



**OFFICIAL MINUTES OF THE OXFORD MAYOR AND COUNCIL MEETING
WORK SESSION
MONDAY, July 16, 2018 – 6:00 PM
CITY HALL**

MEMBERS PRESENT: Jerry D. Roseberry, Mayor; and Councilmembers: David Eady; Sarah Davis; Mike Ready, Jim Windham, George Holt, and Jeff Wearing.

OTHERS PRESENT: Matt Pepper, Assistant City Manager; Luran Willis, City Clerk; Daryl Welch with the Covington News; Teresa Welch, Melisa Hage, Art Vinson, James Waddey, Anderson Wright, Peggy Madden, Allyson Epps, Mary Carter, Don Henderson, Hoyt Oliver, and Robert Bayless.

Agenda

Honorary Councilmember of the Month

Mayor Roseberry introduced Melissa Hage as Honorary Councilmember for June and presented her with a proclamation as appreciation for her participation. (Attachment A)

Mayor's Announcements

Mayor Roseberry gave an update report from the Police Department for the Month of June.

Review Amendment to Code Section 40-536 – Livestock and Fowl

City Manager Matt Pepper said that The Planning Commission recommends an amendment to Sec. 40-536. – Live Stock and Fowl to allow for the keeping of up to six chickens in the RR, R-30, R-20, and R-15 residential zoning districts. Per the amendment, the chickens must be contained within the property at least 20 feet from all property lines. This item will be on the August work session agenda for further discussion. (Attachment B)

E. Clark Street Property Deed

City Manager Matt Pepper presented the warranty deeds for the E. Clark Street property. The deed is for the two parcels that will be developed by the Downtown Development Authority as part of the E. Clark Street project. Council will need to approve the deed by resolution. This item will be on the August 6th agenda. (Attachment C)

107 W. Clark Street Renovation Project

The ad hoc Yarbrough House Renovation Committee presented an update on the project. City Clerk Luran Willis said there were questions and discrepancies in the original quote from the contractor, and the figures presented by the ad hoc committee at the July 2nd meeting. Councilmember Jeff Wearing said he is working

with the Contractor to get a new quote and clarification regarding the type of roofing material and the cost. This item will be placed on the August work session agenda for further review.

Handicap Ramp for Old Church

Mayor Roseberry said there is a lot of information to be determined regarding the ramp and requested it be postponed to the next meeting for further discussion.

Mosquito Spray

Councilmember Windham requested that Council discuss the use of an environmentally-friendly alternative to spray for mosquitos. Windham presented literature on various types of chemicals and their effects on insects, animals and humans. Windham suggested the city launch a campaign for citizen's awareness and ask them to empty any standing water around their homes, especially old tires.

Council asked that City Manager Matt Pepper contact the county and state to see what they are doing and to contact the Health Department to see what their recommendations are. This item will be moved to the August work session for further discussion. (Attachments D1 – D4)

A motion was made by Windham, seconded by J. Wearing to adjourn at 6:38 PM.

Respectfully Submitted,



Lauran Willis, CMC/FOA
City Clerk

**OXFORD MAYOR AND COUNCIL
WORK SESSION
MONDAY, JULY 16, 2018 – 6:00 P.M.
CITY HALL
A G E N D A**

1. **Honorary Councilmember of the Month** – Councilmember Eady appointed Melissa Hage as the Honorary Councilmember for June. Because of her travel schedule she will attend the work sessions in June and July.
2. **Mayor’s Announcements**
3. *** Review Amendment to Code Section 40-536. - Livestock and Fowl** – The Planning Commission recommends an amendment to Sec. 40-536. - Live Stock and Fowl to allow for the keeping of up to six chickens in the R-30, R-20, and R-15 residential zoning districts. Per the amendment, the chickens must be contained within the property at least 20 feet from all property lines.
4. *** E. Clark Street Property Deed** – Council will review the warranty deed for the E. Clark Street property. The deed is for the two parcels that will be developed by the Downtown Development Authority as part of the E. Clark Street project.
5. **107 W. Clark Street Renovation Project** – The *ad hoc* Yarbrough House Renovation Committee will report on the progress of the 107 W. Clark Street Renovation Project.
6. **Handicap Ramp for Old Church** – Council will discuss installing a handicap ramp at Old Church.
7. **Mosquito Spray** – Councilmember Windham has requested that Council discuss the city consider using environmentally-friendly alternatives to spray for mosquitos. This item was tabled from the June 18th Work Session.

*Attachments



PROCLAMATION

WHEREAS, citizen input is important to the City Council of the City of Oxford so we can better govern our City; and

WHEREAS, it is important to show the citizens of our City how our City operates and how City Council functions; and

WHEREAS, City Council has created the Honorary Councilmember of the Month Program in Oxford; and

WHEREAS, Councilmember Eady has nominated Melissa Hage to serve for this month.

NOW, THEREFORE, I, Mayor Jerry D. Roseberry, do hereby appoint Melissa Hage as the Honorary Councilmember for the City of Oxford for the month of July.

SO PROCLAIMED, this 16th day of July, 2018.

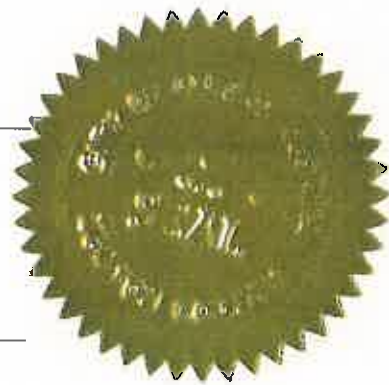
MAYOR AND CITY COUNCIL OF OXFORD

BY: _____

Mayor

ATTEST: _____

City Clerk



Sec. 40-536. - Livestock and fowl.

- (a) *General custody.* This chapter recognizes the desire of some residents to keep horses, livestock, chickens or other fowl for personal enjoyment or sustenance. However, the keeping of these animals for any purpose should not cause nuisance to surrounding properties or present a health hazard.
- (b) *Noncommercial custody.* Noncommercial keeping of poultry or livestock is permitted by right in the Agricultural Residential District. **Noncommercial keeping of poultry (except as otherwise permitted in subsection (c) hereof) or livestock** It is permitted as a conditional use in the RR and R-30 Districts, under the following provisions:
 - (1) *Livestock.* Horses, cows, ponies, donkeys, and other domestic livestock may be kept, raised or bred for home use and enjoyment, provided that only one such animal shall be permitted for each two acres of land area, and shall be adequately contained by fence within that property.
 - (2) *Fowl.* Ducks, quail, chickens, turkeys, pigeons, pheasants, and other fowl, may be raised for home use provided such fowl are adequately contained within the property. The keeping of fowl is limited to five birds per acre.
 - (3) *Setbacks and fencing.* All domestic livestock or fowl must be kept at least 50 feet from all property lines with fencing adequate to retain any livestock within the required setbacks.
 - (4) *Additional setbacks adjacent to residential districts.* For properties abutting higher density residential districts (e.g., R-7.5, R-15 and R-20), the minimum setbacks shall be increased to 100 feet from all property lines adjacent to these districts.
 - (5) *Noncommercial.* The keeping, breeding, or training of any animals for monetary gain or profit shall be deemed a commercial business and is prohibited in all residential districts.
- (c) **Laying hens. Noncommercial keeping of up to six chickens that are intended for laying eggs is a permitted use in the RR, R-30, R-20, and R-15 districts; provided that such chickens are contained within the property at least 20 feet from all property lines. No roosters shall be permitted.**

(Code 1997, § 40-713; Ord. of 2-6-2012, § 1(40-713))

After recording, please return to:

C. David Strickland, PC
Strickland & Strickland, LLP
PO Box 70
Covington, GA 30015-0070

Space Above This Line for Recorder's Use

STATE OF GEORGIA

COUNTY OF NEWTON

WARRANTY DEED

THIS INDENTURE is made this ____ day of _____, 2018, by and among **THE CITY OF OXFORD, GEORGIA**, a Georgia municipal corporation, by and through its Mayor and Council (hereinafter referred to as "Grantor"), and **THE DOWNTOWN DEVELOPMENT AUTHORITY OF OXFORD, GEORGIA**, a Georgia body corporate and politic (hereinafter "Grantee"). The words "Grantor" and "Grantee" include the neuter, masculine and feminine genders, and the singular and the plural, and their respective heirs, successors and assigns where the context hereof requires or permits.

W I T N E S S E T H :

FOR AND IN CONSIDERATION of the sum of Ten Dollars (\$10.00) in hand paid to Grantor by Grantee at and before the execution, sealing and delivery hereof, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm unto Grantee, and the heirs, successors, legal representatives and assigns of Grantee, all that tract or tracts or parcel or parcels of land as more particularly described on **Exhibit "A"**, attached hereto and incorporated herein by reference.

TO HAVE AND TO HOLD said tracts or parcels of land, together with any and all of the rights, members and appurtenances thereof to the same being, belonging or in anywise appertaining to the only proper use, benefit and behoof of Grantee forever, in fee simple; and

GRANTOR SHALL WARRANT and forever defend the right and title to said tract or parcel of land unto Grantee, and the heirs, successors, legal representatives and assigns of Grantee, against the claims of all persons whomsoever.

IN WITNESS WHEREOF, Grantor has duly executed and sealed this indenture, and delivered this indenture to Grantee, all the day and year first written above.

GRANTOR:

Signed, sealed and delivered
in the presence of:

THE CITY OF OXFORD, GEORGIA

Unofficial Witness

By: _____
Jerry D. Roseberry, Mayor

Notary Public

Attest: _____
Lauran Willis, City Clerk

My Commission Expires:

{Oxford City Seal}

(NOTARIAL SEAL)

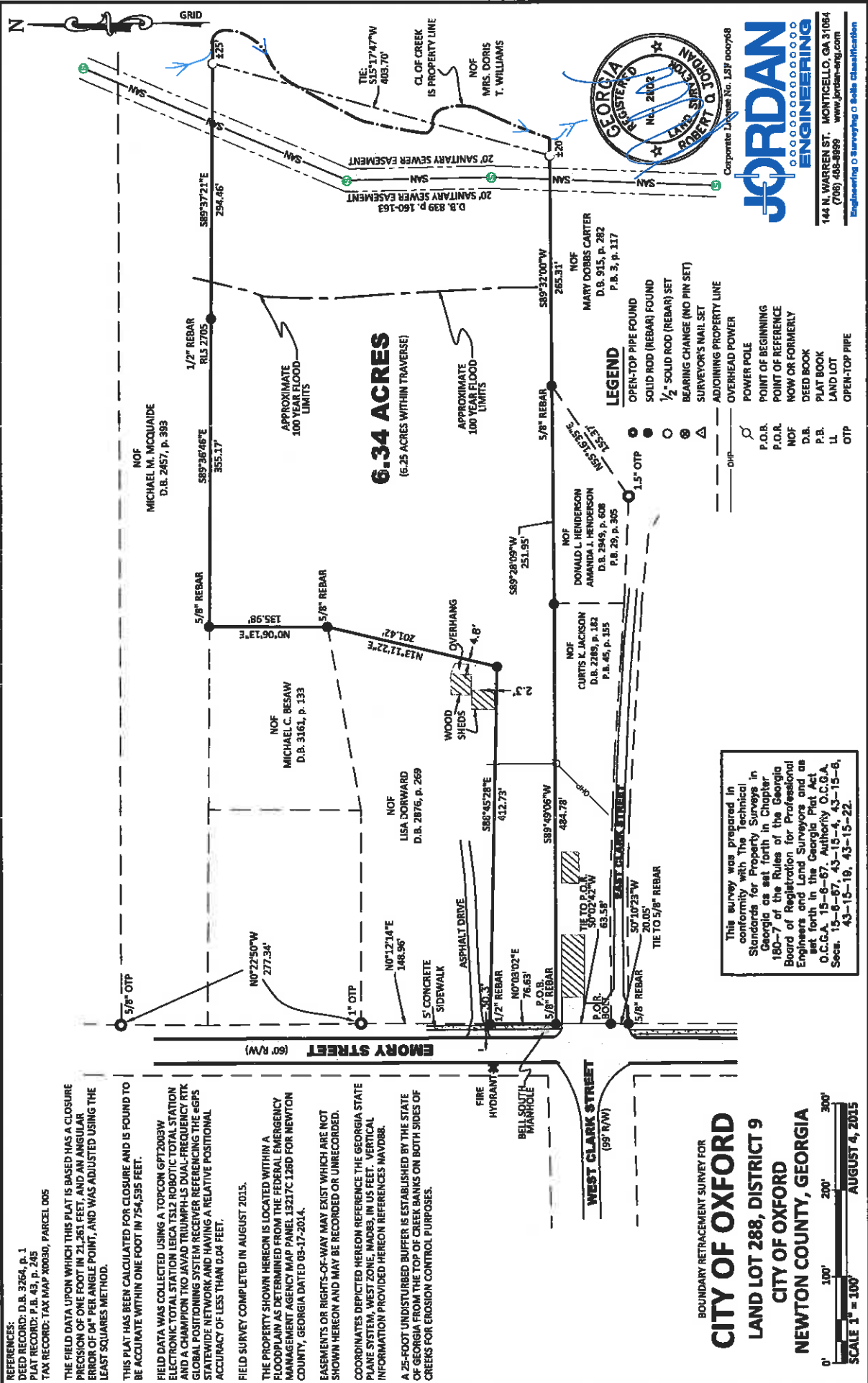
EXHIBIT "A"

Tract One:

All that tract or parcel of land lying and being in Land Lot 288 of the 9th Land District, City of Oxford, Newton County, State of Georgia, containing 6.34 acres, more or less, and being that same property shown and described on Boundary Retracement Survey for City of Oxford by Robert O. Jordan, Ga. RLS No. 2902, dated August 4, 2015 (Newton County Map/Parcel X003-005B), and further shown on the attached **Exhibit "B-1"**.

Tract Two:

All that tract or parcel of land lying and being in Land Lot 288 of the 9th Land District, City of Oxford, Newton County, State of Georgia, containing 0.98 acres, more or less, and being that same property shown and described as Tract A and Tract B on Boundary and Right of Way Survey for City of Oxford by Robert O. Jordan, Ga. RLS No. 2902, dated January 16, 2015 (Newton County Map/Parcel X003-002), and further shown on the attached **Exhibit "B-2"**.



JORDAN ENGINEERING
 Corporate Office No. 138 000788
 144 N. WARREN ST. MONTICELLO, GA 31064
 (706) 488-3899 www.jordan-eng.com
 Engineering & Surveying © 2015 Classification

- LEGEND**
- OPEN-TOP PIPE FOUND
 - SOLID ROD (REBAR) FOUND
 - ⊙ 1/2" SOLID ROD (REBAR) SET
 - ⊛ BEARING CHANGE (NO PIN SET)
 - ⊠ SURVEYOR'S MAIL SET
 - ADJOINING PROPERTY LINE
 - OVERHEAD POWER
 - POWER POLE
 - P.O.B.
 - POINT OF BEGINNING
 - NOW OR FORMERLY
 - D.B. DEED BOOK
 - D.B. DEED BOOK
 - LL PLANT LOT
 - OTP OPEN-TOP PIPE

This survey was prepared in conformity with The Technical Standards for Property Surveys in Georgia as set forth in Chapter 180-7 of the Rules of the Georgia Board of Registration for Professional Engineers and Land Surveyors and as set forth in the Georgia Plat Act O.C.G.A. 15-6-87, Authority O.C.G.A. Secs. 15-6-87, 43-15-4, 43-15-6, 43-15-18, 43-15-22.

REFERENCES:
 DEED RECORD: D.B. 3264, p. 1
 PLAT RECORD: P.B. 43, p. 245
 TAX RECORD: TAX MAP X0030, PARCEL 005

THE FIELD DATA UPON WHICH THIS PLAT IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 21,261 FEET, AND AN ANGULAR ERROR OF 04" PER ANGLE POINT, AND WAS ADJUSTED USING THE LEAST SQUARES METHOD.

THIS PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN 754,535 FEET.

FIELD DATA WAS COLLECTED USING A TOPCON GPT2003W ELECTRONIC TOTAL STATION LEICA TS12 ROBOTIC TOTAL STATION AND A CHAMPION TWO JAVAD TRIUMPH-L5 DUAL-FREQUENCY RTK GLOBAL POSITIONING SYSTEM RECEIVER REFERENCEING THE eGPS STATEWIDE NETWORK AND HAVING A RELATIVE POSITIONAL ACCURACY OF LESS THAN 0.04 FEET.

FIELD SURVEY COMPLETED IN AUGUST 2015.

THE PROPERTY SHOWN HEREON IS LOCATED WITHIN A FLOODPLAIN AS DETERMINED FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY MAP PANEL 13217C 126D FOR NEWTON COUNTY, GEORGIA DATED 05-17-2014.

EASEMENTS OR RIGHTS-OF-WAY MAY EXIST WHICH ARE NOT SHOWN HEREON AND MAY BE RECORDED OR UNRECORDED.

COORDINATES DEPICTED HEREON REFERENCE THE GEORGIA STATE PLANE SYSTEM, WEST ZONE, NAD83, IN US FEET. VERTICAL INFORMATION PROVIDED HEREON REFERENCE NAVD83.

A 25-FOOT UNDISTURBED BUFFER IS ESTABLISHED BY THE STATE OF GEORGIA FROM THE TOP OF CREEK BANKS ON BOTH SIDES OF CREEKS FOR EROSION CONTROL PURPOSES.

BOUNDARY RETRACEMENT SURVEY FOR
CITY OF OXFORD
LAND LOT 288, DISTRICT 9
CITY OF OXFORD
NEWTON COUNTY, GEORGIA



S:\G\WIL\OXFORD - 6AC E CLARK ST\OXFORD 6 ACRES.DWG
 AUGUST 4, 2015

This survey was prepared in conformity with the Technical Standards for Property Surveys in Georgia as set forth in Chapter 180-7 of the Rules of the Georgia Board of Professional Engineers and Land Surveyors and as set forth in the Georgia Plat Act O.C.G.A. 15-6-67, Authority O.C.G.A. Secs. 15-6-67, 43-15-4, 43-15-6, 43-15-19, 43-15-22.

NOF
EMMETT O. HUGHES, JR.
D.B. 3013, p. 102
P.B. 43, p. 245

NOF
DONALD L. AND
AMANDA J. HENDERSON
D.B. 2949, p. 608
P.B. 29, p. 305

NOF
JASON W. AND
KRISTY J. THOMAS
D.B. 3011, p. 619
P.B. 31, p. 25

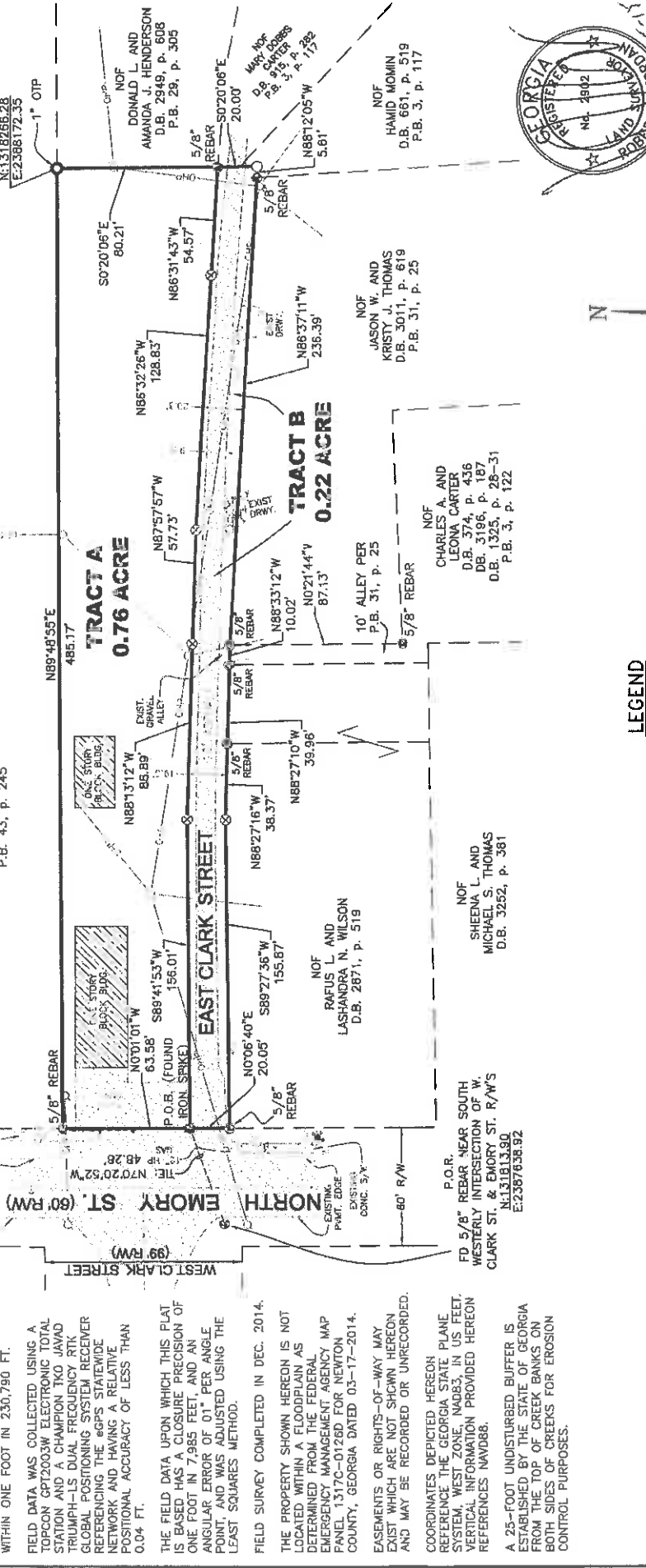
NOF
CHARLES A. AND
LEONA CARTER
D.B. 374, p. 436
D.B. 3196, p. 187
D.B. 1325, p. 28-31
P.B. 3, p. 122

NOF
SHEENA L. AND
MICHAEL S. THOMAS
D.B. 3252, p. 381

NOF
RAFUS L. AND
LASHANDRA N. WILSON
D.B. 2871, p. 519

P.O.R.
FD 5/8" REBAR NEAR SOUTH
WESTERLY INTERSECTION OF W.
CLARK ST. & EMORY ST. R/W'S
N:131813.90
E:2387638.92

NOF
HANDI WOMAN
D.B. 661, p. 519
P.B. 3, p. 117



REFERENCES:
DEED RECORD: D.B. 2289, p. 182
PLAT RECORD: P.B. 45 p. 155
TAX MAP NO. X40-002

THE FIELD DATA UPON WHICH THIS PLAT IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 7,985 FEET AND AN ANGULAR ERROR OF 01" PER ANGLE POINT, AND WAS ADJUSTED USING THE LEAST SQUARES METHOD.

FIELD SURVEY COMPLETED IN DEC. 2014.

THE PROPERTY SHOWN HEREON IS NOT LOCATED WITHIN A FLOODPLAIN AS DETERMINED FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY MAP PANEL 1377C-01ZED FOR NEWTON COUNTY, GEORGIA DATED 03-17-2014.

EASEMENTS OR RIGHTS-OF-WAY MAY EXIST WHICH ARE NOT SHOWN HEREON AND MAY BE RECORDED OR UNRECORDED.

COORDINATES DEPICTED HEREON REFERENCE THE GEORGIA STATE PLANE SYSTEM, WEST ZONE, NAD83 IN US FEET. VERTICAL INFORMATION PROVIDED HEREON REFERENCE NAVD86.

A 25-FOOT UNDISTURBED BUFFER IS ESTABLISHED BY THE STATE OF GEORGIA FROM THE TOP OF CREEK BANKS ON BOTH SIDES OF CREEKS FOR EROSION CONTROL PURPOSES.

BOUNDARY AND RIGHT-OF-WAY SURVEY FOR
THE CITY OF OXFORD
LAND LOT 288, LAND DISTRICT 9
NEWTON COUNTY, GEORGIA

50 0 50 100 150
SCALE 1" = 50'
JANUARY 5, 2015

JORDAN ENGINEERING
144 N. WARREN ST. MONTICELLO, GA 31084
(706) 468-8899 www.jordan-eng.com
Engineering • Surveying • Soils Classification

REGISTERED PROFESSIONAL ENGINEER
No. LSP 000733

LEGEND

| | | | |
|---|-----------------------------|--------|--------------------|
| ○ | OPEN-TOP PIPE FOUND | P.O.B. | POINT OF BEGINNING |
| ● | SOLID ROD (REBAR) FOUND | P.O.R. | POINT OF REFERENCE |
| ○ | 1/2" SOLID ROD (REBAR) SET | NOF | NOW OR FORMERLY |
| ⊗ | BEARING CHANGE (NO PIN SET) | D.B. | DEED BOOK |
| △ | SURVEYOR'S NAIL SET | P.B. | PLAT BOOK |
| ○ | POWER POLE | LL | LAND LOT |
| ○ | ADJOINING PROPERTY LINE | ESMT | EASEMENT |
| ○ | OVERHEAD POWER | OTP | OPEN-TOP PIPE |

NOF
EMMETT O. HUGHES, JR.
D.B. 3013, p. 102
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N:131813.90
E:2387638.92

NOF
HANDI WOMAN
D.B. 661, p. 519
P.B. 3, p. 117

CITY OF OXFORD

RESOLUTION

WHEREAS, the City of Oxford (“City”) owns certain real property more particularly described as follows (the “Property”):

Tract One:

All that tract or parcel of land lying and being in Land Lot 288 of the 9th Land District, City of Oxford, Newton County, State of Georgia, containing 6.34 acres, more or less, and being that same property shown and described on Boundary Retracement Survey for City of Oxford by Robert O. Jordan, Ga. RLS No. 2902, dated August 4, 2015 (Newton County Map/Parcel X003-005B).

Tract Two:

All that tract or parcel of land lying and being in Land Lot 288 of the 9th Land District, City of Oxford, Newton County, State of Georgia, containing 0.98 acres, more or less, and being that same property shown and described as Tract A and Tract B on Boundary and Right of Way Survey for City of Oxford by Robert O. Jordan, Ga. RLS No. 2902, dated January 16, 2015 (Newton County Map/Parcel X003-002).

WHEREAS, the City desires to convey the Property to the Oxford Downtown Development Authority (“DDA”) for public purposes in accordance with the City’s intergovernmental agreement with the DDA.

NOW THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF OXFORD

That Property be deeded to the DDA and that the mayor shall sign all documents, including a deed, reasonably required to convey good title.

ADOPTED THIS MONDAY, AUGUST 6, 2018.

BY:

Jerry D. Roseberry, Mayor

ATTEST:

Lauran S. Willis, City Clerk

73748-3

(

04-04-2511

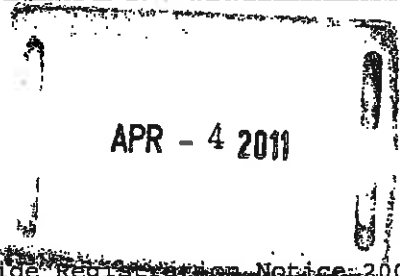
1/9



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Ms. Jane Miller
Univar USA, Inc.
C/o Biologic
115 Obtuse Hill Road
Brookfield, CT 06804



Subject: Label Notification(s) for Pesticide Registration Notice 2007-4

Dear Ms. Miller:

The Agency is in receipt of your Application(s) for Pesticide Notification under Pesticide Registration Notice PRN 2007-4 dated March 18, 2011 for the following product(s):

Kontrol 2-2

EPA Reg. No. 73748-3

The Registration Division (RD) has conducted a review of this request for applicability under PRN 2007-4 and finds that the label change(s) requested falls within the scope of PRN 2007-4. The label has been date-stamped "Notification" and will be placed in our records.

If you have any questions, please contact Linda A. DeLuise at 703-305-5428.

Sincerely,

Richard J. Gebken
Product Manager
Insecticide Branch
Registration Division (7504P)



United States
Environmental Protection Agency
Washington, DC 20460

| | |
|-------------------------------------|--------------|
| <input type="checkbox"/> | Registration |
| <input type="checkbox"/> | Amendment |
| <input checked="" type="checkbox"/> | Other |

OPP Identifier Number

Application for Pesticide - Section I

| | | |
|---|---|---|
| 1. Company/Product Number 73748-3 | 2. EPA Product Manager R. Gebken | 3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted |
| 4. Company/Product (Name) Kontrol-2-2 | PM# 10 | |
| 5. Name and Address of Applicant (Include ZIP Code) Univar USA, Inc. c/o Biologic, Inc. 115 Obtuse Hill Road Brookfield, CT 06804 <input type="checkbox"/> Check if this is a new address | 6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: NOTIFICATION EPA Reg. No. _____ APR 4 2011 Product Name _____ | |

Section - II

| | |
|--|---|
| <input type="checkbox"/> Amendment - Explain below. | <input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____ |
| <input type="checkbox"/> Resubmission in response to Agency letter dated _____ | <input type="checkbox"/> "Me Too" Application. |
| <input checked="" type="checkbox"/> Notification - Explain below. | <input type="checkbox"/> Other - Explain below. |

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification of label change per PR Notice 2007-4. This notification is consistent with the guidance in PR Notice 2007-4 and the requirements of EPA's regulations at 40 CFR 156.10, 156.140, 156.144, 156.146, and 156.156. No other changes have been made to the labeling or the Confidential Statement of Formula for this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if the amended label is not consistent with the requirements 40 CFR 156.10, 156.140, 156.144, 156.146, and 156.156, this product may be in violation of FIFRA and may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:

| | | | |
|---|--|---|---|
| Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 2. Type of Container <input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____ |
| * Certification must be submitted | | If "Yes" Unit Packaging wgt. No. per container | If "Yes" Package wgt No. per container |

| | | |
|---|--|--|
| 3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container | 4. Size(s) Retail Container 2.5, 30, 55, 275 gal. | 5. Location of Label Directions <input checked="" type="checkbox"/> |
| 6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled | | <input type="checkbox"/> Other _____ |

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)

| | | |
|------------------------|----------------|---|
| Name Jane M. Miller | Title Agent | Telephone No. (Include Area Code) (203) 740-1200 |
|------------------------|----------------|---|

Certification
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

| | | |
|---------------------------------|---------------------------|--|
| 2. Signature | 3. Title Agent | 6. Date Application Received (Stamped) |
| 4. Typed Name Jane M. Miller | 5. Date March 18, 2011 | |

March 18, 2011

Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504P)
US Environmental Protection Agency
One Potomac Yard
2777 S. Crystal Drive
Room S-4900, 4th Floor
Arlington, VA 22202

Attention: Mr. R. Gebken (PM #10)
Ms. Linda Deluise

******URGENT REQUEST******

RE: "Kontrol 2-2-3"; EPA Reg. No. 73748-3;
"Kontrol 4-4"; EPA Reg. No. 73748-4;
"Kontrol 30-30 Concentrate"; EPA Reg. No. 73748-5
Notification to revise Storage and Disposal Statement – Current Language is Not Environmentally Correct

Dear Mr. Gebken:

On behalf of Univar USA, Inc. we are submitting the above mentioned Application for Pesticide Notifications to correct Container Disposal instructions that are not appropriate for these formulations. We offer the following as an explanation:

1. In July of 2009 we submitted revised storage and disposal directions as per PR Notice 2007-4 for the Univar product. The revised language was taken out of the PR Notice and the changes were subsequently approved. The directions called for rinsing the empty containers with water.
2. It has come to our attention that the instructions to "rinse with water" are not appropriate for an "oil" based product thus users do not have a way of reusing or disposing the resulting rinsate.
3. In reviewing several competitors' labels (note the "Biomist 30-30 ULV", EPA Reg. No. 8329-42 label enclosed) we noticed that the EPA has approved the use of "mineral oil" to rinse the containers. This is more appropriate and allows the rinsate to be reused by the applicator. This results in no disposal issue.

We are asking that the Agency grant Univar the same ability to use mineral oil to rinse empty containers and further, since this has been accepted on identical products, we would appreciate a quick review and approval. Univar is at the beginning of its season and needs to get labels printed as soon as possible.

5/2

MASTERLINE KONTROL 2 - 2 For Mosquitoes, Flies and Gnats

A Quick Knockdown, Low Odor, Non-Corrosive Synergized Synthetic Pyrethroid for the Control of Adult Mosquitoes in Residential, Recreational, and Other Areas. Also for Use Against Biting and Non-Biting Midge and Black Flies.

For use only by federal, state, tribal, or local governmental 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.

NOTIFICATION

ACTIVE INGREDIENTS:

APR 4 2011

Permethrin (3-phenoxyphenyl)methyl(+/-)Cis/trans 3-(2,2-dichloroethyl) 2,2-Dimethyl cyclopropanecarboxylate.....2.0%

Piperonyl Butoxide Technical Equivalent to 80% (butylcarbityl)(6-propylpiperonyl) ether and 20% related compounds.....2.0%

INERT INGREDIENTS.....96.0%

Contains a Petroleum Distillate Solvent

TOTAL.....100.0%

Contains 0.144 pounds of Permethrin and 0.144 pounds of Piperonyl Butoxide per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

See Side Panel For Additional Precautionary Statements

“PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicado ampliamente”

| 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 the first 5 minutes, then continue rinsing 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 by mouth-to-mouth, if possible. Call a poison control center or doctor for further advice. |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. | |
| Note to Physician: Contains petroleum distillate - vomiting may cause aspiration pneumonia. | |

NET CONTENTS:

2.5 GAL _____ 30 GAL _____ 55 GAL _____ 275 GAL _____

**PRECAUTIONARY STATEMENTS
HAZARDS TO DOMESTIC ANIMALS AND HUMANS**

Caution: Causes moderate eye irritation. Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove contaminated clothing and wash before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

ENVIRONMENTAL HAZARDS

This pesticide 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. 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 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 or 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 apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

PHYSICAL AND CHEMICAL HAZARDS

Do not use, pour, spill or store near heat or open flame.

DIRECTIONS FOR USE

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

Note: Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist.

STORAGE AND DISPOSAL

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

Pesticide Storage and Spill Procedures: Store upright at room temperature. Avoid exposure to extreme temperatures. In case of spill or leakage, soak up with an absorbent material such as sand, sawdust, earth, fuller's earth, etc. Dispose of with chemical waste.

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

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

Containers 5 gallons or less: Empty the remaining contents into application equipment and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water mineral oil and recap. Shake for 10 seconds. Pour rinsate into mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once cleaned, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Containers larger than 5 gallons: Empty the remaining contents into application equipment. Fill the container 1/4 full with water mineral oil. Replace and tighten closures. Tip container on its side and roll back and forth, at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Once cleaned, offer for recycling or reconditioning if appropriate.

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

Refillable container: Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

Return container to point of purchase for reuse with seal intact and in salable condition. Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices. After filling and before transporting, check for leaks. Do not refill or transport damaged or leaking container.

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

BULK STORAGE AND DISPOSAL

AGITATE BEFORE USE

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Storage: Ground water contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

Pesticide Disposal: Pesticide spray mixture or rinsate that cannot be used according to label instructions must be disposed of according to Federal and local procedures under Subtitle C or the Resource Conservation and Recovery Act.

CONDITIONS AND RATES TO USE FOR MOSQUITO CONTROL

KONTROL 2-2 may be applied undiluted as a thermal or non-thermal fog. Applicators should wear long sleeved shirt, long pants, shoes and socks.

KONTROL 2-2 is recommended for application in ultra low volume (ULV) non-thermal aerosol (cold fog) to control adult mosquitoes, midges and black flies in residential and recreational areas where these insects are a problem, such as, but not limited to parks, campsites, woodlands, athletic fields, golf courses, residential areas, municipalities, gardens, playgrounds, recreational areas and overgrown waste areas. For best results, treat when insects are most active and conditions are conducive to keeping the fog close to the ground.

Both ground and aerial applications should be made when meteorological conditions are conducive to keeping the spray cloud close to the ground, such as when air temperature inversion is present. Applications during the cool hours of early morning or evening are preferable. Air temperatures should be greater than 50° F when conducting all types of applications. Application in calm air conditions is to be avoided. Apply only when ground wind speed is greater than 1 mph. Do not apply when wind speeds exceed 10 mph. Applications cannot exceed the recommended rates.

Do not re-treat a site more than once in 12 hours. Do not apply more than 0.18 lbs. of permethrin per acre per year to any site. More frequent treatments may be made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

KONTROL 2-2 can be applied over specific growing crops and range grasses prior to harvest for the control of adult mosquitoes and biting flies within or adjacent to these areas. Application can only be made where the following crops are present:

- | | |
|--|------------------------------------|
| Alfalfa | Range Grasses |
| Almonds | Horseradish |
| Apples | Leafy Vegetables (except Brassica) |
| Artichoke, globe | Lettuce, head |
| Asparagus | Mushrooms |
| Avocado | Onion, dry-bulb |
| Broccoli | Peaches |
| Brussels Sprouts | Pears |
| Cabbage | Pepper, bell |
| Cauliflower | Pistachio |
| Celery | Potato |
| Cherries | Soybeans |
| Corn, fodder | Spinach |
| Corn, forage | Tomatoes |
| Corn, grain (field and pop) | Vegetable, cucurbits |
| Corn, stover | Walnuts |
| Corn, sweet kernel plus cob with husks removed | |
| Eggplant | |
| Filbert | |
| Garlic | |

In the treatment of corrals, feedlots, animal confinements/houses, swine lots, poultry ranges and zoos, cover any exposed drinking water, drinking fountains and animal feed before application. Do not contaminate non-approved sites with spray drift.

GROUND APPLICATION INSTRUCTIONS (Thermal and Non-Thermal Application)

DROPLET SIZE CALIBRATION FOR GROUND APPLICATION EQUIPMENT: Spray equipment must be adjusted so that the volume median diameter is less than 30 microns ($Dv\ 0.5 < 30\ \mu m$) and that 90% of the spray is contained in droplets smaller than 48 microns ($Dv\ 0.9 < 48\ \mu m$). Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a laser-based measurement instrument must be used to adjust equipment to 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.

Conditions and Rates to Use Kontrol 2-2 Undiluted for Mosquito Control

| Permethrin/PBO Lbs. A.I./Acre | Application Rates/Fluid Ounces To Use Per Minute | | | | Fl. Oz. Kontrol 2-2 per Acre |
|----------------------------------|---|-----------------|-----------------|-----------------|------------------------------------|
| | 5 mph | 10 mph | 15 mph | 20 mph | |
| 0.007/0.007 | 18.8 | Not Recommended | Not Recommended | Not Recommended | 6.2 |
| 0.0035/0.0035 | 9.4 | 18.8 | Not Recommended | Not Recommended | 3.1 |
| 0.00175/0.00175 | 4.7 | 9.4 | 14.1 | 18.9 | 1.6 |

ULV NON-THERMAL AEROSOL (COLD FOG) APPLICATION: To control mosquitoes, midges and black flies, apply KONTROL 2-2 using any standard ULV ground applicator capable of producing a non-thermal aerosol spray. Apply the product undiluted at a flow rate of 4.7 to 18.8 fluid ounces per minute at an average vehicle speed of 5 mph. If different vehicle speed is used, adjust the rate accordingly. Vary flow rates accordingly to vegetation density and mosquito population. Use higher flow rates in heavy vegetation or when populations are high. An accurate flow control system must be used to ensure proper flow rate. May be applied at truck speeds of 5 to 20 mph.

THERMAL AEROSOL FOGGING

Truck Mounted: Apply undiluted with suitable Thermal Fogging equipment. Do not exceed the maximum a.i./acre rates. May be applied at speeds of 5 to 20 mph. For use with hand foggers, use the same a.i./acre rates. Do not wet foliage since

9/9

the oil base formulation may be phytotoxic. Do not fog when wind conditions exceed 10 miles per hour. Use well maintained and properly calibrated fogger.

AS A BARRIER SPRAY USING A MISTER TYPE UNIT

For use in non-thermal equipment, apply **KONTROL 2 - 2** with a mist blower adjusted to deliver droplets with a volume median diameter of 50 – 120µm. Use undiluted to achieve an application of 0.00175 / 0.00175 # a.i./acre. Use a 50 ft (15.2m) swath while walking at a speed of 2 mph (3.2 kph). If using a different speed, swath or dilution, do not exceed the maximum a.i./acre. When this product is applied as a barrier treatment, do not apply within 100 feet (30 meters) of lakes and streams.

AERIAL APPLICATION INSTRUCTIONS

The use of aircraft specially equipped and capable of applying **ULTRA LOW VOLUMES** of **KONTROL 2-2** may be necessary.

DROPLET SIZE CALIBRATION FOR AERIAL APPLICATION EQUIPMENT: Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns (Dv 0.5 < 60 µm) and that 90% of the spray is contained in droplets smaller than 115 microns (Dv 0.9 < 115 µm). The effects of flight speed and, for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

Aerial application shall be made at altitudes ranging from 75 to 300 feet. Fixed wing aircraft with flat fan or rotary nozzles, or rotary wing aircraft equipped with rotary nozzles, apply at a sufficient airspeed to deliver the appropriate amount of a.i./acre (from 0.00175 to 0.007 # a.i./acre) and to achieve the appropriate droplet range. Apply only when ground wind speed is greater than 1 mph.

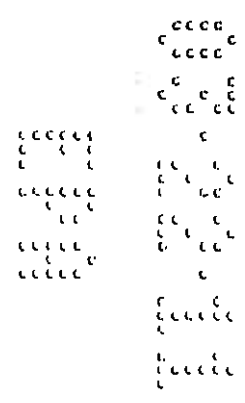
PROHIBITION FOR AERIAL USE: Not for aerial application in Florida unless specifically authorized by the Bureau of Entomology and Pest Control, Florida Department of Agriculture and Consumer Services.

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

BUYER GUARANTEE LIMITED TO LABEL CLAIMS

Univar USA, Inc.
9430 Research Blvd., Suite 350
Echelon Bldg. IV
Austin, TX 78759

EPA Registration No. 73748-3
EPA Establishment No. 53883-TX-002



MASTERLINE

KONTROL 2 – 2

For Mosquitoes, Flies and Gnats

A Quick Knockdown, Low Odor, Non-Corrosive Synergized Synthetic
Pyrethroid for the Control of Adult Mosquitoes in Residential, Recreational, and Other Areas.
Also for Use Against Biting and Non-Biting Midge and Black Flies.

For use only by federal, state, tribal, or local governmental 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-dichloroethenyl)
2,2-Dimethyl cyclopropanecarboxylate.....2.0%

Piperonyl Butoxide Technical

Equivalent to 80% (butylcarbityl)(6-propylpiperonyl) ether and 20% related compounds.....2.0%

INERT INGREDIENTS:.....96.0%

Contains a Petroleum Distillate Solvent

TOTAL.....100.0%

Contains 0.144 pounds of Permethrin and 0.144 pounds of Piperonyl Butoxide per gallon.

KEEP OUT OF REACH OF CHILDREN
CAUTION

See Side Panel For Additional Precautionary Statements

“PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicado ampliamente”

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 the first 5 minutes, then continue rinsing 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 by mouth-to-mouth, if possible. Call a poison control center or doctor for further advice |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. | |
| Note to Physician: Contains petroleum distillate – vomiting may cause aspiration pneumonia. | |

NET CONTENTS:

2.5 GAL _____ 30 GAL _____ 55 GAL _____ 275 GAL _____

PRECAUTIONARY STATEMENTS

HAZARDS TO DOMESTIC ANIMALS AND HUMANS

Caution: Causes moderate eye irritation. Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove contaminated clothing and wash before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

ENVIRONMENTAL HAZARDS

This pesticide 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. 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 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 or 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 apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

PHYSICAL AND CHEMICAL HAZARDS

Do not use, pour, spill or store near heat or open flame.

DIRECTIONS FOR USE

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

Note: Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist.

STORAGE AND DISPOSAL

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

Pesticide Storage and Spill Procedures: Store upright at room temperature. Avoid exposure to extreme temperatures. In case of spill or leakage, soak up with an absorbent material such as sand, sawdust, earth, fuller's earth, etc. Dispose of with chemical waste.

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

Container Disposal: (Metal) Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or by other approved State and local procedures. (Plastic) Triple rinse or equivalent. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Container Disposal for Refillable Containers: Replace the dry disconnect cap, if applicable, and seal all openings which have been opened during use.

BULK STORAGE AND DISPOSAL

AGITATE BEFORE USE

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Storage: Ground water contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

Pesticide Disposal: Pesticide spray mixture or rinsate that cannot be used according to label instructions must be disposed of according to Federal and local procedures under Subtitle C or the Resource Conservation and Recovery Act.

CONDITIONS AND RATES TO USE FOR MOSQUITO CONTROL

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| | |
|--|------------------------------------|
| Alfalfa | Range Grasses |
| Almonds | Horseradish |
| Apples | Kiwifruit |
| Artichoke, globe | Leafy Vegetables (except Brassica) |
| Asparagus | Lettuce, head |
| Avocado | Mushrooms |
| Broccoli | Onion, dry bulb |
| Brussels Sprouts | Peaches |
| Cabbage | Pears |
| Celery Cauliflower | Pepper, bell |
| Cherries | Pistachio |
| Corn, fodder | Potato |
| Corn, forage | Soybeans |
| Corn, grain (field and pop) | Spinach |
| Corn, stover | Tomatoes |
| Corn, sweet kernel plus cob with husks removed | Vegetable, cucurbits |
| Eggplant | Walnuts |
| Filbert | Watercress |
| Garlic | |

In the treatment of corrals, feedlots, animal confinements/houses, swine lots, poultry ranges and zoos, cover any exposed drinking water, drinking fountains and animal feed before application. Do not contaminate non-approved sites with spray drift.

GROUND APPLICATION INSTRUCTIONS (Thermal and Non-Thermal Application)

DROPLET SIZE CALIBRATION FOR GROUND APPLICATION EQUIPMENT: Spray equipment must be adjusted so that the volume median diameter is less than 30 microns ($D_v 0.5 < 30 \mu m$) and that 90% of the spray is contained in droplets smaller than 48 microns ($D_v 0.9 < 48 \mu m$). Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a laser-based measurement instrument must be used to adjust equipment to 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.

Conditions and Rates to Use Kontrol 2-2 Undiluted for Mosquito Control

| Permethrin/PBO Lbs. A.I./Acre | Application Rates/Fluid Ounces To Use Per Minute | | | | Fl. Oz. Kontrol 2-2 per Acre |
|----------------------------------|---|-----------------|-----------------|-----------------|------------------------------------|
| | 5 mph | 10 mph | 15 mph | 20 mph | |
| 0.007/0.007 | 18.8 | Not Recommended | Not Recommended | Not Recommended | 6.2 |
| 0.0035/0.0035 | 9.4 | 18.8 | Not Recommended | Not Recommended | 3.1 |
| 0.00175/0.00175 | 4.7 | 9.4 | 14.1 | 18.9 | 1.6 |

ULV NON-THERMAL AEROSOL (COLD FOG) APPLICATION: To control mosquitoes, midges and black flies, apply **KONTROL 2 - 2** using any standard ULV ground applicator capable of producing a non-thermal aerosol spray. Apply the product undiluted at a flow rate of 4.7 to 18.8 fluid ounces per minute at an average vehicle speed of 5 mph. If different vehicle speed is used, adjust the rate accordingly. Vary flow rates accordingly to vegetation density and mosquito population. Use higher flow rates in heavy vegetation or when populations are high. An accurate flow control system must be used to ensure proper flow rate. May be applied at truck speeds of 5 to 20 mph.

THERMAL AEROSOL FOGGING

Truck Mounted: Apply undiluted with suitable Thermal Fogging equipment. Do not exceed the maximum a.i./acre rates. May be applied at speeds of 5 to 20 mph. For use with hand foggers, use the same a.i./acre rates. Do not wet foliage since the oil base formulation may be phytotoxic. Do not fog when wind conditions exceed 10 miles per hour. Use well maintained and properly calibrated fogger.

AS A BARRIER SPRAY USING A MISTER TYPE UNIT

For use in non-thermal equipment, apply **KONTROL 2 - 2** with a mist blower adjusted to deliver droplets with a volume median diameter of 50 – 120 μm . Use undiluted to achieve an application of 0.00175 / 0.00175 # a.i./acre. Use a 50 ft (15.2m) swath while walking at a speed of 2 mph (3.2 kph). If using a different speed, swath or dilution, do not exceed the maximum a.i./acre. When this product is applied as a barrier treatment, do not apply within 100 feet (30 meters) of lakes and streams.

AERIAL APPLICATION INSTRUCTIONS

The use of aircraft specially equipped and capable of applying **ULTRA LOW VOLUMES** of **KONTROL 2-2** may be necessary.

DROPLET SIZE CALIBRATION FOR AERIAL APPLICATION EQUIPMENT: 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.

Aerial application shall be made at altitudes ranging from 75 to 300 feet. Fixed wing aircraft with flat fan or rotary nozzles, or rotary wing aircraft equipped with rotary nozzles, apply at a sufficient airspeed to deliver the appropriate amount of a.i./acre (from 0.00175 to 0.007 # a.i./acre) and to achieve the appropriate droplet range. Apply only when ground wind speed is greater than 1 mph.

PROHIBITION FOR AERIAL USE: Not for aerial application in Florida unless specifically authorized by the Bureau of Entomology and Pest Control, Florida Department of Agriculture and Consumer Services.

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

BUYER GUARANTEE LIMITED TO LABEL CLAIMS

Univar USA, Inc.
11149 Research Blvd., Suite 260
Austin, TX 78759

EPA Registration No. 73748-3
EPA Establishment No. 53883-TX-002

What is piperonyl butoxide (PBO)?

Piperonyl butoxide (PBO) is a man-made pesticide [synergist](#). By itself, PBO is not designed to harm insects. Instead, it works with bug killers to increase their effectiveness. PBO is often combined with natural [pyrethrins](#) or man-made [pyrethroids](#). It has been used in pesticide products since the 1950s, when it was first registered in the United States.



photo credit: Andrew Magill, Wikimedia Commons

What are some products that contain piperonyl butoxide (PBO)?

There are more than 2,500 pesticide products that contain the active ingredient PBO. These include foggers, dusts, and sprays. Some of these products may be used inside and outside of homes. PBO is also used on agricultural crops and livestock. Other uses include [mosquito](#) control programs and [flea](#) and [tick](#) treatments for pets.

Some [head lice](#) products contain PBO and may be applied to humans as lotions or shampoos. The United States Food and Drug Administration regulates products used to control head lice on people. These products are not considered pesticides.

Always [follow label instructions](#) and take steps to minimize exposure. If any exposures occur, be sure to follow the First Aid instructions on the product label carefully. For additional treatment advice, contact the Poison Control Center at 1-800-222-1222. If you wish to [discuss a pesticide problem](#), please call 1-800-858-7378.

How does piperonyl butoxide (PBO) work?

PBO is not designed to kill insects by itself. Insects have enzymes in their bodies that break down some insecticides. PBO stops some of these enzymes and allows insecticides more time to work. This means insects are less likely to recover from the combination of PBO and certain [insecticides](#).

Early studies found that PBO greatly improved how well pyrethrins kill houseflies. PBO itself did not kill the flies. The combination of both allowed more control with smaller amounts of pyrethrins.

How might I be exposed to piperonyl butoxide (PBO)?

You may be exposed to PBO by breathing it, eating it, touching it, or getting it in your eyes. This can happen when applying sprays or dusts indoors or outdoors. Avoid touching wet surfaces or inhaling pesticide mist or dust. You may also be exposed if you eat, smoke, or use the bathroom without washing your hands after a pesticide application. PBO is also registered for use on both dogs and cats in flea and tick treatments. People may be exposed while treating their pets or if they touch a recently treated pet.

Very small amounts of PBO may be present as residue found on food. PBO is approved for use on many crops before harvest. It is exempt from [maximum residue limit](#) (tolerance) requirements. Some foods may be treated with PBO after harvest, including almonds, tomatoes, wheat, and animal meat.

What are some signs and symptoms from a brief exposure to piperonyl butoxide (PBO)?

It is rare for people to be exposed to PBO alone because it is always combined with at least one insecticide. PBO is low to very low in toxicity if eaten, inhaled, or touched. PBO is slightly irritating if it gets in the eyes or on skin. It does not produce skin allergies.

In one study, rats inhaled very large doses of PBO for four hours. Symptoms included tearing, drooling, runny nose, and difficulty breathing. In another study, rats were fed one large dose of PBO. Effects included lower appetite, unsteady balance, watery eyes, irritable behavior, coma, and death. Human volunteers were given a small dose of PBO to test effects on the liver. The PBO did not weaken their livers.

See [NPIC fact sheets](#) for signs and symptoms of exposure to other pesticides that may be mixed with PBO. Pesticide ingredients may include [pyrethrins](#) or [pyrethroids](#) such as [permethrin](#), [bifenthrin](#), [resmethrin](#), [deltamethrin](#), and [d-phenothrin](#).



photo credit: Andrew Magill, Wikimedia Commons

What happens to piperonyl butoxide (PBO) when it enters the body?

Once it enters the body, PBO is partly broken down and is removed from the body quickly. In one study, rats were given small or medium doses of PBO. Between 87% and 99% of the PBO left the body in urine and feces within 48 hours. When PBO was applied to the arms of human volunteers, about 2% of the applied dose was absorbed in 30 minutes.

PBO was applied on the skin of one goat and was fed to two others for five days. A very small amount of the original dose was found in the milk of all goats tested. Most of the dose that was fed to goats left the body within one day.

Laying hens were either fed PBO or had it applied to the skin for five days. Each day, increasing amounts of PBO were found in their eggs. The majority of the PBO left the body. However, PBO was found in the meat, fat, skin, and certain organs. The highest amounts of PBO were found in fat.

In human studies, the breakdown of one drug was not affected when volunteers ate a small dose of PBO.

Is piperonyl butoxide (PBO) likely to contribute to the development of [cancer](#)?

Laboratory studies have mixed results. Rats fed very high doses of PBO in their diet for almost two years had an increase in liver cancers. Mice fed high doses of PBO for one year also had an increase in liver tumors. Two other studies detected cancer-related effects in the intestines and thyroid glands in laboratory animals. However, increases in cancer were not detected in studies with rats and mice performed by the National Toxicology Program.

Based on these studies, the U.S. EPA has classified PBO as a possible human carcinogen. However, the Internal Agency for Research on Cancer (IARC) evaluated PBO and reported that it is "not classifiable as to its carcinogenicity to humans."

Has anyone studied non-cancer effects from long-term exposure to piperonyl butoxide (PBO)?

Yes. In one study, dogs were fed moderate to high doses of PBO every day for a year. At only the highest dose tested, animals had reduced weight gain and increased liver weights. In another study, rats were fed high to very high amounts of PBO for two years. Some animals had increased liver weights and other organ changes at the middle and highest doses. A mother goat and her breastfed young were fed a high dose of PBO almost every day for one year. No adverse outward effects were observed but certain changes to cells occurred in the adult goat's liver. No adverse health effects were seen in monkeys when given a moderate dose of PBO by mouth six days a week for four weeks.

In one study, pregnant rats were fed a single high to very high dose of PBO for two days. At the highest dose, pregnant rats gained less weight and lost more pregnancies than normal. At the highest two doses, some offspring weighed less than normal or had an unusual number of fingers and toes that were sometimes fused. In another study, rats were fed low to high doses of PBO for two generations to see if there were reproductive effects. Both adults and offspring had reduced weights at only the highest dose.

The EPA has evaluated PBO for its potential as an endocrine disruptor. Based on this evaluation, there was no convincing evidence of interaction with the estrogen, androgen, or thyroid pathways in mammals.

Are children more sensitive to piperonyl butoxide (PBO) than adults?

[Children may be especially sensitive to pesticides](#) compared to adults. The EPA has determined children are not more sensitive to PBO than adults. However, young children may act in ways that put them at greater risk of being exposed. For example, they may spend more time near the floor. They may also be more likely to place their hands in their mouths after touching treated surfaces or pets.



photo credit: mojpe, pixabay

What happens to piperonyl butoxide (PBO) in the environment?

PBO is quickly broken down in the presence of sunlight, with a [half-life](#) of 8.4 hours in water and 3.4 hours in air. In soil, sunlight and microbes can break down PBO. In shallow soil exposed to sunlight, half-lives ranged from 1-3 days. Without sunlight, the half-life increased to 14 days. Although the half-life in soil can be affected by many factors, a typical half-life for PBO is around 13 days.

PBO does not dissolve easily in water and may be more or less mobile depending on soil type. PBO can cling to soil types with more organic material. In one study, it had low to moderate mobility in sandy loam, clay loam, and silt loam soils, but was highly mobile in sandy soil. In another study, PBO did not leach through loam soils but did leach easily in sandy soils.

When applied to foliage, very little PBO moves to other parts of plant. Up to 5% of the applied dose was found in other plant tissues after it was applied to leaves of potato and cotton. When applied to growing lettuce, about three-quarters of the PBO on leaves broke down within 10 days.

Can piperonyl butoxide (PBO) affect birds, fish, or other [wildlife](#)?

PBO is practically non-toxic to birds and mammals. However, it is moderately toxic to freshwater and saltwater fish. PBO is moderately to highly toxic to aquatic invertebrates, such as water fleas and shrimp. At lower, long-term doses, water flea reproduction was affected. PBO is highly toxic to amphibians in the tadpole stage.



photo credit: fotoworkshop4You, pixabay

PBO is also practically non-toxic to bees by itself. However, PBO is often combined with insecticides that are toxic to bees. These may include insecticides like pyrethroids or natural pyrethrins.

Where can I get more information?

For more detailed information about piperonyl butoxide (PBO) please visit the list of [referenced resources](#) or call the National Pesticide Information Center, between 8:00 AM and 12:00 PM Pacific Time (11:00 AM to 3:00 PM Eastern Time), Monday - Friday, at 1-800-858-7378 or visit us on the web at npic.orst.edu. NPIC provides objective, science-based answers to questions about pesticides.

Date Reviewed: January 2017

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SPECIMEN LABEL

UPDATES AVAILABLE AT WWW.GREENBOOK.NET 1

Helena

Permethrin 3.2 EC

Insecticide

RESTRICTED USE PESTICIDE**Due to Toxicity to Fish and Aquatic Organisms**

For retail sale to and use only by Certified Applicators, or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification

| | |
|---------------------|-------|
| Active Ingredient | |
| Permethrin* | 36.8% |
| Other Ingredients** | 63.2% |

TOTAL 100.0%

* *cis/trans* ratio: Max. 42% (\pm) *cis* and min. 58% (\pm) *trans*

** Contains petroleum distillates.

Contains 3.2 pounds permethrin per gallon as an emulsifiable concentrate.

EPA Reg. No. 70506-9-5905

EPA Est. No. 53883-TX-002

Net Contents: 1 gallon, 30 gallons, 55 gallons

EPA Est. No. is indicated by the first letter of the batch number printed on this container:

A = 66196-CA-1

B = 37429-GA-02

SN

MANUFACTURED FOR
HELENA CHEMICAL COMPANY
225 SCHILLING BOULEVARD, SUITE 300
COLLIERVILLE, TENNESSEE 38017

KEEP OUT OF REACH OF CHILDREN**CAUTION****FIRST AID:**

| | |
|-------------------------------|--|
| IF SWALLOWED | <ul style="list-style-type: none"> • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not take anything by mouth to an unconscious person. |
| IF ON SKIN OR CLOTHING | <ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice. |
| IF IN EYES | <ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice. |
| IF INHALED | <ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible. • Call a poison control center or doctor for further treatment advice. |

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency medical assistance call the National Pesticide Information Center 1-800-858-7378.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300

NOTE TO PHYSICIAN: Contains petroleum distillates—vomiting may cause aspiration pneumonia

PRECAUTIONARY STATEMENTS**Hazards to Humans & Domestic Animals.**

CAUTION. Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. Do not allow people or pets on treated surfaces until the spray has dried. Do not touch treated surfaces until the spray has dried.

Environmental Hazards

This product is highly toxic to bees exposed to treatment and for 3 days following treatment. Do not apply this pesticide to blooming, pollen-shedding or nectar-producing parts of plants if bees may forage on the plants during this time period. The 3 day limitation does not apply if the applicator operates in a state with a formal, state-approved bee protection program, and the applicator follows all applicable requirements of the state-approved program designed to ensure that managed bees are not present in the treatment area during this time period.

This product is extremely toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas

below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

Physical/Chemical Hazards

Do not use or store near heat or open flame.

Personal Protection Equipment (PPE)

All pesticide handlers (mixers, loaders, and applicators) must wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves. After the product is diluted in accordance with label directions for use, and/or when mixing and loading using a closed spray tank transfer system such as U-Turn, or an in-line injector system, shirt, pants, socks, shoes, and waterproof gloves are sufficient.

Follow manufacturer's instruction for cleaning/maintaining PPE. If no such instructions are available for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations:

Users should:

- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Resistance: Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local agricultural advisor for the best alternative method of control for your area.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses on this product that are covered by Worker Protection Standard.

Do not enter or allow worker entry to treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is:

- Coveralls over long-sleeved shirt and long pants.
- Chemical-resistant gloves, such as barrier laminate or butyl rubber.
- Shoes plus socks.

Chemigation

Apply this product only through the following types of sprinkler irrigation: center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. For questions concerning calibration consult the equipment manufacturer or your local State Extension Service representative. A person knowledgeable of the chemigation system and responsible for its operation, or person under the supervision of the person responsible, shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and

connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment. **PERMETHRIN 3.2 EC** should be applied continuously for the duration of the water application. **PERMETHRIN 3.2 EC** should be diluted in sufficient volume to ensure accurate application of the area to be treated. When using chemigation, a minimum of 0.1 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable diluent is used. A diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

Commercial Impregnation and Application on Dry Bulk Fertilizers

PERMETHRIN 3.2 EC may be impregnated on dry bulk fertilizers. When applied as directed, **PERMETHRIN 3.2 EC** dry bulk fertilizer mixtures provide insect control equal to that provided by the same rates of **PERMETHRIN 3.2 EC** applied in water.

The **PERMETHRIN 3.2 EC** fertilizer mixtures may be surface applied or shallow incorporated. The higher rate should be used if incorporation is used.

Impregnation: Apply using a minimum of 200 pounds of dry bulk fertilizer per acre and up to a maximum of 450 pounds per acre with the recommended amount of **PERMETHRIN 3.2 EC** per acre. Use a closed rotary-drum mixer or a similar type of closed blender equipped with suitable spray equipment. The spray nozzle(s) should be in a position to provide a uniform, fine spray pattern over the tumbling fertilizer for thorough coverage. The physical properties of fertilizers vary particularly in liquid absorption capacity. When absorptivity is sufficient, simply spray impregnation of the fertilizer with **PERMETHRIN 3.2 EC** provides a satisfactory, dry mixture. If the absorptive capacity is inadequate, the use of a highly absorptive powder is required to provide a dry, flowable mixture. Microcel E (Johnson Manville Product Corporation) is a recommended absorbent powder. Generally less than 2% by weight of Microcel E is required. DO NOT impregnate **PERMETHRIN 3.2 EC** onto straight coated ammonium nitrate or straight limestone because these materials will not absorb the insecticide. Dry fertilizer blends containing mixtures of ammonium nitrate or limestone may be impregnated with **PERMETHRIN 3.2 EC**.

The amount of **PERMETHRIN 3.2 EC** actually required in the preparation of individual fertilizer mixtures should be determined carefully for each production operation. This is necessary to ensure that the amount of pesticide actually contained in the mixture applied to the soil represents the correct rate of use. Bulk fertilizer impregnated with **PERMETHRIN 3.2 EC** should be applied immediately, not stored.

All individual state regulations relating to bulk dry fertilizer blending, registration, labeling and application of the mixtures are the responsibility of the individual and/or company selling the fertilizer and **PERMETHRIN 3.2 EC** mixture.

GENERAL USE INFORMATION

Important:

PERMETHRIN 3.2 EC is toxic to fish. Exercise care when making applications near ponds, lakes, streams, reservoirs and other aquatic environments where fish are present.

For advice concerning current control practices with relation to specific local conditions, consult your local State Cooperative Extension or regulatory agencies.

PERMETHRIN 3.2 EC is formulated as an emulsifiable concentrate (EC) formulation and is to be diluted and applied as an emulsion. When tank mixing as an emulsion with other products, observe all precautions and limitations on the labels of each product in the mixture.

PERMETHRIN 3.2 EC can be tank-mixed with natural pyrethrin-containing products or Insect Growth Regulators (IGRs). Do not tank mix with dichlorvos (DDVP) or other fumigant products.

DIRECTIONS FOR APPLICATION

Unless otherwise directed by registered supplemental labeling, follow the Directions for Use in each crop group section.

PERMETHRIN 3.2 EC is a 3.2 pounds per gallon formulation of the insecticide permethrin. Apply **PERMETHRIN 3.2 EC** when insects appear or feeding is noticed. The higher rate should be used as pest populations increase. Repeat the application as necessary to maintain control. Use sufficient water to obtain full coverage. With the exception of crops listed below, rotational crops should not be planted within 60 days of last application.

This label must be in the possession of the user at the time of application.

RATE CONVERSION CHART

| POUNDS ACTIVE PER ACRE | FORMULATION OUNCES PER ACRE |
|------------------------|-----------------------------|
| 0.05 | 2.0 |
| 0.10 | 4.0 |
| 0.15 | 6.0 |

| POUNDS ACTIVE PER ACRE | FORMULATION OUNCES PER ACRE |
|------------------------|-----------------------------|
| 0.20 | 8.0 |
| 0.25 | 10.0 |
| 0.30 | 12.0 |
| 0.40 | 16.0 |

VEGETABLE CROPS

ARTICHOKE

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|-----------|------------------------------------|------------------------|---|
| Artichoke | Artichoke plume moth Leafminers | 4-12 (0.1-0.3) | Do not apply more than 5 applications or 1.5 pounds of active ingredient per acre per season. |

- Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of water per acre. Use sufficient water to obtain full coverage of foliage.
- Applications may be made up to harvest.

ASPARAGUS

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|-----------|--|------------------------|--|
| Asparagus | Asparagus beetle Cutworms | 2-4 (0.05-0.1) | Do not apply more than 0.4 pound of active ingredient per acre per season. |
| | Asparagus beetle Japanese beetle (Adult stage)* Lygus bugs Tarnished plant bug | 4 (0.1) | Post harvest application only. Apply to the fern stage of the asparagus plant after spear harvest when larval and adult stages are present. *Not for control of this insect in California |

- Apply by ground in a minimum of 10 gallons of water per acre. Use sufficient water to obtain full coverage of foliage.
- Do not apply within 1 day of harvest.

AVOCADO

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|---------|---|------------------------|--|
| Avocado | Avocado caterpillar Avocado lace bug Avocado leafhopper Avocado leafroller Avocado looper Avocado tree girdler Avocado whitefly Brown soft scale Mirids Omnivorous looper Orange tortrix Scale crawlers Spanworm Thrips Twig borers | 8 (0.2) | Do not apply more than 1.2 pounds of active ingredient per acre per season. Apply when insects first appear and repeat at 7 to 10 day intervals as needed to provide control. |

- Apply by ground equipment in 25-400 gallons of finished spray per acre.
- Do not graze livestock in treated areas.
- Do not feed cover crops from treated areas to livestock.
- Do not apply within 7 days of harvest.

COLE CROPS—Brassica Leafy Vegetables

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|--|------------------------|--|
| Broccoli, Chinese Broccoli (gai lon, white flowering broccoli), Brussels Sprouts; Cauliflower; Cavalo broccolo, Kohlrabi | Cabbage looper Armyworm spp. Imported cabbageworm Diamondback moth Plant bugs Thrips Cabbage aphid* | 2-4 (0.05-0.1) | Apply every 5 days as needed. Do not apply more than 0.8 pound of active ingredient per acre per season. |
| Cabbage, Chinese Cabbage (napa, tight-headed varieties only) | Cabbage looper Imported cabbageworm Diamondback moth Southern white butterfly Cabbage aphid* | 2-8 (0.05-0.2) | Apply every 5-10 days or as needed. Do not apply more than 1.0 pound of active ingredient per acre per season. |

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|---|------------------------------|---------|
| | Armyworm spp. Cutworms Flea beetles | 4-8 (0.1-0.2) | |
| <ul style="list-style-type: none"> Apply by air or ground equipment, except for collards (ground application only). By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of water per acre. Use sufficient water to obtain full coverage of foliage. Do not apply within 1 day of harvest. | | | |
| * Aids in the suppression only | | | |

COLLARDS and TURNIPS

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|---|--|------------------------------|---|
| Collards (AR, AZ, GA, IL, NC, OK, SC, and TX only) | Beet armyworm Cabbage looper Corn earworm Cutworms Diamond back moth European corn borer Fall armyworm Green cloverworm Imported cabbageworm Leafhoppers Leafminer Southern armyworm Southern white butterfly Tobacco budworm Vegetable leafminer Aphids* | 2-4 (0.05-0.1) | Apply with ground equipment only. Apply as needed. Do not exceed 8 applications. AR, TX: Do not apply more than 0.8 pound of active ingredient per acre per season. |
| Turnips (FL, GA, IL, IN, OK, SC, TX, and WA only) | Beet armyworm Cabbage looper Corn earworm Cutworms Diamond back moth European corn borer Fall armyworm Green cloverworm Imported cabbageworm Leafhoppers Leafminer Southern armyworm Southern white butterfly Tobacco budworm Vegetable leafminer Aphids* | 2-4 (0.05-0.1) | Apply with ground equipment only. Apply as needed. Do not exceed 8 applications. Do not graze treated areas or feed crop refuse to livestock. TX, IN: Do not apply more than 0.8 pound of active ingredient per acre per season. SC, GA, FL, WA: Do not apply more than 0.4 pound of active ingredient per acre per season. |
| <ul style="list-style-type: none"> Apply in a minimum of 10 gallons of water per acre. Use sufficient water to obtain full coverage of foliage. Do not apply within 1 day of harvest. | | | |
| * Aids in the suppression only | | | |

CORN, SWEET

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|---|---|------------------------------|---|
| Corn, Sweet | Corn earworm Corn rootworm beetles* Cutworms European corn borer Fall armyworm Flea beetle Hop vine borer Leafhoppers Southern armyworm Stalk borers | 4-8 (0.1-0.2) | Do not apply more than 1.2 pounds of active ingredient per acre per season. Apply every 3 to 5 days or as needed. *Pest does not occur on this crop in California |
| <ul style="list-style-type: none"> Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of water per acre. Use sufficient water to obtain full coverage of foliage. Do not apply within 1 day of harvest. | | | |

CORN, SWEET (FLORIDA ONLY)

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|---|--|------------------------------|--|
| Corn, Sweet | Aster leafhopper Corn earworm Cutworm European corn borer Fall armyworm Southern armyworm | 4-10 (0.1-0.25) | Do not apply more than 2.0 pounds of active ingredient per acre per season. Apply every 3 to 5 days or as needed. |
| <ul style="list-style-type: none"> Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of water per acre. Use sufficient water to obtain full coverage of foliage. Do not apply within 1 day of harvest. | | | |

CUCURBIT VEGETABLES

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|---|------------------------------------|---|
| Cucurbit vegetables* | Aphids Leafminers Squash bugs Cabbage looper Cucumber beetle (adult) Cutworms Leafhoppers Melonworm Pickleworm Plant bugs (including Lygus and Stink bugs) Rindworms Squash vine borer | 8 (0.2) 4-8 (0.1-0.2) | Do not apply more than 1.6 pounds of active ingredient per acre per season. |
| <ul style="list-style-type: none"> Apply by air or ground equipment. By air, apply in a minimum of 4 gallons of water per acre. By ground, apply in a minimum of 20 gallons of water per acre. Use sufficient water to obtain full coverage of foliage. Applications may be made up to harvest. | | | |
| * Cucurbit vegetables include: Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon , Cucumber , Gherkin , Gourd (edible) (includes hyotan, cucuzza), Luffa spp. (includes hechima, Chinese okra), Momordica spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (hybrids and/or cultivars of Cucumis melo, including true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon), Pumpkin ; Summer Squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter Squash (includes butternut squash, calabaza, Hubbard squash, C. mixta, C. pepo, acorn squash, spaghetti squash), Watermelon (includes hybrids and/or varieties of Citrullus spp.) | | | |

EGGPLANT

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|---|------------------------------|---|
| Eggplant | Colorado potato beetle | 8 (0.2) | Do not apply more than 2.0 pounds of active ingredient per acre per season. |
| | Cabbage looper Flea beetles Vegetable leafminer | 4-8 (0.1-0.2) | Apply as needed, using sufficient water to obtain uniform coverage. |
| <ul style="list-style-type: none"> Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of water per acre. Use sufficient water to obtain full coverage of foliage. Do not apply within 3 days of harvest. | | | |

HORSERADISH

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|-------------|--|---|--|
| Horseradish | Imported crucifer weevil (Baris lepidii) | 0.1% active solution (2 pt, 1 oz per 100 gallons) | As a spring preplant dip, soak sets for 30 minutes and air-dry before planting. |
| | | 8 (0.2) | For foliar application, apply with ground equipment in a minimum spray volume of 20 gallons finished spray per acre. Make up to 3 foliar applications as needed to control weevil adults during oviposition. |

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|---|--------------|------------------------------|---------|
| <ul style="list-style-type: none"> Do not apply within 30 days of harvest. | | | |

LEAFY VEGETABLES (except Brassica)

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|---|------------------------------|---|
| Leafy vegetables* | Aphids Beet armyworm Corn earworm Cutworms European corn borer Fall armyworm Green cloverworm Leafminers Southern armyworm Tobacco budworm | 4-8 (0.1-0.2) | Apply every 3-5 days or as needed. Do not apply more than 2.0 pounds of active ingredient per acre per season. For Spinach, do not apply more than 1.0 pound of active ingredient per acre per season. |
| | Alfalfa looper Cabbage looper Leafhoppers | 2-8 (0.05-0.2) | |
| <ul style="list-style-type: none"> Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of water per acre. Use sufficient water to obtain full coverage of foliage. Do not apply within 1 day of harvest. | | | |
| <p>* Leafy vegetables: Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (Rocket), Cardoon, Celery, Chinese celery, Celtuce, Chervil, Chrysanthemum (edible-leaved and garland), Corn salad, Garden Cress, Upland Cress (yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Florence fennel (finocchio), Head and Leaf Lettuce, Orach, Parsley, Garden Purslane, Winter Purslane, Radicchio (red chicory), Rhubarb, Swiss chard, Spinach (including New Zealand and vine, Malabar spinach, Indian spinach).</p> | | | |

ONIONS, BULB and GARLIC

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|---|--|------------------------------|---|
| Onion, bulb Garlic | Armyworms Onion thrips | 6-12 (0.15-0.3) | Begin applications when pest appear and repeat as necessary to maintain control. Use the higher label rates as onion thrips population increases and avoid rescue situations. |
| | Cutworms Leafminers Onion maggots (adults) Stink bugs | 4-12 (0.1-0.3) | Do not apply more than 2.0 pounds active ingredient per acre per season. |
| <ul style="list-style-type: none"> Apply by air or ground equipment. By air, apply in a minimum of 5 gallons of water per acre. By ground, apply in a minimum of 20 gallons of water per acre. Use sufficient water to obtain full coverage of foliage. Do not apply within 1 day of harvest. | | | |

PEPPERS, BELL

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|---|------------------------------|---|
| Peppers, bell | Cabbage looper Corn earworm Cutworms Flea beetle Pepper weevil Vegetable leafminer | 4-8 (0.1-0.2) | Do not apply more than 1.6 pounds of active ingredient per acre per season. |
| | European corn borer | 8 (0.2) | |
| <ul style="list-style-type: none"> Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of water per acre. Use sufficient water to obtain full coverage of foliage. Do not apply within 3 days of harvest. | | | |

POTATOES

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|--|------------------------------|---|
| Potatoes | Aster leafhopper Beet armyworm Cabbage looper Colorado potato beetle Cutworms European corn borer Potato aphid Potato flea beetle Potato leafhopper Potato psyllid Potato tuberworm Tarnished plant bug | 4-8 (0.1-0.2) | Do not apply more than 1.6 pounds of active ingredient per acre per season. |
| <ul style="list-style-type: none"> Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of water per acre. Use sufficient water to obtain full coverage of foliage. PERMETHRIN 3.2 EC also may be applied using refined non-volatile vegetable oil for control of listed pests. PERMETHRIN 3.2 EC should be diluted with oil and applied in a minimum of one quart total volume per acre using equipment calibrated to give adequate coverage. Use sufficient spray volume to obtain full coverage. Do not apply within 14 days of harvest. | | | |

TOMATOES, TOMATILLOS

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|--|------------------------------|---|
| Tomatoes Tomatillos | Beet armyworm Cabbage looper Colorado potato beetle Granulate cutworm Hornworms Southern armyworm Tomato fruitworm Tomato pinworm Vegetable leafminers | 2-8 (0.05-0.2) | Do not apply more than 1.2 pounds of active ingredient per acre per season. Do not apply to cherry tomatoes or other varieties which produce fruit less than one inch in diameter. |
| <ul style="list-style-type: none"> Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of water per acre. Use sufficient water to obtain full coverage of foliage. May be applied up until harvest. | | | |

TREE FRUIT AND NUTS

ALMONDS

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|--------------------------------------|------------------------------|---|
| Almonds | Navel orangeworm Peach twig borer | 8-16 (0.2-0.4) | Apply when insects appear and repeat as required to maintain control. Apply by air or ground equipment. By air, apply in a minimum of 15 gallons of water per acre. By ground, apply in 25-400 gallons of finished spray per acre. |
| | Ants | 16 (0.4) | Apply by ground equipment only in a minimum of 15 gallons of water per acre. Application should follow mowing of weed growth to ensure maximum coverage of the soil surface. Overhead moisture following application will enhance activity. |
| <ul style="list-style-type: none"> Do not apply more than 0.8 pound of active ingredient per acre during hull split. Do not apply more than 2.0 pounds of active ingredient per acre per season. Do not graze livestock in treated areas. Do not feed cover crops from treated areas to livestock. Do not apply within 7 days of harvest. | | | |

APPLES

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--------|---|------------------------------|---|
| Apples | Green fruitworm Oblique banded leafroller Plum curculio Redbanded leafroller Rosy apple aphid Spotted tentiform leafminer Tarnished plant bug White apple leafhopper | 4-16 (0.1-0.4) | Do not apply more than 0.6 pound of active ingredient per acre per season. Apply when insects appear and repeat as required to maintain control. Do not graze livestock in treated areas. Do not feed cover crops from treated areas to livestock. |

- Apply by ground equipment only. Apply in 25-400 gallons of finished spray per acre.
- Do not apply after petal fall.

CHERRIES

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|---|------------------------------|---|
| Cherries (includes Sweet Cherries and Tart Cherries) | Green fruitworm Lesser peach tree borer Plum curculio Redbanded leafroller Rose chafer Tarnished plant bug | 4-8 (0.1-0.2) | Apply when insects first appear. East of the Rockies: Do not exceed 6 applications per season, with no more than 4 applications after petal fall. West of the Rockies: Do not apply more than 4 applications per season, with no more than 3 applications after petal fall. |

- Apply by ground equipment only. Apply in 25-400 gallons of finished spray per acre.
- Do not graze livestock in treated areas.
- Do not feed cover crops from treated areas to livestock.
- Do not apply within 3 days of harvest.

FILBERTS

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|----------|--|------------------------------|--|
| Filberts | Filbertworm Oblique banded leafroller | 8-16 (0.2-0.4) | Do not apply more than 1.6 pounds of active ingredient per acre per season. Apply when insects appear. Do not graze livestock in treated areas. Do not feed cover crops from treated areas to livestock. |

- Apply by air or ground equipment. By air, apply in a minimum of 10 gallons of water per acre. By ground, apply in 25-400 gallons of finished spray per acre.
- Do not apply within 14 days of harvest.

PAPAYA (Florida Only)

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--------|---|------------------------------|--|
| Papaya | Aphids Brown soft scale Mealybug Papaya fruit fly Papaya webworm Papaya whitefly Scale crawlers | 8 (0.2) | Do not apply more than 1.2 pounds of active ingredient per acre per season. Spray to wet all foliage. Apply when insects first appear and repeat at 7-10 day intervals as needed to provide control. Do not graze livestock in treated areas. Do not feed cover crops from treated areas to livestock. |

- Apply by ground equipment only. Apply in 25-400 gallons of finished spray per acre.
- Do not apply within 7 days of harvest.

PEACHES and NECTARINES

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|-----------------------|--|------------------------------|---|
| Peaches Nectarines | Green fruitworm Lesser peach tree borer Oriental fruit moth Peach twig borer Plum curculio Rose chafer Tarnished plant bug | 4-12 (0.1-0.3) | Do not apply more than 1.5 pounds of active ingredient per acre per season. Spray to wet all foliage. Do not graze livestock in treated areas. Do not feed cover crops from treated areas to livestock. |

- Apply by air or ground equipment. By air, apply in a minimum of 10 gallons of water per acre. By ground, apply in 25-400 gallons of finished spray per acre.
- Do not apply within 14 days of harvest.

PISTACHIOS

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|------------|---|------------------------------|--|
| Pistachios | Leaffooted bugs Naval orangeworm Peach twig borer Plant bugs Stink bugs | 8-16 (0.2-0.4) | Use sufficient water to obtain full coverage of foliage. |
| | Ants | 16 (0.4) | Application should follow mowing of weed growth to ensure maximum coverage of the soil surface. Overhead moisture following application will enhance activity. |

- Apply by air or ground equipment. By air, apply in a minimum of 10 gallons of water per acre. By ground, apply in 25-400 gallons of finished spray per acre.
- Do not apply after 10 percent hull split.
- Do not apply more than 1.6 pounds of active ingredient per acre per season.
- Do not graze livestock in treated areas.
- Do not feed cover crops from treated areas to livestock.
- May be applied up until harvest.

PEARS

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|---|--|------------------------------|---|
| Pears (Dormant through Delayed Dormant) | Pear psylla | 8-16 (0.2-0.4) | Do not apply more than 0.8 pound of active ingredient per acre per season. May be combined with 2 to 8 gallons of spray oil per acre. Apply during the dormant through delayed dormant growth periods only. |
| Pears (Pre-Bloom) | Codling moth Green fruitworm Pear psylla | 8-16 (0.2-0.4) | Do not apply more than 0.8 pound of active ingredient per acre per season. Pre-bloom sprays can be applied from dormant through bud burst stages. |

- Apply by air or ground equipment. By air, apply in a minimum of 10 gallons of water per acre. By ground, apply in 25-400 gallons of finished spray per acre. Use sufficient water to obtain uniform coverage.
- Do not graze livestock in treated areas.
- Do not feed cover crops from treated areas to livestock.

WALNUTS

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|---------|---|------------------------------|--|
| Walnuts | Codling moth Navel orangeworm Walnut husk fly | 8-16 (0.2-0.4) | Do not apply more than 1.6 pounds of active ingredient per acre per season. Apply when insects appear. Do not graze livestock in treated areas. Do not feed cover crops from treated areas to livestock. |

- Apply by air or ground equipment. By air, apply in a minimum of 10 gallons of water per acre. By ground, apply in 25-400 gallons of finished spray per acre. Use sufficient water to obtain uniform coverage.
- Do not apply within 1 day of harvest.

OTHER CROPS

ALFALFA

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|--|------------------------|--|
| Alfalfa Alfalfa grown for seed (Includes lucerne, sainfoin, holy clover, esparcet, birdsfoot trefoil and varieties and/or hybrids of these) | Alfalfa caterpillar Armyworms Blue alfalfa aphid Cutworms Green cloverworm Green peach aphid Loopers Pea aphid Spotted alfalfa aphid Velvetbean caterpillar Webworms | 2-8 (0.05-0.2) | Do not apply more than 0.2 pound of active ingredient per cutting. Use higher recommended dosage for increased pest pressure or for increased residual pest control. Avoid application when bees are actively foraging by applying during the early morning or during the evening hours. |
| | Alfalfa weevil Cucumber beetle Egyptian alfalfa weevil Meadow spittlebug Plant bugs (including <i>Lygus</i> spp.) Potato leafhopper Stink bugs | 4-8 (0.1-0.2) | |
| <ul style="list-style-type: none"> Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of water per acre. Use higher gallonage. 5-10 gallons by air or 20 by ground, of finished spray per acre when foliage is dense and/or when pest populations are high. May be applied up until harvest when rates of 0.1 pound per active per acre or less are used. When rates greater than 0.1 pound active per acre are used, do not apply within 14 days of harvest. Apply only to fields planted to pure stands of alfalfa. | | | |

CORN (FIELD), FIELD CORN GROWN FOR SEED, POPCORN

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|---|--|---|
| Field Corn, Field corn grown for seed, Popcorn (Pre-emergent Use) | Armyworm Cutworm Stalk borers | 4-8 (0.1-0.2) as a broadcast spray OR 0.3-0.6 oz per 1000 linear feet row (based on a 4" band and 40" row spacing) | May be applied as a preplant incorporated, pre-emergence, or at planting time application. Apply in the time period from 5 days prior to planting up to emergence of the crop. Apply as a broadcast spray by ground or air or 4-15 inch band using sufficient spray volume to achieve adequate coverage. Linear row calculations should be used proportional to the standard Band Width/Row Width formula to adjust rates for different band widths or row spacings. Use higher rates of PERMETHRIN 3.2 EC when incorporating into the soil without exceeding the recommended dosage. When using tank mixes, observe all restrictions and precautions which appear on the labels of these products. Provide constant agitation during mixing and application to keep the mixture in solution. |
| Field Corn, Field Corn Grown for Seed, Popcorn (Foliar Use) | Armyworm (including Fall Armyworm) Corn borer European, Southwestern Corn earworm Corn rootworm beetles Cutworm Flea beetle Hop vine borer Stalk borers Webworms | 4-8 (0.1-0.2) | Do not apply more than 0.6 pound of active ingredient per acre per season. Do not make treatments less than 6 days apart. When treating for stalk borers, PERMETHRIN 3.2 EC must be applied when or shortly before the stalk borer larvae are moving into the corn from surrounding weeds and grasses. Mowing or burndown herbicide is suggested to initiate movement. For control of corn earworm, apply just before silking and continue as necessary to maintain control. |

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|---|----------------------|------------------------|---------|
| | Western bean cutworm | 2-4 (0.05-0.1) | |
| <ul style="list-style-type: none"> Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of water per acre. Use sufficient water to obtain full coverage of foliage. Do not apply within 30 days of harvest of grain or fodder (stover). Forage may be harvested on the day of application. | | | |

CORN (FIELD), FIELD CORN GROWN FOR SEED, POPCORN

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|---|------------------------------------|--|
| Field Corn, Field corn grown for seed, Popcorn (At Plant Use) | Armyworm Cutworm Seed corn maggot* Wireworm* | 0.3 oz per 1000 linear feet of row | Apply as an in furrow, band or T-band treatment using a minimum 4" band. Use table below to determine the PERMETHRIN 3.2 EC needs for each acre. * Not for use in California |
| Row Spacings (inches) | | 4.0 oz/A | 6.0 oz/A 8.0 oz/A |
| PERMETHRIN 3.2 EC (ounces per acre) | | 4.0 | 6.0 8.0 |
| PERMETHRIN 3.2 EC (pounds ai per acre) | | 0.10 | 0.15 0.20 |

MUSHROOMS (Mushroom Houses and Adjacent Premise Areas)

| CROP | TARGET PESTS | RATE OZ (LBS AI) | REMARKS |
|--|---|------------------------|---|
| Mushrooms (Mushroom houses and adjacent premise areas) | Mushroom flies (Sciariid and Phorid adults) | 2-2.5 (0.05-0.0625) | Preparation of the building prior to fogging: (1) Close all doors, windows, and ventilators, (2) Lock or barricade all entrances, turn off pilot lights, post warning signs, and take precautions to prevent persons and animals from entering the area. Use prior to filling the house, during cool-down, during spawning, up to pinning, and between breaks. Do not use when mushrooms are present. Treat once daily as needed when flies appear. Do not make more than 20 applications prior to pinning of first break; apply no more than two applications between each break. Do not apply more than 30 applications total per crop of 5 breaks. Length of exposure time should be limited to 1 hour; then ventilate the house. Use fans to ventilate in houses that do not have forced air circulation. Wear a respirator with either an organic vapor-removing cartridge with a pre-filter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G). |
| <ul style="list-style-type: none"> Apply in 30 ounces of water or suitable diluent. Use 1 quart of solution per standard double house (35,000 cu. ft.: 8000 sq. ft.). Apply as a fogging or aerosol treatment. Do not apply within 3 days of harvest. | | | |

RANGE GRASS (New Mexico Only)

| CROP | TARGET PESTS | RATE FL OZ/A (LBS A/A) | REMARKS |
|--|-------------------|------------------------|--|
| Range Grass (New Mexico only) | Range caterpillar | 0.4 (0.1) | Apply as needed. Do not apply more than once per year. Cattle may be present during application. |
| <ul style="list-style-type: none"> Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of finished spray per acre. Use sufficient volume to obtain uniform coverage. Do not harvest or feed hay to livestock. | | | |

SOYBEANS

| CROP | TARGET PESTS | RATE FL OZ/A (LBS AI/A) | REMARKS |
|----------|---|-------------------------------|--|
| Soybeans | Bean leaf beetle Cabbage looper Corn rootworm beetle Cutworms Flea beetle Green cloverworm Japanese beetle Mexican bean beetle Potato leafhopper Saltmarsh caterpillar (Woollybear caterpillar) Thistle caterpillar Velvetbean caterpillar | 2-4 (0.05-0.1) | Do not apply more than 0.4 pound of active ingredient per acre per season. Do not graze treated areas or feed soybean forage or hay. |
| | Beet armyworm Corn earworm Soybean looper Webworms | 4-8 (0.1-0.2) | |

- Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of water per acre.
- **PERMETHRIN 3.2 EC** may also be applied using refined non-volatile vegetable oil for control of listed pests. **PERMETHRIN 3.2 EC** should be diluted with oil and applied in a minimum of 1 quart total volume per acre using equipment calibrated to give adequate coverage. When applying in water by aircraft, 1 quart of oil may be substituted for 1 quart of water per gallon of finished spray.
- Do not apply within 60 days of harvest.

ORNAMENTALS

CHRYSANTHEMUMS

| CROP | TARGET PESTS | RATE OZ (LBS AI) | REMARKS |
|----------------|---------------------------|--|---|
| Chrysanthemums | Liriomyza leafminer flies | 20 (0.5) per 100 gallons of water (1 teaspoon per gallon) | Avoid spraying the blooms. May be applied on a weekly schedule. |

- Caution: **PERMETHRIN 3.2 EC** has demonstrated excellent plant safety; however, not all cultivars have been tested. Before treating large numbers of plants of a particular cultivar, treat a few plants and observe prior to full scale application.

CONIFERS (Container and Field Grown)

| CROP | TARGET PESTS | RATE FL OZ/A (LBS AI/A) | REMARKS |
|--------------------------------------|-------------------------|-------------------------------|---|
| Conifers (container and field grown) | Nantucket pine tip moth | 4-8 (0.1-0.2) | Begin application when the adults appear and repeat at 5 to 7 day intervals or as needed throughout the season. |

- **PERMETHRIN 3.2 EC** may be diluted in a non-volatile vegetable oil or water in a minimum of 1 gallon of finished spray per acre using equipment calibrated to give adequate coverage.

ORNAMENTAL NURSERY STOCK (Field Grown)

| CROP | TARGET PESTS | RATE OZ (LBS AI) | REMARKS |
|--|--|--|---|
| Ornamental nursery stock (field grown) | Bagworm Beet armyworm Cabbage looper Citrus thrips Lace bug Leafhoppers Leafminers Whiteflies | 4-8 (0.1-0.2) per 100 gallons of water | PERM-UP 3.2 EC may be used to control specified pests on non-edible ornamentals and non-bearing plants of fruiting species. |

- Caution: Marginal leaf burn may occur on Salvia, Dieffenbachia and Pteris Fern. Application to blooming plants may cause browning of petals.
- **PERMETHRIN 3.2 EC** has demonstrated excellent plant safety; however, not all species and cultivars have been tested. Before treating large numbers of plants of a particular variety, treat a few plants and observe prior to full scale application.

PINE SEED ORCHARDS

| CROP | TARGET PESTS | RATE OZ | REMARKS |
|--------------------|------------------------|--|---|
| Pine seed orchards | Coneworms Seed bugs | 8 in 100 gallons of water (0.025% dilution by weight) | For high volume sprayers, apply 5 to 10 gallons of finished spray per tree. |
| | | 42 in 100 gallons of water (0.125% dilution by weight) | For low volume sprayers, apply 100 gallons per tree. |
| | | 30 per acre | For aerial application, use in not less than 10 gallons of water. |

To control webbing coneworm—make first application within 1 week of female flower closure or peak pollen flight.
To control other coneworms and seed bugs—make first application within 30 days following female flower closure.
Repeat applications at 4 week intervals, but do not apply more than 6 applications.

- Do not graze livestock in treated areas.
- Do not feed cover crops from treated areas to livestock.
- Avoid contact with open water.

ROSES (Field Grown)

| CROP | TARGET PESTS | RATE FL OZ/A (LBS AI/A) | REMARKS |
|---------------------|----------------|-------------------------------|---------|
| Roses (field grown) | Heliothis spp. | 4-8 (0.1-0.2) | |

- Apply by air or ground equipment. By air, apply in a minimum of 2 gallons of water per acre. By ground, apply in a minimum of 10 gallons of finished spray per acre.

ROSES (Greenhouse)

| CROP | TARGET PESTS | RATE OZ (LBS AI) | REMARKS |
|--------------------|--|--|---------|
| Roses (greenhouse) | Beet armyworm Cabbage looper Omnivorous leafroller | 8 (0.2) per 100 gallons of water | |

- **PERMETHRIN 3.2 EC** is not phytotoxic to the following varieties of greenhouse roses: Ballena, Bettina, Cara Mia, Coquette, Excitement, Forever Yours, G. Wave, Jack Frost, Jr. Bridesmaid, Matador, Paul's Pink, Samantha, Seventeen, Sonia, Town Crier, Tropicana and Visa. Other varieties may vary in their sensitivity to **PERMETHRIN 3.2 EC**, and a small number of plants should be treated under local conditions to determine plant safety prior to commercial use.

LAWN AND ORNAMENTAL USES

(Including Field and Container Grown Nursery Stock, Greenhouses, Interiorscapes and Landscapes, Lawns, Trees, and Shrubs)

PERMETHRIN 3.2 EC may be used to control insect pests on ornamentals and lawns in landscaped areas around residential, institutional, public, commercial and industrial buildings, parks, recreational areas and athletic fields.

| PLANT | PEST | TREATMENT RATE | SPECIFIC APPLICATION INSTRUCTIONS |
|---|--|--|--|
| Ornamental Plants, foliage and flowering plants, evergreens, woody and herbaceous non-edible ornamentals and nonbearing plants of fruiting species in landscaped areas around industrial, residential and commercial buildings, non-crop areas, nurseries and greenhouses; and, for treatment of plants intended for aesthetic purposes in interior gardens and landscapes. | Ants Aphids Bagworm Beet Armyworm Birch Leafminer Cabbage Looper Cankerworms Citrus Thrips Coneworms* Fungus Gnat Gypsy Moth Caterpillars Heliothis spp Japanese Beetles Lace Bug Leaf Feeding Caterpillars Leafhoppers Leafminers Leaf rollers Lygus Bugs Mealybugs Nantucket Pine Tip Moth* Pine Sawflies Plant Bugs Root Weevils (Adult) Seed bugs* Tent Caterpillars Webworms Whiteflies Zimmerman Pine Moth | 4 to 8 Fluid Ounces Per 100 gallons — or — Broadcast 4 to 8 Fluid Ounces Per Acre | Apply sufficient volume of water to adequately cover foliage. Use higher rate for moderate to high infestations. Direct application to blooms may cause browning of petals. Marginal leaf burn may occur on Salvia, Dieffenbachia and Pteris Fern. *For control of coneworms, Nantucket pine tip moth and seed bugs in evergreens: Begin application when adults appear. Repeat applications may be made on 5-7 day intervals as needed. To control Webbing Coneworms make first application just prior to peak pollen flight. To control other Coneworms and Seed Bugs, make application 30 days following flower closure. Mix 8 oz. in 100 gals. of water and apply 5 to 10 gals. of spray per tree. |
| | Ornamental Trees | Clearwing moth borers: Ash borer, Banded Ash Clearwing, Dogwood borer, Lesser peachtree borer, Lilac borer, Oak borer, Peachtree borer, Rhododendron borer Bark Beetles: Dendroctonus spp., Ips spp., Elm bark beetles, Mountain pine beetle, Pine engravers, Turpentine beetles, Western pine beetle Coleopteran borers: Bronze birch borer, Flatheaded apple tree borer | 1 to 2 Quarts per 100 gallons 2 to 5 Quarts per 100 gallons |

| PLANT | PEST | TREATMENT RATE | SPECIFIC APPLICATION INSTRUCTIONS |
|---|--|--|---|
| Lawns (around residential, commercial, industrial, institutional, and public buildings, parks, recreational areas, and athletic fields) and grass nurseries | Chinchbugs Pillbugs Sod Webworm Ants Ant Mounds Armyworm Fire Ants Centipedes Crickets Mole Crickets Earwigs Firebrats Fleas ¹ Ground beetles Millipedes Scorpions Silverfish Sowbugs Spiders | 0.4 to 0.8 Fluid Ounces per 1000 Square Feet | Apply using 4-25 gallons of spray volume. Use higher rate for moderate to high infestations. Do not apply more than 2.0 lb ai/Acre/Year ¹ Fleas: Mix 0.4-0.8 fl. oz. of PERMETHRIN 3.2 EC in 4 to 25 gallons of water per 1000 square feet. Use the higher rate for fast knockdown and increased residual control. Dense or excessive (greater than 3 inches) lawn height and arid conditions may require higher volume application rates. Repeat application if necessary. Application in combination with compatible surfactants or wetting agents may enhance penetration. |

OTHER USES

PREMISES SPRAY (For Agricultural Use Only)

| SITE | TARGET PESTS | DILUTE | REMARKS |
|---|--|---|--|
| For Application In: Dairies, Barns, Feedlots, Stables, Poultry houses, Swine and Livestock houses | House flies, Stable flies and other manure breeding flies Also aids in the reduction of Cockroaches, Mosquitoes and Spiders | 4 to 12.5 gallons of water Apply by sprayer at 1 gallon per 750 sq. ft. of space | Spray directly to walls and ceiling as residual surface treatment only. Re-treat as necessary, but not more often than once every 2 weeks. Do not treat manure or litter. |

- The use of any residual fly spray should be supplemental with proper manure management and general sanitation to reduce or eliminate fly breeding sites.
- Do not apply directly to livestock or poultry.
- Avoid contamination of feed and water.

TREATMENT OF PRECONSTRUCTION LUMBER AND LOGS

General Information

PERM-UP 3.2 EC should be diluted. To prepare the spray, dilute PERM-UP 3.2 EC as shown in the following spray dilution chart:

| GALLONS OF SPRAY MIXTURE DESIRED | GALLONS OF PERMETHRIN 3.2 EC FOR 0.5% SOLUTION | GALLONS OF PERMETHRIN 3.2 EC FOR 0.75% SOLUTION | GALLONS OF PERMETHRIN 3.2 EC FOR 1.0% SOLUTION |
|----------------------------------|--|---|--|
| 40 | 1/2 | 3/4 | 1 |
| 80 | 1 | 1 1/2 | 2 |
| 200 | 2 1/2 | 3 3/4 | 5 |
| 400 | 5 | 7 1/2 | 10 |
| 800 | 10 | 15 | 20 |

Directions for Application

To protect unseasoned lumber and logs from wood destroying insects, such as Termites, Carpenter Ants and Beetles (Ambrosia, Powder-post, Old house borers and others), totally treat wood with a 0.5% to 1.0% solution of PERMETHRIN 3.2 EC. This solution can be applied by various methods including spraying, brushing, dipping, and pressure treatment. Frequent monitoring of dip and pressure systems are necessary to insure that the desired level of PERMETHRIN 3.2 EC is maintained. Wood can be handled after treatment when dry.

1. For dip treatments, the wood should be totally submersed in the solution until thoroughly wet and then allowed to dry in a suitable location. Dipping solutions to which PERMETHRIN 3.2 EC has been added should be agitated before use if left unused for long periods of time. Sediment, debris and other deposits should be periodically cleaned from the tank.
2. For pressure treatments the wood should be placed in the treatment chamber, the PERMETHRIN 3.2 EC solution added and the system pressurized up to 250 psi for up to one hour depending on the density and type of wood treated. After the pressure is released and the system drained, the wood should be placed in a suitable location for drying.

3. For spray treatments, the wood should be sprayed thoroughly including back and ends.
4. For brush treatments, all parts of wood surfaces should be thoroughly treated.

STORAGE AND DISPOSAL

Pesticide Storage

Store at temperatures above 40°F (5°C).

If feasible, shake container well before using. If crystals form, warm to room temperature by placing container in a room at ambient temperature 70°F (21°C) until crystals dissolve.

Do not use or store near heat, open flame or hot surfaces.

Keep out of reach of children and animals.

Store in a dry place and avoid excess heat in storage. Store in original containers only.

Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. To confine spill, dike surrounding area or absorb with sand, cat litter, commercial clay or gel absorbents. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal

Metal Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved State and Local procedures.

Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or dispose of in a sanitary landfill, or incineration, or, if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

Returnable/Refillable Sealed Container: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

ATTENTION

Dealers Should Sell in Original Packages Only.

CONDITIONS OF SALE—LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES

Read the Conditions of Sale—Warranty and Limitations of Liability and Remedies before using this product. If the terms are not acceptable, return the product, unopened, and the full purchase price will be refunded.

The directions on this label are believed to be reliable and should be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions or the failure to follow the label directions or good application practices, all of which are beyond the control of Helena Chemical Company (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. The Company makes no other warranties or representations of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

The exclusive remedy against the Company for any cause of action relating to the handling or use of this product shall be limited to, at Helena Chemical Company's election, one of the following:

1. Refund of the purchase price paid by buyer or user for product bought, or
2. Replacement of the product used

To the extent allowed by law, the Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income. The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.

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Disclaimer: Always refer to the label on the product before using Helena or any other product. VID 12.20.05