 feet above ground level and directed out the back of the vehicle. Failure to follow the above directions may result in reduced effectiveness.

AERIAL APPLICATION

MOSQUITOMIST TWO ULV may be applied undiluted at rates up to 0.71 fluid ounces MOSQUITOMIST TWO ULV per acre (0.01 pounds of chlorpyrifos per acre) by fixed wing or rotary aircraft equipped with suitable ULV application equipment. Aerial application shall be made at altitudes ranging from 75 to 300 feet.

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

STORAGE & DISPOSAL

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

PESTICIDE STORAGE: Store in a dry and cool place away from food and feed.

PESTICIDE DISPOSAL: Pesticide, spray mixture or rinse water that cannot be used according to label instructions must be disposed of according to applicable Federal, State or local guidelines.

CONTAINER HANDLING: Reusable 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. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinseate into application equipment or rinseate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available of reconditioning 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 1-800-553-6053

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

WARRANTY STATEMENT: To the extent consistent with applicable laws, 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.

Manufactured By
CLARKE MOSQUITO CONTROL PRODUCTS, INC.
150 N. GARDEN AVENUE
ROSELLE, ILLINOIS 60172

EPA Reg. No.: 8320-16

NET CONTENTS: 30 GAL 55 GAL 275 GAL

EPA Est. No.: 8329-IL-01

LOT NO.: _____

Material Safety Data Sheet

Date last revised: 9 January 2009

I. General Information

Chemical Name and Synonyms Chlorpyrifos	Trade Name & Synonyms MOSQUITOMIST TWO ULV
Chemical Family Organophosphate	EPA Registration Number 8329-18
Proper DOT Shipping Name (RQ)Environmentally Hazardous Substances, Liquid, N.O.S. (Contains Chlorpyrifos), 9, UN 3082, PG III	DOT Hazard Classification 9, UN 3082, PG III
Manufacturer Clarke Mosquito Control Products, Inc.	Manufacturer's Phone Number (630) 894-2000
Manufacturer's Address 159 North Garden Avenue Roselle, Illinois 60172	INFOTRAC (Transportation/Spill Emergency) 1-800-553-5053 Poison Control Center (Medical Emergency) 1-800-214-7753

II. Ingredients

Principal Hazardous Components	CAS #	NIOSH PEL-TWA	Percent
Chlorpyrifos [0,0-diethyl 0-(3,5,6-trichloro-2-pyridyl) phosphorothioate]	002921-88-2	0.2 mg/m ³	24.6%
Other ingredients (non-hazardous and/or trade secret)		500 mg/m ³	75.4%

III. Physical Data

Boiling Point (°F): Not Available	Density: 0.965 g/ml (20 C)
Vapor Pressure (mm Hg.): Not Available	Vapor Density (Air = 1): Not Available
Solubility in Water: 0.0002 g/100G	Odor: Petroleum odor
Appearance: Straw colored liquid	

IV. Fire & Explosion Hazard Data

Flash Point: 61.0 °C (141.8 °F) (PMA-4) ASTM D93 Test Method
Flammable Limits: LFL: 1% UFL: 2.3%
Extinguishing Media: Foam, CO ₂ , Alcohol Foam, Dry Chemical
Special Fire Fighting Procedures: Foam system is preferred. Use positive pressure self-contained breathing apparatus.
Unusual Fire & Explosion Hazards: Violent rupture of containers may occur. Toxic irritating gases may be formed. Rapid decomposition above 160 – 200 °C. Keep away from possible ignition sources.

V. Health Hazard Data

Toxicity: Oral LD₅₀: 1044mg/kg:	Single dose oral toxicity is moderate. Amounts ingested incidental to industrial handling are not likely to cause injury.
Dermal LD₅₀: >5,000 mg/kg	Contains a petroleum distillate. Vomiting may cause aspiration pneumonia.
Eye: Mildly irritating to the eye.	
Skin Contact: Moderately irritating to the skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.	
Inhalation: Acute Inhalation LC ₅₀ > 2.03 mg/L.	
Teratogenicity: Chlorpyrifos did not cause birth defects in laboratory animals	Carcinogenicity: Chlorpyrifos did not cause cancer in long-term animal studies
Systemic & Other Effects: Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure to active ingredient may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions.	

Material Safety Data Sheet

MOSQUITOMIST TWO ULV

Date last revised: 9 January 2009

VI. Reactivity Data

Stability	Unstable. Avoid heating above 40°C. Product undergoes exothermic decomposition, which can lead to higher temperatures and violent decomposition if heat developed is not removed. Petroleum derivative solvent. Will burn under fire conditions.
Incompatibility	Specific materials to avoid: Base. Consult manufacturer for specific cases.
Hazardous Decomposition Products	On heating, will decompose to form volatile, flammable, odorous organic sulfides, and hydrogen chloride

VII. Environmental Protection Procedures

Spill Response: Contain spill by diking to keep out of sewers. Eliminate ignition sources. Absorb spills with dry material such as sand and sweep up for disposal. For large spills, barricade area and consult manufacturer.

Waste Disposal: Dispose in accord with local, state, and federal regulations.

VIII. Emergency 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.

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

If Inhaled: Remove to fresh air. If not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth. Call a poison control center or doctor for further treatment advice.

Note to Physician: The decision to induce vomiting should be made by an attending physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Chlorpyrifos is a cholinesterase inhibitor. Suggest serum and/or RBC cholinesterase determination. Treat symptomatically. Atropine by injection is antidotal, 2-PAM may be effective as an adjunct to atropine.

IX. Special Protection Information

Exposure Guidelines: ACGIH TLV is 0.2 MG/M3 for chlorpyrifos. The STEL is 0.6 MG/M3

Ventilation: Control airborne concentrations below the exposure guideline. Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Lethal concentrations may exist in areas with poor ventilation.

Respiratory Protection: Mixers, loaders and handlers must follow respiratory protection requirements on product label, including use of enclosed cab and/or use of NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C, or a NIOSH-approved respirator with any R, P, or HE filter.

Skin Protection: Mixers, loaders and handlers must follow PPE requirements on product label, including coveralls, chemical-resistant gloves and footwear. Applicators using an enclosed cab or cockpit may wear baseline protection (long-sleeve shirt, long pants, shoes and socks) instead of the PPE required for other handlers. Mixers and loaders involved in aerial application must use a closed system for mixing and/or loading product into application equipment.

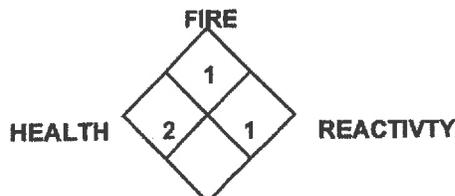
Eye Protection: Chemical goggles are recommended when handling or filling tanks.

Other Protection: See label. Keep out of reach of children. Avoid ingestion. Avoid skin and eye contact. Wash thoroughly with soap and water after handling.

X. Other Regulatory Information

CERCLA Reportable Quantity: 1 pound. Reportable quantity is obtained in a 0.5-gallon spill. All spills exceeding RQ must be reported to the National Response Center.

NFPA Rating Information:



NFPA Code Key

4 = Severe

3 = Serious

2 = Moderate

1 = Slight

0 = Minimal

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.



ANVIL[®] 2+2 ULV

Contains an Oil Soluble Synergized Synthetic Pyrethroid for Control of Adult Mosquitoes (Including Organophosphate-Resistant Species) Midges, and Black Flies in Outdoor Residential and Recreational Areas.

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

ACTIVE INGREDIENTS:

3-Phenoxybenzyl-(1RS, 3RS; 1RS, 3SR)-2,2-dimethyl 3-(2-methylprop-1-enyl) cyclopropanecarboxylate	2.00%
*Piperonyl Butoxide	2.00%
**OTHER INGREDIENTS	96.00%
	100.00%

Contains 0.14 lbs. Technical SUMITHRIN/Gallon and 0.14 lbs. Piperonyl Butoxide/Gallon
* (butyl carbonyl) (6-propylpiperonyl) ether and related compounds
** Contains a petroleum distillate

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

FIRST AID	
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"> • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or a doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
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 information regarding medical emergencies or pesticide incidents, call 1-888-740-8712.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if absorbed through the skin. Avoid contact with skin, eyes and 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)

Some materials that are chemical-resistant to this product are: barrier laminate or Viton. Mixers, loaders, applicators, and other handlers must wear long-sleeve shirt, long pants, shoes and socks. In addition, all handlers except for applicators using motorized ground equipment, pilots, and fleggers, must wear chemical-resistant gloves. 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.

ENGINEERING CONTROLS

Pilots must use enclosed cockpit that meets the requirements listed in the Worker

Protection Standard (WPS) for agricultural pesticides [40 CFR 170.245(d)(6)].

USER SAFETY RECOMMENDATIONS

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

ENVIRONMENTAL HAZARDS

This pesticide is 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 beyond the body of water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or wash waters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply to or allow drift onto blooming crops or weeds when bees are 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.
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 only.

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

Do not treat a site with more than 0.0036 pounds of Sumithrin® or piperonyl butoxide per acre in a 24-hr period. Do not exceed 0.1 pounds of Sumithrin® or piperonyl butoxide per acre in any site in one year. More frequent applications may be made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

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

Not for use in outdoor residential misting systems.

USE INFORMATION:

USE AREAS: For use in mosquito adulticiding programs involving outdoor residential and recreational areas where adult mosquitoes are present in annoying numbers in vegetation surrounding parks, woodlands, swamps, marshes, overgrown areas and golf courses. ANVIL 2+2 ULV may be applied over agricultural areas for the control of adult mosquitoes within or adjacent to these areas.

For best results, apply when mosquitoes are most active and weather conditions are conducive to keeping the fog close to the ground. Application in calm air conditions is to be avoided. Apply only when ground wind speed is greater than 1 mph. Air temperature should be greater than 50 °F when conducting all types of applications.

NOTE: 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: Spray equipment must be adjusted so that the volume median diameter (VMD) is less than 30 microns (Dv 0.5 < 30 um) and that 90% of the spray is contained in droplets smaller than 50 microns (Dv 0.9 < 50 um). 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: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns (Dv 0.5 < 60 um) and that 90% of the spray is contained in droplets smaller than 80 microns (Dv 0.9 < 80 um). 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 ANVIL 2+2 ULV through a standard ULV cold aerosol or non-thermal fog generator. Consult the following table for examples of various dosage rates 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 pest populations are high.

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

Dosage Rate (Lbs. Sumithrin® / acre)	Fl.oz. ANVIL 2+2 ULV per Acre	Flow Rates in fluid oz./minute at truck speeds of:			
		6 MPH	10 MPH	15 MPH	20 MPH
0.0036	3.245	9.8	19.7	29.5	39.3
0.0024	2.163	6.6	13.1	19.7	26.2
0.0012	1.081	3.3	6.6	9.8	13.1

fl. oz. of the undiluted spray per acre (equal to 0.0012 to 0.0036 lb. a.i./acre) as a 50 ft. (15.2 m) swath while walking at a speed of 2 mph (3.2 kph). Do not use hand held equipment for this type of application in enclosed spaces.

ANVIL 2+2 ULV may be applied through truck mounted thermal fogging equipment. Do not exceed the maximum rates listed above. May be applied at speeds of 5 to 20 mph. To reduce oil requirement and sludge buildup in equipment, use 100-second viscosity mineral "fog" oil. For use with hand-carried foggers, use same rates of active ingredient per acre. Do not wet foliage since oil base formulations may be phytotoxic. Use a clean, well-maintained and properly calibrated fogger. Fog downwind. Do not use hand held equipment for this type of application in enclosed spaces.

AERIAL APPLICATION

ANVIL 2+2 ULV may be applied at rates of 1.081 to 3.245 fluid ounces ANVIL 2+2 ULV per acre by fixed wing or rotary aircraft equipped with suitable ULV application equipment.

RELEASE HEIGHT FOR AERIAL: Fixed Wing: Apply using a nozzle height of no less than 100 feet above the ground or canopy. Rotary Wing: Apply using a nozzle height of no less than 75 feet above the ground or canopy.

STORAGE AND DISPOSAL

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

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

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

CONTAINER DISPOSAL: 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 1/4 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.

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

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.

ANVIL™ is a Trademark of Clarke Mosquito Control Products, Inc.
Sumithrin® is a Trademark of Sumitomo Company, Ltd.

Manufactured For:
CLARKE MOSQUITO CONTROL PRODUCTS, INC.
159 N. GARDEN AVENUE
ROSELLE, ILLINOIS 60172 U.S.A
FOR MORE INFORMATION CALL: 1-800-323-5727

EPA Reg. No.: 1021-1087-B329

NET CONTENTS: [] 2.5 GAL [] 30 GAL [] 55 GAL [] 275 GAL

EPA Est. No: 8329-IL-01

LOT NO.:

Material Safety Data Sheet

Date last revised: 4 February 4, 2009

I. General Information

Active Ingredient(s) d-Phenothrin (SUMITHRIN®); Piperonyl Butoxide	Trade Name & Synonyms ANVIL® 2+2 ULV
Product Description A mosquito control insecticide for outdoor residential and recreational areas	EPA Registration Number 1021-1687-8329
Proper Shipping Name (DOT, ICAO/IATA) Insecticides, Insect or Animal Repellent, Liquid, N.O.S.	Primary Hazard Classification/Division (DOT, ICAO/IATA) Non-Hazardous
Manufacturer Clarke Mosquito Control Products, Inc.	Manufacturer's Phone Number (630) 894-2000
Manufacturer's Address 159 North Garden Avenue Roselle, Illinois 60172	INFOTRAC (Transportation/Spill Emergency) 1-800-553-5053 Medical Emergency or Incident 1-888-740-8712

II. Composition / Ingredients

Chemical Name	CAS #	Exposure Limits	Wt. %
d-Phenothrin (SUMITHRIN®)	026002-80-2	None	2
Piperonyl Butoxide	000051-03-6	None	2
Petroleum Distillates		200 mg/m ³ [1]	25-50%
Mineral Oil		5 mg/m ³ [2]	50-75%

[1] ACGIH TLV, TWA, skin exposure

[2] OSHA PEL/ACGIH TLV, TWA, oil mist

COMMENTS: Ingredients not identified are proprietary or non-hazardous. Values are not product specifications.

III. Hazards Identification

Physical State: liquid **Color:** colorless **Odor:** mineral oil

CAUTION! Harmful if absorbed through the skin. Contains petroleum distillate – Vomiting may cause aspiration pneumonia. Avoid contact with skin, eyes, and clothing.

Signs and Symptoms of Acute Exposure

Eye contact May cause temporary eye irritation, tearing, and blurred vision. Irritation clearing within 48 hours.

Skin contact Can cause mild skin irritation (irritation index 0.04). No irritation noted at 72 hours. Can cause a burning or prickling sensation on more sensitive areas (face, eyes, mouth). Harmful if absorbed through the skin. Not a dermal sensitizer.

Ingestion May be harmful if swallowed. Product aspirated into the respiratory system during ingestion or vomiting may cause mild to severe lung injury.

Inhalation No significant adverse health effects are expected to occur upon short-term exposure.

Chronic effects No significant signs or symptoms indicative of any adverse health effects are expected to occur.

Conditions aggravated by exposure None known

Target organs None

Toxicological Information: Acute Dermal LD50: > 2.0 gm/kg (Albino rabbit)

Oral LD50: > 5.0 gm/kg (Albino rat)

Inhalation LC50: 3.76 mg/L (4 hr, rat)

Carcinogenic potential None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as being carcinogens.

Marginally higher incidences of benign liver tumors in mice were observed following lifetime high dose exposures to piperonyl butoxide (PBO). The significance of these observations is questionable and under review. The doses at which tumors were observed for PBO greatly exceeded potential human exposure from labeled uses. Doses at which these effects were observed greatly exceed anticipated human dietary intake. At anticipated dietary exposure levels, it is highly unlikely that this product will result in carcinogenic effects.

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Date last revised: 4 February, 2009

ANVIL 2+2 ULV

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IV. First Aid Measures

EYES: 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.

SKIN: 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.

INGESTION: If swallowed, immediately call a poison control center or doctor for treatment advice. DO NOT give any liquid to the person. Do not induce vomiting unless told to do so by a poison control center or doctor. Never give anything by mouth to an unconscious person.

INHALATION: Remove affected person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTES TO PHYSICIAN: Contains Pyrethroids and Petroleum Distillates; vomiting may pose an aspiration pneumonia hazard. For skin effects, a highly efficient therapeutic agent for pyrethroid exposure is topical application of Tocopherol Acetate (Vitamin E).

V. Fire Fighting Measures

Flammability Classification: This product is NOT classified as flammable or combustible by OSHA.

Flash Point (Test Method): >200 °F, >93.3 °C (TAG Closed Cup)

Hazardous combustion products: Carbon dioxide, carbon monoxide, smoke, fumes, and unburned hydrocarbons

Hazardous Combustion Products: Under fire conditions this product may support combustion and may decompose to give off toxic gases such as carbon monoxide, carbon dioxide, and nitrogen oxides.

Extinguishing Media: Foam, carbon dioxide or dry chemical.

Fire Fighting Procedures: Treat as an oil fire. Use a full-faced self-contained breathing apparatus along with full protective gear. Keep nearby containers and equipment cool with a water stream.

Sensitive to Static Discharge: Yes, use proper bonding and/or grounding procedures.

VI. Physical and Chemical Properties

Appearance: Clear, colorless liquid

Odor: odor of mineral oil

Specific Gravity (H₂O = 1): 0.850 at 20 °C

Vapor Density (Air = 1): heavier than air

Melting/Freezing point: Not determined

(VOC): <1.000%

Solubility in Water: Immiscible in water

pH: Not applicable

Viscosity #1: 15.5 CPS at 24 °C (Brookfield)

Density: 7.10 Lbs/Gal

VII. Stability and Reactivity

Stable Yes

Hazardous Polymerization No

Conditions to Avoid Not compatible with strong acids or bases. Not compatible with strong oxidizers.

VIII. Accidental Release Measures

Stop release, if possible without risk. Dike or contain release, if possible, and if immediate response can prevent further damage or danger. Isolate and control access to the release area. Take actions to reduce vapors.

Small Spill Absorb with appropriate absorbent such as sand or vermiculate. Clean spill area of residues and absorbent.

Large Spill Collect product into drums, storage tanks, etc., via drains, pumps, etc. Absorb with appropriate absorbent such as sand or vermiculate. Clean spill area of residues and absorbent.

Environmental Precautions: Water Spill: Contains pyrethroids which are toxic to fish and other aquatic invertebrates. Contaminated absorbent and wash water should be disposed of according to local, state/provincial and federal/national regulations.

IX. Handling and Storage

General Procedures: Do not use or store near heat, sparks, open flame, or any other ignition sources.

Handling: Take prudent precautions to avoid contact with skin, eyes, and clothing. Mechanical ventilation should be used when handling this product in enclosed spaces. Do not contaminate water, food or feedstuffs, by storage, handling, or by

Material Safety Data Sheet

Date last revised: 4 February, 2009

ANVIL 2+2 ULV
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disposal. Read and observe all precautions and instructions on the label.

Storage: Store in a cool, dry place. Keep container closed. KEEP OUT OF REACH OF CHILDREN.

Electrostatic Accumulation Hazard: This product contains petroleum distillates for which there is potential for the accumulation of static electricity. Consideration should be given to bonding and grounding of equipment during loading, unloading, and transfer of this product.

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

Empty Container: Triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of container in a sanitary landfill, or by other procedures approved by State and Local authorities.

RCRA/EPA Waste Information: None of the ingredients in this product appear on RCRA lists (40 CFR 261.24, 40 CFR 261.33) or CERCLA Hazardous Substance list (40 CFR Part 302 Table 302.4).

X. Exposure Controls / Personal Protection

Engineering Controls: Mechanical ventilation should be used when handling this product in enclosed spaces. Local exhaust ventilation may be necessary.

Personal Protective Equipment: Personal protective equipment should be selected based upon the conditions under which this material is used.

Eyes and Face: Take prudent precautions to avoid contact with eyes.

Skin: Take prudent precautions to avoid contact with skin and clothing.

Work Hygienic Practices: DO NOT SMOKE, EAT, OR DRINK, OR APPLY COSMETICS IN WORK AREA! Wash promptly if skin becomes contaminated. Wash at the end of each work shift and before eating, smoking, or using the toilet.

XI. Other Regulatory Information

TSCA Inventory SARA Title III All chemical substances in this product comply with the TSCA inventory reporting requirements.

Section 311/312 Hazard Categories:

FIRE: No PRESSURE GENERATING: No REACTIVITY: No ACUTE: Yes

Section 302/304 Extremely Hazardous Substances: None

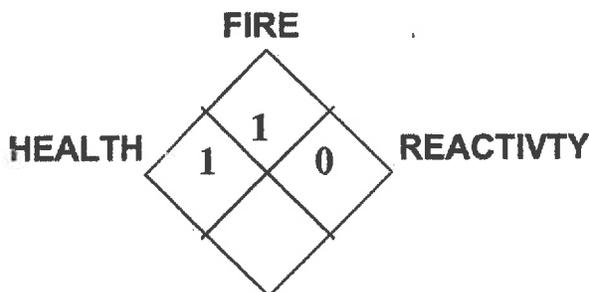
Section 313 – Reportable Ingredients: Sumithrin (d-Phenothrin), 026002-80-2, 2.00 wt%
Piperonyl butoxide, 000051-03-6, 2.00 wt%

DOT (Department of Transportation): This material is not regulated by the DOT as a hazardous material when shipped in Non-Bulk quantities (i.e., less than 119 Gal / 450 Liter).

US States Regulatory Reporting

CA Prop 65: This product is not known to contain any substances known to the State of California to cause cancer, birth defects, or other reproductive harm.

Volatile Organic Compounds (VOC): This product contains less than 1% VOC.



NFPA Code Key

4 = Severe

3 = Serious

2 = Moderate

1 = Slight

0 = Minimal

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.



U.L.V. MOSQUITO MASTER 412

A Quick Knockdown Combination to Control Adult Mosquito Populations in Outdoor Residential and Recreational Areas.

Active Ingredients

Chlorpyrifos	
[0,0-diethyl 0-(3,5,6-trichloro 2-pyridyl)] phosphorothioate.....	12.0%
*Permethrin	
(3-Phenoxyphenyl) methyl (±) cis, trans-3-(2,2-dichloroethoxy)-	
2,2-dimethyl-cyclopropanecarboxylate.....	4.0%
Other Ingredients	84.0%
	100.0%

* Cis/trans isomer ratio: min. 35% (+) cis and max. 65% (+) trans. The product density is 7.62 pounds per gallon, which contains active ingredients chlorpyrifos and permethrin at 0.9 and 0.3 pounds per gallon, respectively. Contains petroleum distillate

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

FIRST AID

Have product container or label with you when calling a poison control center or doctor, or going for treatment. For Medical Emergencies, call the international Poison Control Center at 1-800-214-7753.

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.
IF IN EYES:	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 the eye. Call a poison control center or doctor for treatment advice.
IF INHALED:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth. Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN: Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. Atropine is antidotal. 2-PAM may be effective as an adjunct to atropine. This product contains petroleum distillate. Vomiting may cause aspiration pneumonia.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Caution. Hazard if swallowed or absorbed through the skin. Avoid contact with skin, eyes or clothing. Avoid breathing of mist. Do not contaminate food or feed products. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco.

Personal Protective Equipment (PPE): Some materials that are chemical-resistant to this product are nitrile or butyl rubber. If you want more options, follow the instructions for category C on an EPA chemical-resistance category selection chart. Mixers and loaders involved in ground application must wear coveralls over long-sleeved shirt and long pants, shoes plus socks, chemical-resistant gloves, and a NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any R, P, or HE filter. Applicators involved in ground ULV application must use an enclosed cab as described in the Engineering Controls section of this label and must wear long-sleeved shirt and long pants, shoes plus socks, and chemical-resistant gloves. Aerial applicators and pilots must use an enclosed cockpit and wear long-sleeved shirt, long pants, shoes and socks.

Engineering Controls: Ground applicators must use an enclosed cab that has a nonporous barrier that totally surrounds the occupants and prevents contact with pesticides outside the cab. Applicators must be provided and have immediately available for use in an emergency when they must exit the cab in the treated area: coveralls, chemical-resistant gloves, and a respirator of the type specified in the PPE section of this labeling. Take off any PPE that was worn in the treated area before reentering the cab and store all such

PPE in a chemical-resistant container, such as a plastic bag, to prevent contamination of the inside of the cab.

Mixers and loaders involved in aerial application must use a closed system designed by the manufacturer to enclose the pesticide to prevent it from contacting handlers or other people and which is used and maintained in accordance with the manufacturer's written operating instructions. Mixers and loaders using a closed system must wear protective eyewear if the system operates under pressure, and must have immediately available for use in an emergency, such as a broken package, spill, or equipment breakdown coveralls, chemical-resistant gloves, chemical-resistant footwear, chemical-resistant apron and a respirator of the type specified in the PPE section of this labeling.

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.

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 residue or wash waters.

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.

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.

Do not contaminate food or feed products. Do not allow spray treatment to drift onto cropland, poultry ranges or potable water supplies. Do not use on crops for food or forage. In treatment of corrals, feed lots, swine lots, and zoos, cover any exposed drinking water, drinking water fountains and animal feed before application.

Not for use in outdoor residential misting systems.

ULV MOSQUITO MASTER 412 is approved for application as an ultra low volume (ULV) nonthermal aerosol (cold fog) to control adult mosquitoes in outdoor residential and recreational areas where these insects are a problem. For best results treat when mosquitoes are most active and weather conditions are conducive to keeping the spray cloud close to the ground. An inversion of air temperatures and a light breeze are preferable. Application in calm air conditions is to be avoided. Apply only when ground wind speed is greater than 1 mph. Air temperatures should be greater than 50° F when conducting applications.

Do not treat a site with more than 0.01 pounds of chlorpyrifos or 0.003 pounds of permethrin per acre in a twenty-four hour period. Do not exceed 0.26 pounds of chlorpyrifos or 0.08 pounds of permethrin per acre per year. More frequent applications may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically

approved by the state or tribe during a natural disaster recovery effort.

SPRAY DROPLET SIZE DETERMINATION

Ground-based Application: Spray equipment must be adjusted so that the volume median diameter (VMD) is between 8 and 30 microns ($8 \leq Dv\ 0.5 \leq 30\ \mu m$) and that 90% of the spray is contained in droplets smaller than 50 microns ($Dv\ 0.9 < 50\ \mu m$). 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 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 less than or equal to 200 feet above ground elevation: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ($Dv\ 0.5 < 60\ \mu m$) and that 90% of the spray is contained in droplets smaller than 100 microns ($Dv\ 0.9 < 100\ \mu m$). 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 made at > 200 feet above ground elevation: Spray equipment must be adjusted so that the volume median diameter produced is less than 70 microns ($Dv\ 0.5 < 70\ \mu m$) and that 90% of the spray is contained in droplets smaller than 145 microns ($Dv\ 0.9 < 145\ \mu m$). 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.

GROUND ULV APPLICATION

Apply ULV MOSQUITO MASTER 412 through standard ULV cold aerosol or non-thermal aerosol (Cold Fog) generators undiluted at a flow rate of 4.5 TO 8.9 fluid ounces per minute at an average vehicle speed of 10 mph. This is equivalent to 0.005 to 0.01 pounds of chlorpyrifos and 0.0017 to 0.003 pounds of permethrin per acre. If a different vehicle speed is used, adjust rate accordingly. An accurate flow meter must be used to ensure the proper flow rate. Vary flow rates according to vegetation density and mosquito population. Use higher flow rate in heavy vegetation or when populations are high.

Pounds/Acre (Chlorpyrifos/ Permethrin)	Application Rate (Fl. Oz./Minute)			Fl. OZ. PER ACRE
	5 mph	10 mph	15 mph	
0.01 / 0.003	4.3	8.6	13.0	1.42
0.005 / 0.0017	2.25	4.5	6.75	0.74

For proper application, mount the applicator so that the nozzle is at least 4 1/2 feet above ground level and directed out the back of the vehicle. Failure to follow the above directions may result in reduced effectiveness.

AERIAL APPLICATION

ULV MOSQUITO MASTER 412 may be applied undiluted at rates up to 1.42 fluid ounces ULV MOSQUITO MASTER 412 per acre by fixed wing or rotary aircraft equipped with suitable ULV application equipment. Do not apply by fixed wing 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.

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

STORAGE & DISPOSAL

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

PESTICIDE STORAGE: Store in a dry and cool place away from food and feed.

PESTICIDE DISPOSAL: Pesticide, spray mixture or rinse water that cannot be used according to label instructions must be disposed of according to applicable Federal, State or local guidelines.

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

IN CASE OF MEDICAL EMERGENCY,

CALL THE INTERNATIONAL POISON CONTROL CENTER 1-800-214-7783
 IN CASE OF TRANSPORTATION EMERGENCY, CALL INFO-TRAC 1-800-653-6053
 FOR MORE INFORMATION CALL: 1-800-323-5777

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.

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

EPA Reg. No.: 8329-36

NET CONTENTS: 30 GAL 55 GAL 275 GAL

EPA Est. No.: 8329-IL-01

Material Safety Data Sheet

Date last revised: 18 February, 2009

I. General Information

Chemical Name and Synonyms Chlorpyrifos Permethrin	Trade Name & Synonyms ULV MOSQUITO MASTER 412
Chemical Family Insecticide blend, organophosphate and synthetic pyrethroid	EPA Registration Number 8329-36
Proper DOT Shipping Name (RQ) Environmentally Hazardous Substances, Liquid, N.O.S (Contains Chlorpyrifos)	DOT Hazard Classification 9, UN 3082, PG III
Manufacturer Clarke Mosquito Control Products	Manufacturer's Phone Number (630) 894-2000
Manufacturer's Address 159 North Garden Avenue Roselle, Illinois 60172	INFOTRAC (Transportation/Spill Emergency) 1-800-535-5053 Poison Control Center (Medical Emergency) 1-800-214-7753

II. Ingredients

Principal Hazardous Components	CAS #	OSHA PEL-TWA	Percent
Chlorpyrifos	002921-88-2	0.2 mg/m ³	12%
Permethrin	52645-53-1	Not Established	4%
Other Ingredients (non-hazardous and/or trade secret)* * contains petroleum distillate		5 mg/m ³	84%

III. Physical Data

Boiling Point (°F): > 168 F	Density: 0.913 g/ml
Vapor Pressure (mm Hg.): Not Established	Vapor Density (Air = 1): Not Established
Solubility in Water: Not Established	Odor: Sulfur like odor
Appearance: Liquid, amber color	

IV. Fire & Explosion Hazard Data

Flash Point (Test Method): 168 F (Tag Closed Cup)

Extinguishing Media: Foam, carbon dioxide, or water fog

Special Fire Fighting Procedures: Use self-contained breathing apparatus. Cool fire exposed areas and equipment. Do not use direct stream of water. Material may float and ignite.

V. Health Hazard Data

Toxicity: Oral LD₅₀: > 2000 mg/kg **Acute Dermal LD₅₀:** > 2000 mg/kg

Single dose oral toxicity is moderate. Amounts ingested incidental to industrial handling are not likely to cause injury.

A single prolonged exposure may result in the material being absorbed in harmful amounts.

Eye: May cause pain. May cause slight temporary eye irritation. Vapors may irritate eyes.

Skin Contact: Prolonged or repeated exposure may cause skin irritation. Repeated contact may cause drying or flaking of skin.

Inhalation: Acute Inhalation LD₅₀ > 5.0 mg/L

Teratogenicity: Active ingredients did not cause birth defects in laboratory animals **Carcinogenicity:** Active ingredients did not cause cancer in long-term animal studies

Systemic & Other Effects: Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure to organophosphates may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions. Repeated excessive exposures to high concentrations of solvent may cause liver and kidney injury and effects on blood cells.

VI. Emergency First Aid

Skin Contact: Remove contaminated clothing and wash affected areas of skin with soap and water. Remove contaminated clothing. Launder clothing before reuse.

Eye: 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. Call a poison control center or doctor for treatment advice.

Inhalation: Remove affected person to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

Ingestion: Call a physician or Poison Control Center immediately. Do not induce vomiting. Do not give anything by mouth to an unconscious person.

Note to Physician: Chlorpyrifos is a cholinesterase inhibitor. Atropine by injection is antidotal only if symptoms of cholinesterase inhibition are present. 2-PAM is also antidotal when given in conjunction with atropine. Gastric lavage is indicated if material was taken internally. Vomiting may cause aspiration pneumonia.

Material Safety Data Sheet

Date last revised: 18 February, 2009

ULV MOSQUITO MASTER 412

VII. Environmental Protection Procedures

Spill Response: In case of spill or leakage, soak up with an absorbent material such as sand, sawdust, Fuller's earth, etc. Clean spill area of residues and absorbent. Contaminated absorbent should be disposed of according to local, state and federal regulations.

Storage: Store sealed and upright in its original labeled container at room temperature, in a dry locked place out of reach of children. Avoid exposure to extreme temperatures.

Waste Disposal: 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: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or dispose of in a landfill or by other approved State and local procedures. For guidance, contact your State Water Board or Regional Office of the EPA.

Other Precautions: Do not contaminate water by cleaning of equipment or disposal of wastes.

VIII. Special Protection Information

Exposure Guidelines: ACGIH TLV is 0.2 MG/M3 for chlorpyrifos

Ventilation: Control airborne concentrations below the exposure guideline. Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Lethal concentrations may exist in areas with poor ventilation.

Respiratory Protection: Mixers, loaders and handlers must follow respiratory protection requirements on product label, including use of enclosed cab and/or use of NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C, or a NIOSH-approved respirator with any R, P, or HE filter.

Skin Protection: Mixers, loaders and handlers must follow PPE requirements on product label, including coveralls, chemical-resistant gloves and footwear. Applicators using an enclosed cab or cockpit may wear baseline protection (long-sleeve shirt, long pants, shoes and socks) instead of the PPE required for other handlers. Mixers and loaders involved in aerial application must use a closed system for mixing and/or loading product into application equipment.

Eye Protection: Chemical goggles are recommended when handling or filling tanks.

Other Protection: See label. Keep out of reach of children. Avoid ingestion. Avoid skin and eye contact. Wash thoroughly with soap and water after handling.

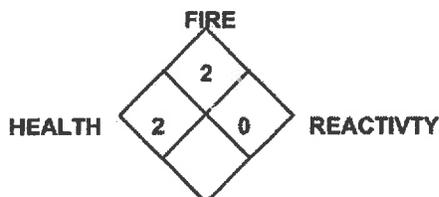
IX. Additional Regulatory Information

CERCLA Reportable Quantity: Chlorpyrifos, 1 lb.

Spills exceeding RQ must be reported to the National Response Center. RQ is obtained in a spill of 1.1 gallons.

Section 313: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment Reauthorization Act of 1986 and 40 CFR Part 372.

Chemical Name	CAS Number	Concentration (by weight)
Chlorpyrifos	002921-88-2	12.0%
Permethrin	52645-53-1	4.0%

NFPA Ratings Information:**NFPA Code Key**

- 4 = Severe
- 3 = Serious
- 2 = Moderate
- 1 = Slight
- 0 = Minimal

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.

William E. Caffee
 Assistant Purchasing Agent
 Birmingham, Alabama

Submitted below is my firm bid for ULV Mosquito Control Sprays for the City of Birmingham, in accordance with your invitation to bid and specifications dated December 9, 2014. Prices quoted are f.o.b. Birmingham, AL delivered and I am bidding in exact accordance with the specifications except as listed below.

APPROX ANNUAL USAGE	DESCRIPTION	PRODUCT/ NUMBER	PRICE/GAL	TOTAL PRICE
990 Gals.	Biomist 3 +15 ULV Mosquito Spray – As Per Specs.		\$	\$
990 Gals.	Mosquitomist Two– As per Specs.		\$	\$
990 Gals.	Anvil 2+2 ULV		\$	\$
990 Gals.	ULV Mosquito Master 412		\$	\$
GRAND TOTAL			\$	

I hereby certify that we do not discriminate in employment of our personnel against any persons on account of race, creed, color, sex, or national origins, and acknowledge and agree that the City encourages minority – and women – owned business participation to the maximum extent possible. This policy includes Historically Underutilized Business Enterprises such as architectural firms, engineering firms, investment banking firms, other professional service providers, and construction contractors as part of the City's business, economic and community revitalization programs.

_____ Date of Bid

_____ Company

_____ Street Address

_____ Tax ID Number

_____ City State Zip

_____ Name (Print or Type)

_____ Post Office Box

_____ Signature

_____ City State Zip

_____ Title

_____ Terms of Payment

_____ E-Mail Address

_____ Delivery Date

_____ Telephone Number

_____ Fax Number

IF AVAILABLE, PLEASE SUBMIT COPY OF CURRENT CITY OF BIRMINGHAM BUSINESS LICENSE WITH THIS BID.

INDICATE THE FOLLOWING ADDRESSES IF DIFFERENT FROM ABOVE:

- 1. BID AWARD NOTICE ADDRESS**
- 2. PURCHASE ORDER ADDRESS**
- 3. REMITTANCE ADDRESS (and NAME if different than above)**