



CITY OF MORGAN CITY

REQUEST FOR BIDS FOR

**MOSQUITO CONTROL CHEMICALS**

April 24,2023 Thru April 24,2024

**City of Morgan City**  
PO Box 1218  
Morgan City, LA 70381  
(985)380-4715 • Fax (985)384-7519

[g.bonner@cityofmc.com](mailto:g.bonner@cityofmc.com)

### **INVITATION TO BID**

Sealed bids will be received by the City of Morgan City until **10:00 a.m., Monday April 24 , 2023**, at 512 First Street, Morgan City, Louisiana 70380, at which time bids will be publicly opened and read aloud in the City Hall Conference Room for the purchase of the following materials and supplies for the period beginning April 24, 2023 and ending April 24, 2024

<p><b>MOSQUITO CONTROL CHEMICALS</b></p>
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Bids will be evaluated and awarded based on the lowest responsible bid submitted and in compliance with the specifications. City of Morgan City reserves the right to reject any and all bids or any portions thereof, to select the supplies that best suits its needs.

Consideration shall be given to the vendor's ability to maintain sufficient inventory to supply the City's needs, as well as the location of the vendor.

In the event that the successful bidder does NOT have supply available during the contract period, City of Morgan City shall purchase same at the prevailing price and the awarded bidder shall be liable for any price difference.

Products will be used in a municipal mosquito control program using integrated pest management practices to control / abate juvenile and adult mosquitoes. Products must be labeled for use in mosquito control, registered for use by the Louisiana Department of Agriculture and Forestry and MSDS registered. All restricted chemicals must be EPA registered products. Chemicals will be classified as base oil diluents, adulticides (pesticides / mosquitocides) and larvicides.

Products specified herein must be shipped in original, labeled and sealed containers as packaged by the manufacturer with the exception of bulk products (base oil diluents). Vendor should be able to provide the specified quantities within seven days of notification.

All bids must be submitted on this form to be considered.

All bidders must provide a current copy of their occupational license.

All bids shall be submitted in a sealed envelope and clearly marked “**SEALED BID – Mosquito Control Chemicals**”. Any bid received after the deadline specified above will not be accepted and will be returned unopened.

Interested parties shall direct any questions regarding this bid invitation to Genie G. Bonner, Administrative Secretary, City of Morgan City, P.O. Box 1218, Morgan City, Louisiana 70381, (985) 380-4715 or [g.bonner@cityofmc.com](mailto:g.bonner@cityofmc.com)

Specifications and contract documents for the above can be downloaded from Central Bidding at [www.centralbidding.com](http://www.centralbidding.com). Bids may be submitted electronically at Central Bidding or mailed to the City of Morgan City, P.O. Box 1218, Morgan City, LA 70381.

### **Base Oil Diluent**

- Petroleum distillate to dilute oil based pesticide concentrate.
- Active ingredient must be no more than 100% and no less than a 98.9% hydro treated distillate paraffinic base oil.
- EPA (Environmental Protection Agency) & MSDS (Material Safety Data Sheets) registered.
- Labeled for use in mosquito control. Material should be available for bulk distribution. Comparable to Performance 80N

### **Adulticide #1**

- Petroleum distillate mosquitocide concentrate.
- Active ingredients must be of the syntheticpyrethroid class of pesticides.
- Synergized synthetic pyrethroid.
- Product must be 31.28% Permethrin®, 66.00% PiperonylButoxide and 2.72% petroleum distillates (other ingredients) or 2.86 lb/gal of Permethrin® and 6.09 lb/gal of PiperonylButoxide.
- Product must be labeled for use in mosquito control for ground and aerial applications.
- EPA, MSDS & LDAF registered.
- Comparable to Permanone®31-66

## **Adulticide #2**

- Petroleum distillate mosquitocide concentrate.
- Active ingredients must be of the syntheticpyrethroid class of pesticides.
- Synergized synthetic pyrethroid.
- Product must be 30% Permethrin®, 30% PiperonylButoxide and 40% petroleum distillates (other ingredients) or 2.5 lb/gal of Permethrin® and 2.5 lb/gal of PiperonylButoxide.
- Product must be labeled for use in mosquito control for ground and aerial applications.
- EPA, MSDS & LDAF registered.
- Comparable to Permanone®30-30.

## **Adulticide #3**

- Petroleum distillate mosquitocide concentrate.
- Active ingredients must be of the syntheticpyrethroid class of pesticides.
- Synergized synthetic pyrethroid.
- Product must be 3.98% Permethrin®, 8.48% PiperonylButoxide and 87.54% petroleum distillates (other ingredients) or 0.289 lb/gal of Permethrin®.
- Product must be labeled for use in mosquito control for ground and aerial applications.
- EPA, MSDS & LDAF registered.
- Comparable to Permanone® RTU

## **Adulticide #4**

- Petroleum distillate mosquitocide concentrate.
- Dual – Action Adulticide.
- Active ingredients must be of the synthetic pyrethroid class of pesticides.
- Synergized synthetic pyrethroid.
- Product must be 1% Prallethrin, 5% Sumithrin®, 5% PiperonylButoxide Technical and 89% petroleum distillates (other ingredients) or 0.085 lb/gal of Prallethrin, 0.37 lb/gal of Sumithrin® and 0.37 lb/gal of PiperonylButoxide.
- Product must be labeled for use in mosquito control for ground and aerial applications.
- EPA, MSDS & LDAF registered
- Comparable to Duet®.

## **Adulticide #5**

- Petroleum distillate insecticide / mosquitocide concentrate.
- Active ingredients must be of the organophosphate class of pesticides.
- Applied diluted or undiluted.
- Product must be 87.4% Naled® and 12.6% petroleum distillates (other ingredients) or 13.2 lb/gal of Naled®.
- Product must be labeled for use in mosquito control for ground and aerial applications.
- EPA, MSDS & LDAF registered.
- Comparable to DiBrom® Concentrate

## Adulticide #6

- Petroleum distillate mosquitocide concentrate.
- Active ingredients must be of the synthetic pyrethroid class of pesticides.
- Synergized synthetic pyrethroid.
- Uses water as diluents.
- Applied diluted or undiluted in water.
- Product must be 20% Permethrin®, 20% PiperonylButoxide and 60% petroleum distillates (other ingredients) or 1.67 lb/gal of Permethrin® and 1.67 lb/gal of PiperonylButoxide.
- Product must be labeled for use in mosquito control for ground and aerial applications.
- EPA, MSDS & LDAF registered.
- Comparable to Aqua-Reslin®.

## Larviciding Oil

- Petroleum distillate to control mosquito larvae in floodwater areas, woodland swales, septic roadside ditches and other areas where mosquitoes propagate.
- Active ingredient must be no more than 100% and no less than 98.7% of aliphatic petroleum hydrocarbons with 1.3% inert ingredients.
- Labeled for use in mosquito control.
- EPA& MSDS registered.
- Comparable to Golden Bear® GB1111

## Larvicide #1

- Biological larvicide mosquito growth regulator pellets.
- Active ingredient must be (S)-Methoprene
- Product must be 4.25% (S) Methoprene and 95.75% other ingredients.
- Product can be pelletized and applied at 2.5 to 10.0 pounds per acre.
- Product must be labeled for use in mosquito control.
- EPA, MSDS & LDAF registered.
- Comparable to Altosid® Pellets

## Larvicide #2

- Biological larvicide granules.
- Active ingredient must be Bacillus thuringiensis var. israelensis (Bti), strain AM 65-52.
- Product must be 200 ITU per mg equivalent to 0.091 billion ITU per pound or 4.95% Bti and 95.05% other ingredients.
- The active ingredient should be the delta endotoxin contained in a parasporal body of the bacteria.
- Product must be in granular form – 10/14 mesh approx. 30 lbs/ft<sup>3</sup>.
- Product must be labeled for use in mosquito control.
- EPA, MSDS & LDAF registered.
- Comparable to VectoBac®GS.

<b>PRODUCT</b>	<b>PRODUCT NAME</b>	<b>PROPOSED PRICE</b>	<b>UNIT OF MEASURE</b>
<b>BASE OIL DILUENT</b>	Envirotech Oil	No Bid	
<b>ADULTICIDE # 1</b>	Perm-X UL 31-66	\$143.91	gallon
<b>ADULTICIDE # 2</b>	Perm-X UL 30-30	\$90.71	gallon
<b>ADULTICIDE # 3</b>	Permanone RTU	No Bid	
<b>ADULTICIDE # 4</b>	Duet	\$169.63	gallon
<b>ADULTICIDE # 5</b>	DiBrom	No Bid	
<b>ADULTICIDE # 6</b>	Aqua-Reslin	No Bid	
<b>LARVICIDING OIL</b>	CocoBear	No Bid	
<b>LARVICIDE # 1</b>	Altosid Pellets	\$27.63	pound
<b>LARVICIDE # 2</b>	VectoBac GS	No Bid	

**City of Morgan City  
Mosquito Control Bid**

**COMPANY NAME:** Clarke Mosquito Control Products, Inc.

**ADDRESS OF BIDDER:** 675 Sidwell Ct.

St. Charles, IL 60174

**NAME OF AUTHORIZED SIGNATORY OF BIDDER (PRINT):** Karen S. Larson

**TITLE OF AUTHORIZED SIGNATORY OF BIDDER:** V.P. Govt Affairs / Assistant Secretary

**SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER:** Karen Larson

**DATE:** 04-28-2023

**TELEPHONE NUMBER:** 225-335-3237 / 800-323-5727

**EMAIL ADDRESS:** shealy@clarke.com / customercare@clarke.com

**An updated copy of the city's tax exempt form will be sent out once bids are awarded.**

ADDENDUM NO: 1

BID TITLE: MOSQUITO CONTROL CHEMICALS

BID OPENING DATE: MONDAY, APRIL 24, 2023

**CHANGE IN BID OPENING DATE:**

THIS ADDENDUM IS TO REFLECT THE CHANGE IN THE BID OPENING DATE FROM MONDAY, APRIL 24, 2023, AT 10:00 AM TO MAY 1, 2023, AT 10:00 AM.

**ALL BIDS ARE TO BE RECEIVED NO LATER THAN MAY 1, 2023, AT 10:00 AM.**

ALL OTHER TERMS AND CONDITIONS OF THE ORIGINAL REQUEST FOR BIDS SHALL REMAIN THE SAME.

**THIS NOTICE SHALL BE SIGNED AND ATTACHED TO THE REQUEST FOR BIDS AND SHALL FORM A PART OF YOUR BID.**

SIGNATURE: \_\_\_\_\_

A handwritten signature in blue ink, appearing to read "S. P. Wey", is written over a horizontal line. The signature is fluid and cursive, with a long, sweeping tail that extends to the right.

# Perm-X™ UL 31-66

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

**CONTROLS:** Adult Mosquitoes, Biting and Non-biting Midges, Black Flies and other outdoor flying insects as listed on this label.

**FOR USE AS A:** ULV thermal or non-thermal aerosol using ground or aerial equipment in areas including: residential, recreational areas, parks, campsites, woodlands, athletic fields, golf courses, municipalities, playgrounds, and non-crop waste areas and over listed growing crops and range grasses prior to harvest for the control of adult mosquitoes and biting flies within or adjacent to these areas. Refer to label for additional use sites.

## SPECIMEN LABEL

**ACTIVE INGREDIENTS:**

Permethrin .....	31%
Piperonyl Butoxide .....	66%
<b>OTHER INGREDIENTS:</b> .....	3%
<b>TOTAL:</b> .....	100%

\*Contains 2.8025 lb. A.I. Permethrin plus 5.9668 lbs. A.I. Piperonyl Butoxide per gallon.

### KEEP OUT OF REACH OF CHILDREN CAUTION

**PRECAUCION AL USUARIO:** Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicado ampliamente. **(TO THE USER:** If you cannot read English, do not use this product until the label has been fully explained to you.)  
See inside label booklet for additional Precautionary Statements.

EPA Reg.No. 89459-45  
EPA Est. No. 2724-TX-1

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

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

#### FIRST AID

<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious or convulsing person.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> </ul>

(continued)

<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor for advice.</li> </ul>
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>HOT LINE NUMBER:</b> Have this product container or label with you when calling a poison control center or doctor, or going for treatment. You may contact 1-800-248-7763 for information including health concerns, medical emergencies or pesticide incidents.	

## PERSONAL PROTECTIVE EQUIPMENT (PPE):

Some materials that are chemical-resistant to this product are listed below. Mixers, loaders, applicators and other handlers (including during mixing/loading, repair and cleaning of equipment and disposal of pesticide) must wear the following:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves such as barrier laminate, viton, neoprene rubber or nitrile rubber
- Chemical-resistant apron for mixers/loaders, persons cleaning equipment and persons exposed to the concentrate

In addition to the above PPE, mixers and loaders supporting aerial applications to forests must wear at least a NIOSH-approved respirator with:

- A dust/mist filter with MSHA/NIOSH approval number prefix TC-21C, or any R, P, or HE filter.

See Engineering Controls for additional requirements.

## USER SAFETY REQUIREMENTS

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

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

## ENGINEERING CONTROLS

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

## USER SAFETY RECOMMENDATIONS

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

## ENVIRONMENTAL HAZARDS

This product is extremely toxic to aquatic organisms including fish and invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and other aquatic organisms. Before making the first application of the season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist.

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

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

## PHYSICAL OR 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.

### Precautions and Use Restrictions

- Apply this product only as specified on this label.
- For use only by federal, state, tribal or local government officials responsible for public health or vector control or by persons certified by the state or tribal lead pesticide regulatory agency to perform adult mosquito control applications or by persons under their direct supervision.
- Apply this product at temperatures greater than 50°F and when wind speed equals or exceeds 1 mph.
- Not for use in metered release systems.
- Not for use in outdoor residential misting systems.
- Do not make applications during rain.
- Do not spray this product on or allow it to drift onto cropland (other than crops listed), or potable water supplies.
- 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.
- For hand carried and/or lawn mower foggers: Do not fog wet foliage. Do not fog when wind conditions exceed 10 mph. Only use a clean, well maintained and properly calibrated fogger, known to give excellent performance. Fog down wind.
- Do not re-treat a site more than once in 3 days.
- Do not apply by fixed wing aircraft at a height less than 100 feet, or by helicopter at a height less than 75 feet unless specifically approved by the state or tribe based on public health needs.

Do not retreat the site more than once in three days. Do not exceed 25 applications at 0.007 lbs. permethrin per acre per application or 0.0149 lbs piperonyl butoxide per acre per application, or 0.18 lbs of permethrin per acre per season or 0.383 lbs piperonyl butoxide per acre per year. More frequent treatments may be made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne diseases in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

### Spray Droplet Size Determination

**Ground-Based Application:** Spray equipment must be adjusted so that the volume median diameter is less than 30 microns ( $D_{v0.5} < 30 \mu\text{m}$ ) and that 90% of the spray is contained in droplets smaller than 50 microns ( $D_{v0.9} < 50 \mu\text{m}$ ). Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using laser based equipment must be used to produce acceptable droplet spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

**Aerial Application made at  $\leq 200$  feet above ground elevation:** Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ( $D_{v0.5} < 60 \mu\text{m}$ ) and that 90% of the spray is contained in droplets smaller than 100 microns ( $D_{v0.9} < 100 \mu\text{m}$ ). The effects of flight speed and, for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

**Aerial Application made at > 200 feet above ground elevation:** Spray equipment must be adjusted so that the volume median diameter produced is less than 70 microns ( $D_{V0.5} < 70 \mu\text{m}$ ) and that 90% of the spray is contained in droplets smaller than 145 microns ( $D_{V0.9} < 145 \mu\text{m}$ ). The effects of flight speed and, for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

## GROUND BASED APPLICATIONS

**ULV NON-THERMAL AEROSOL (COLD FOG):** To control Mosquitoes, Midges and Black flies, apply PERM-X™ UL 31-66 using truck-mounted ground ULV (cold fog) equipment. When applying this product undiluted, apply at a flow rate of 0.4794 to 1.91183 fluid ounces per minute at an average speed of 10 mph. These rates are equivalent to 0.00175 to 0.007 pounds of permethrin a.i. and 0.0038 to 0.0149 pounds of piperonyl butoxide a.i. per acre. If a 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 insect populations are high. An accurate flow rate control system must be used to ensure proper flow rate. PERM-X™ UL 31-66 may also be applied by diluting, 1 part to 1 part of a 60 to 100 second mineral oil or another suitable solvent, applied so as not to exceed the maximum a.i. rates per acre as shown in the rates charts. If an alternate dilution rate is required, adjust the flow rate accordingly, provided the droplet size and spectrum remain within label specifications. Do not exceed a flow rate of 20 oz/minute unless recommended and required by equipment manufacturers and/or Public Health Officials for vehicle speeds of 10 to 20 mph and when the fogging equipment is capable of such higher rates of output per minute.

**THERMAL FOGGING:** Apply PERM-X™ UL 31-66 diluted or by suitable Thermal Foggers mounted on trucks. If diluted, use a 60 to 100 second viscosity mineral oil, or another suitable non-phytotoxic diluent to reduce oil requirement and sludge buildup in equipment. May be applied at truck speeds of 5 to 20 mph but do not exceed the maximum active ingredient application rates. For use with Hand Carried and/or Lawn Mower thermal foggers, adjust the sprayer to apply the desired a.i. per acre based on a 50 foot swath and walking speed of 2 mph. Do not fog to wet foliage. Thermal fogging applications of PERM-X™ UL 31-66 can be made to deliver 0.00175 to 0.007 lb of permethrin a.i. per acre and 0.00175 to 0.01490 piperonyl butoxide per acre.

**USE AS AN INSECT BARRIER TREATMENT:** For use in non-Thermal ULV, motorized, portable, backpack, and fog type mist blower equipment, apply PERM-X™ UL 31-66 with equipment adjusted to deliver ULV size droplets with a volume median diameter of 50–100 microns. PERM-X™ UL 31-66 may be applied undiluted or diluted (see application rates tables section). If diluted, use a 30 to 100 second mineral oil, or another, (if recommended by Public Health Officials), suitable non-phytotoxic diluent. Use 0.00175 pounds permethrin a.i. per acre at a 50 ft. (15.2 m) swath width, while walking at a speed of 2 mph (3.2 kph). Whether applied undiluted or diluted, or at a different speed, make sure that the same amount of permethrin a.i. is applied per acre.

## \*\*AERIAL APPLICATION

Make Ultra-Low Volume aerial applications of PERM-X™ UL 31-66 according to the application rate table on this label. Application should be made by suitable aerial ULV equipment at an altitude ranging from 120-175 feet depending on the terrain and weather conditions. The recommended airspeed

for fixed wing aircraft with flat fan nozzles is from 120 to 160 mph. For aircraft equipped with rotary nozzles, apply at sufficient airspeed to deliver the appropriate amount of PERM-X™ UL 31-66 a.i. per acre. Do not exceed 0.007 lbs. permethrin a.i. and 0.01490 lbs. piperonyl butoxide per acre. Do not apply greater than 0.3197 fluid oz. of undiluted PERM-X™ UL 31-66 per acre as listed in the rates chart.

**PROHIBITION ON AERIAL USE IN FLORIDA:** Not for aerial application in the State of Florida unless specifically authorized by the Florida Bureau of Entomology and the Florida Department of Agriculture and Consumer Services.

## PERM-X™ UL 31-66 HOW TO APPLY AND WHEN TO USE

Conditions and Rates To Use Perm-X™ UL31-66 Undiluted						
Pounds A.I. Per Acre		Application Rates				Fluid Ounces of Perm-X™ UL 31-66 per Acre
		Fluid Ounces per Minute at MPH				
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.00700	0.01490	0.9591	1.9183	2.8773	3.8364	0.3197
0.00350	0.00750	0.4797	0.9054	1.4391	1.9188	0.1599
0.00175	0.00380	0.2398	0.4794	0.7191	0.9588	0.0799

## DILUTION RATES FOR PERM-X™ UL 31-66 FOR A 1:4 DILUTION

Mix 1 part PERM-X™ UL 31-66 with 4 parts Suitable Mineral Oil: Apply as follows:						
Pounds of A.I. Per Acre		Application Rates				Fl Oz Finished Spray Per Acre
		Fl Oz Per Minute At Vehicle Speeds				
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.00700	0.01490	4.4727	9.5454	14.3181	19.0908	1.5909
0.00350	0.00750	2.3865	4.7730	7.1595	9.5460	0.7955
0.00175	0.00380	1.1934	2.3868	3.5803	4.7736	0.3978

## DILUTION RATES FOR PERM-X™ UL 31-66 FOR A 1:8 DILUTION

Mix 1 part PERM-X™ UL 31-66 with 8 parts Suitable Mineral Oil: Apply as follows:						
Pounds of A.I. Per Acre		Application Rates				Fl Oz Finished Spray Per Acre
		Fl Oz Per Minute At Vehicle Speeds				
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.00700	0.01490	8.4000	16.8000	25.2000	33.6000	2.8000
0.00350	0.00750	4.2000	8.4000	12.6000	16.8000	1.4000
0.00175	0.00380	2.1000	4.2000	6.3000	8.4000	0.7000

## DILUTION RATES FOR PERM-X™ UL 31-66 FOR A 1:2 DILUTION

Mix 1 part PERM-X™ UL 31-66 with 2 parts Suitable Mineral Oil: Apply as follows:						
Pounds of A.I. Per Acre		Application Rates				Fl Oz Finished Spray Per Acre
		Fl Oz Per Minute At Vehicle Speeds				
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.00700	0.01490	2.8767	5.7534	8.6302	11.5068	0.9589
0.00350	0.00750	1.4385	2.8770	4.3255	5.7540	1.4795
0.00175	0.00380	0.7184	1.4388	2.1582	2.8770	0.2398

For proper ground application, mount the fog applicator so that the nozzle is at least 4 ½ feet above ground level and directed out the back of the vehicle. May be applied at speeds of 5 mph up to 20 mph. Failure to follow these label directions may result in reduced effectiveness. For \*\*Aerial Application, refer to the \*\*Aerial Application section on this label. PERM-X™ UL 31-66 may be used as is, or diluted with a suitable solvent such as a 60 to 100 second viscosity mineral oil and applied at a rate not to exceed 0.3197 fl.

oz. of PERM-X™ UL 31-66 per acre. Both aerial and ground applications should be made when the wind is less than 10 mph. For exact rates, see the “UNDILUTED” or the “DILUTION” Rates charts on this label.

PERM-X™ UL 31-66 is recommended for application as an Ultra Low Volume (ULV) Thermal or Non-Thermal aerosol (cold fog) to control adult mosquitoes, and other insects as listed on this label, in residential and recreational areas where these insect pests become a problem; such as, but not limited to parks, campsites, woodlands, athletic fields, golf courses, municipalities, gardens, playgrounds, and non-crop waste areas. Treat when mosquitoes or insects are most active and weather conditions are conducive to keeping the fog close to the ground, e.g., cool temperatures and wind speeds are not greater than 10 mph. Applications during the cool hours of night or early morning are usually preferable.

### URBAN ULV MOSQUITO APPLICATIONS

For control of resting or flying adult mosquitoes, biting flies and biting midges in application sites of residential, municipal and recreational areas such as: utility tunnels, sewers, storm drains and catch basins, pipe chases, underground basements, underground passages, parking decks, crawlspaces or underground buildings. This product may be applied using mechanical foggers, hand-held or truck-mounted ULV equipment suitable for these applications. Apply at rates, up to but not exceeding, 0.007 lbs active ingredient permethrin per acre. See Rate(s) charts.

### MAY BE APPLIED OVER THE FOLLOWING CROPS

PERM-X™ UL 31-66 may 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	Corn, grain	Onion, bulb
Almond	Corn, stover	Peach
Apple	Corn, sweet, kernel + cob with husks removed	Pepper, bell
Artichoke	Eggplant	Pistachio
Asparagus	Fruit, pome, group 11	Potato
Avocado	Garlic	Soybean, seed
Broccoli	Range grasses	Spinach
Brussels sprouts	Horseradish	Tomato
Cabbage	Leaf petioles, subgroup 4B	Vegetable, cucurbit, group 9*
Cauliflower	Leafy greens, subgroup 4A	Walnut
Celery	Lettuce, head	Watercress
Cherry	Mushroom	
Corn, forage		

\*40 CFR 180.41 Crop Group 9: Cucurbit Vegetables, includes Crop Subgroup 9A (melon) and Crop Subgroup 9B (squash/cucumber)

### STORAGE & DISPOSAL

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

**PESTICIDE STORAGE:** Store product in its original labeled container in a cool, dry, locked place designated for such insecticides and out of reach of children. Do not expose to extreme temperatures. In case of spillage, soak up with absorbent material such as sawdust or fuller's earth; sweep up and place in a labeled container and dispose of as follows.

**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 Containers 5 gallons or less -** Nonrefillable container. Do not refill or reuse this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with mineral oil (or other solvent used to dilute the product) and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once triple rinsed, recycle if available. Some agricultural pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact your local solid waste agency for disposal instructions. If recycling is not available, dispose of in a sanitary landfill or by incineration if allowed by state and local ordinances. **Nonrefillable Containers over 5 gallons to 55 gallons -** Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with mineral oil (or other solvent used to dilute the product). Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Once triple rinsed, recycle if available. Some agricultural pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact your local solid waste agency for disposal instructions. If recycling is not available, dispose of in a sanitary landfill or by incineration if allowed by state and local ordinances. **Refillable bulk containers over 55 gallons -** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full of mineral oil. Agitate vigorously or recirculate mineral oil with pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Central Garden & Pet Company, 1501 East Woodfield Road, 200W, Schaumburg, Illinois 60173

**NOTE:** This specimen label is for informational purposes only. All uses may not be approved in all states. See product labeling for use directions. Perm-X is a trademark of Wellmark International. © 2015 Wellmark International.

VEC 15-026

## Safety Data Sheet

**Section 1: Identification****Product identifier**

- Product Name** • **Perm-X UL 31-66**
- Synonyms** • 100208937; 100208985; 100208986; 100208987; 100208988; EPA Reg. No.: 89459-45
- Product Description** • Clear, pale amber liquid.

**Relevant identified uses of the substance or mixture and uses advised against**

- Recommended use** • Insecticide.
- Restrictions on use** •  
Keep out of reach of children. Avoid release to the environment. Avoid contact with skin, eyes, or clothing. Do not take internally.

**Details of the supplier of the safety data sheet**

- Manufacturer** • Central Garden & Pet Company  
1501 E. Woodfield Road, Suite 200W  
Schaumburg, IL 60173  
United States  
  
www.centralmosquitocontrol.com

**Emergency telephone number**

- Manufacturer** • 1-800-234-2269
- Manufacturer** • 1-800-424-9300 - CHEMTREC
- Manufacturer (Transportation)** • 1-703-527-3887 - Chemtrec - Outside US collect calls accepted

**Section 2: Hazard Identification****United States (US)**

According to: OSHA 29 CFR 1910.1200 HCS

**Classification of the substance or mixture**

- OSHA HCS 2012** • Acute Toxicity Oral 4  
Acute Toxicity Inhalation 4  
Specific Target Organ Toxicity Single Exposure 1  
Skin Sensitization 1

**Label elements**

OSHA HCS 2012

**WARNING**



- Hazard statements** • Harmful if swallowed  
 Harmful if inhaled  
 Causes damage to organs - nervous system.  
 May cause an allergic skin reaction

### Precautionary statements

- Prevention** • Do not breathe dust, fume, gas, mist, vapors and/or spray.  
 Wash thoroughly after handling.  
 Do not eat, drink or smoke when using this product.  
 Use only outdoors or in a well-ventilated area.  
 Contaminated work clothing should not be allowed out of the workplace.  
 Wear protective gloves.
- Response** • IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison control center or doctor if you feel unwell.  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 Rinse mouth.  
 IF ON SKIN: Wash with plenty of soap and water.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 Wash contaminated clothing before reuse.  
 IF exposed: Call POISON CENTER or doctor/physician.
- Storage/Disposal** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.  
 Avoid release to the environment.  
 Store locked up.

### Other hazards

#### OSHA HCS 2012

- This product is extremely toxic to aquatic organisms, including fish and invertebrates. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

## Section 3 - Composition/Information on Ingredients

### Substances

- Material does not meet the criteria of a substance according to United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

### Mixtures

Composition		
Chemical Name	Identifiers	%
Permethrin	CAS:52645-53-1	31%
Piperonyl butoxide	CAS:51-03-6	66%
Other ingredients	NDA	Balance

## Section 4: First-Aid Measures

## Description of first aid measures

- Inhalation**
  - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Call a poison control center or doctor if you feel unwell.
- Skin**
  - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If irritation or rash occurs, get medical advice/attention.
- Eye**
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- Ingestion**
  - IF SWALLOWED: Call a poison control center or doctor for treatment advice.

## Most important symptoms and effects, both acute and delayed

- Causes damage to organs - nervous system. Harmful if inhaled. Harmful if swallowed. May cause an allergic skin reaction in individuals with a sensitivity to piperonyl butoxide. Refer to Section 11 - Toxicological Information.

## Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- Treat symptomatically and supportively.

## Section 5: Fire-Fighting Measures

### Extinguishing media

- Suitable Extinguishing Media** • SMALL FIRES: Dry chemical, CO2, water spray or regular foam.
- Unsuitable Extinguishing Media** • Avoid heavy hose streams.
- Firefighting Procedures** • Do not use direct stream of water. A direct stream of water may spread fire. Do not allow fire fighting water to escape into waterways or sewers.

### Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards** • None known.
- Hazardous Combustion Products** • Decomposes upon heating to produce toxic vapors/gases which may include hydrogen chloride, carbon oxides and nitrogen oxides.

### Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).

## Section 6 - Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

- Personal Precautions** • Avoid breathing fumes. Wear appropriate personal protective equipment, avoid direct contact. Keep all sources of ignition away.
- Emergency Procedures** • Stop leak if you can do it without risk. Avoid release into the environment. Avoid

unnecessary personnel and equipment traffic in the spill area. Do not allow runoff into water, storm drains or drainage ditches. Wear appropriate personal protective equipment (PPE).

## Environmental precautions

- Avoid run off to waterways and sewers.

## Methods and material for containment and cleaning up

### Containment/Clean-up Measures

- Cover liquid spill with sand, earth or other non-combustible absorbent material. Wear appropriate personal protective equipment, avoid direct contact. Prevent entry into waterways, sewers, basements or confined areas.

## Section 7 - Handling and Storage

### Precautions for safe handling

#### Handling

- Handle and open container with care. Avoid release to the environment. Do not breathe (dust, vapor or spray mist) Use only in well ventilated areas. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Wear appropriate personal protective equipment, avoid direct contact.

### Conditions for safe storage, including any incompatibilities

#### Storage

- Keep out of reach of children. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep from freezing. Store away from oxidizers strong acids and strong bases. Do not use or store near heat or open flame.

#### Incompatible Materials or Ignition Sources

- Strong acids, strong bases, and oxidizing agents.

## Section 8 - Exposure Controls/Personal Protection

### Control parameters

### Exposure controls

#### Engineering Measures/Controls

- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

#### Personal Protective Equipment

##### Pictograms



##### Respiratory

- In case of insufficient ventilation, wear suitable NIOSH approved respiratory protection.

##### Eye/Face

- Wear chemical splash safety goggles.

##### Skin/Body

- If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

#### Environmental Exposure Controls

- Avoid release to the environment.

### Other Information

- See product label for specific use PPE instructions.

## Section 9 - Physical and Chemical Properties

### Information on Physical and Chemical Properties

<b>Material Description</b>			
Physical Form	Liquid	Appearance/Description	Clear, pale amber liquid.
Color	Pale amber.	Odor	Slight solvent and licorice.
<b>General Properties</b>			
Boiling Point	No data available	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	1.08 - 1.09 g/cc (9.01 - 9.10 lb/gal)	Water Solubility	Insoluble
Viscosity	No data available		
<b>Volatility</b>			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
<b>Flammability</b>			
Flash Point	260°F (127°C)	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
<b>Environmental</b>			
Octanol/Water Partition coefficient	No data available		

## Section 10: Stability and Reactivity

### Reactivity

- Non-reactive under normal handling and storage conditions.

### Chemical stability

- Stable

### Possibility of hazardous reactions

- Hazardous polymerization will not occur.

### Conditions to avoid

- Avoid storage with or near toxic substances. Direct sunlight. Excessive heat >110°F.

### Incompatible materials

- Heat, strong acids, strong bases and oxidizing agents.

### Hazardous decomposition products

- Decomposes upon heating to produce toxic vapors/gases which may include oxides of carbon and nitrogen, hydrogen chloride.

## Section 11 - Toxicological Information

### Information on toxicological effects

Components		
Permethrin (31%)	52645-53-1	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 500 mg/kg; Inhalation-Rat LC50 • 2.65 mg/L 4 Hour(s); Skin-Rabbit LD50 • >2000 mg/kg; <b>Irritation:</b> Eye-Rabbit • Mild irritation; Skin-Rabbit • Essentially non-irritating
Piperonyl butoxide (66%)	51-03-6	<b>Acute Toxicity:</b> Ingestion/Oral-Rat • 4300 mg/kg; Inhalation-Rat • >5 mg/L 4 Hour(s); Skin-Rat LD50 • >2000 mg/kg; <b>Irritation:</b> Eye-Rabbit • Essentially non-irritating; Skin-Rabbit • Essentially non-irritating

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation 4; Acute Toxicity - Oral 4
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Skin Sensitizer 1
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Specific Target Organ Toxicity Single Exposure 1
STOT-RE	OSHA HCS 2012 • Classification criteria not met

**Route(s) of entry/exposure** • Inhalation, skin, eye, and ingestion.

**Potential Health Effects**

**Inhalation**

**Acute (Immediate)**

- Harmful if inhaled. Permethrin affects nervous system. Symptoms of overexposure to permethrin include diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity.

**Chronic (Delayed)**

- No data available

**Skin**

**Acute (Immediate)**

- May cause an allergic reaction in individuals with a sensitivity to piperonyl butoxide. Contact with permethrin may cause reversible skin sensations (paresthesia) which may include numbing, burning or tingling.

**Chronic (Delayed)**

- No data available

**Eye**

**Acute (Immediate)**

- Under normal conditions of use, no health effects are expected.

**Chronic (Delayed)**

- No data available

**Ingestion**

**Acute (Immediate)**

- Harmful if ingested. Permethrin affects nervous system. Symptoms of overexposure to permethrin include diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity.

**Chronic (Delayed)**

- No data available

**Mutagenic Effects**

- Permethrin was not mutagenic in a battery of in vitro and in vivo tests. Piperonyl butoxide was not mutagenic in a battery of tests.

**Carcinogenic Effects**

- Permethrin is not classified as carcinogen by NTP, IARC and OSHA. Piperonyl butoxide is not classified as carcinogen by NTP, IARC and OSHA.

**Reproductive Effects**

- Permethrin does not cause developmental or reproductive effects. Piperonyl butoxide did not produce any birth defects or adverse effects on reproductive parameters in tests with rats and rabbits.

**Section 12 - Ecological Information**

**Toxicity**

Components		
Permethrin (31%)	52645-53-1	<p><b>Aquatic Toxicity-Fish:</b> 96 Hour(s) LC50 <i>Blue gill</i> 0.00079 mg/L [Acute]                      96 Hour(s) LC50 <i>Atlantic silverside</i> 0.0022 mg/L [Acute]                      NOEC <i>Fathead minnow</i> 0.0003 mg/L [Chronic]                      NOEC <i>Sheepshead minnow</i> 0.00083 mg/L [Chronic]  <b>Aquatic Toxicity-Crustacea:</b> NOEC <i>Daphnia magna</i> 0.000039 mg/L [Chronic]                      NOEC <i>Mysid shrimp</i> 0.000011 mg/L [Chronic]                      LC50 <i>Hexagenia bilineata</i> 0.0001 mg/L [Acute]                      96 Hour(s) LC50 <i>Mysid shrimp</i> 0.000019 mg/L [Acute]</p>
Piperonyl butoxide (66%)	51-03-6	<p><b>Aquatic Toxicity-Fish:</b> LC50 <i>Rainbow Trout</i> 1.9 mg/L [Acute]                      LC50 <i>Sheepshead minnow</i> 3.94 mg/L [Acute]                      NOEC <i>Fathead minnow</i> 0.04 mg/L [Chronic]  <b>Aquatic Toxicity-Crustacea:</b> LC50 <i>Gammarus fasciatus (amphipod)</i> 0.51 mg/L [Acute]                      LC50 <i>Mysid shrimp</i> 0.49 mg/L [Acute]                      NOEC <i>Daphnia magna</i> 0.03 mg/L [Chronic]</p>

**Persistence and degradability**

- Permethrin has a moderate rate of degradation in soil and half-life is related to soil type, microbial population, concentration in the soil and the aerobic condition of the soil.

**Bioaccumulative potential**

- Permethrin has a Log Pow of 6.1, but because of the ease with which biological systems degrade the molecule, the potential for bioconcentration and accumulation in the environment is low (BCF = 500). Permethrin: Bioconcentration factor (BCF) 300; Does not bioaccumulate.

**Mobility in Soil**

- Permethrin has a high affinity for organic matter (Koc = 86,000), there is little potential for movement in soil or entry into groundwater. Permethrin: Immobile in soil.

**Other adverse effects**

**Potential Environmental Effects**

- This pesticide is extremely toxic to aquatic organisms including fish and invertebrates. Care should be taken to avoid contamination of the aquatic environment. This product is highly toxic to bees.

## Section 13 - Disposal Considerations

### Waste treatment methods

#### Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Do not allow entry into storm drains, drainage ditches, gutters or surface waters.

#### Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. See product label for disposal instructions.

## Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	UN3082	Bulk packaging only: Environmentally hazardous substance, liquid, n.o.s (Permethrin and Piperonyl butoxide)	9	III	Marine Pollutant
IMO/IMDG	UN3082	Packaging 5 L or greater: Environmentally hazardous substance, liquid, n.o.s (Permethrin and Piperonyl butoxide)	9	III	Marine Pollutant
IATA/ICAO	UN3082	Packaging 5 L or greater: Environmentally hazardous substance, liquid, n.o.s (Permethrin and Piperonyl butoxide)	9	III	Acute Aquatic Toxicity

**Special precautions for user** • None specified.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** • No data available

#### Other information

**IMO/IMDG** • No data available

**IATA/ICAO** • No data available

## Section 15 - Regulatory Information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

**SARA Hazard Classifications** • SARA Title III Section 313, Acute

### FIFRA – Pesticide Labeling

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

### CAUTION

**Hazard Statements** • KEEP OUT OF REACH OF CHILDREN

**Precautionary Statements** •

**Hazards to Humans and Domestic Animals**

Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with eyes, skin, or clothing. Prolonged or repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or the toilet. Remove contaminated clothing and wash before reuse.

**First Aid** •

If swallowed• Call a poison control center or doctor immediately• Do not induce vomiting unless told to by a poison control center or doctor• Do not give any liquid to the person• Do not give anything by mouth to an unconscious personIf 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 advicelf 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 advicelf 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 treatment advice.

**Environmental Hazards** •

This product is extremely toxic to aquatic organisms including fish and invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and other aquatic organisms. Before making the first application of the season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate water when disposing of equipment washwaters. This pesticide is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

**Physical or Chemical Hazards** • Do not use or store near heat or open flame.

Inventory		
Component	CAS	TSCA
Permethrin	52645-53-1	No
Piperonyl butoxide	51-03-6	Yes

**United States**

**Environment**

**U.S. - CERCLA/SARA - Section 313 - Emission Reporting**

• Permethrin	52645-53-1	1.0 % de minimis concentration
• Piperonyl butoxide	51-03-6	1.0 % de minimis concentration

**Section 16 - Other Information**

**Revision Date** • 07/March/2016

**Last Revision Date**

- 07/March/2016

**Preparation Date**

- 07/March/2016

**Disclaimer/Statement of Liability**

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

# Perm-X™ UL 30-30

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

**CONTROLS:** Adult Mosquitoes, Biting and Non-biting Midges, Black Flies and other outdoor flying insects as listed on this label.

**FOR USE AS A:** ULV thermal or non-thermal aerosol using ground or aerial equipment in areas including: residential, recreational areas, parks, campsites, woodlands, athletic fields, golf courses, municipalities, playgrounds, and non-crop waste areas and over listed growing crops and range grasses prior to harvest for the control of adult mosquitoes and biting flies within or adjacent to these areas. Refer to label for additional use sites.

## SPECIMEN LABEL

**ACTIVE INGREDIENTS:**

Permethrin .....	30%
Piperonyl Butoxide .....	30%
<b>OTHER INGREDIENTS*</b> .....	40%
<b>TOTAL:</b> .....	100%

\* (butyl carbityl)(6-propylpiperonyl) ether and related compounds.  
 \*\*Contains Petroleum Distillate  
 Contains 2.51 lbs a.i. Permethrin/gallon and 2.51 lbs a.i. Piperonyl Butoxide/gallon

### KEEP OUT OF REACH OF CHILDREN CAUTION

**PRECAUCION AL USUARIO:** Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicado ampliamente. **(TO THE USER:** If you cannot read English, do not use this product until the label has been fully explained to you.)  
 See inside label booklet for additional Precautionary Statements.

EPA Reg.No. 89459-44  
 EPA Est. No. 2724-TX-1

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Causes moderate eye irritation.

FIRST AID	
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give any liquid to the person.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>

(continued)

<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<p><b>HOT LINE NUMBER:</b> Have the product container or label with you when calling a poison control center or doctor, or when going for treatment. You may contact 1-800-248-7763 for emergency medical treatment information. You may also contact 1-800-248-7763 for information including health concerns, medical emergencies or pesticide incidents.</p>	

(continued)

**NOTE TO PHYSICIAN:** Contains Petroleum Distillates - vomiting may cause aspiration pneumonia.

## PERSONAL PROTECTIVE EQUIPMENT (PPE):

Some materials that are chemical-resistant to this product are listed below. Mixers, loaders, applicators and other handlers including during mixing/loading, repair and cleaning of equipment and disposal of pesticide must wear the following:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves such as barrier laminate, viton, neoprene rubber or nitrile rubber
- Chemical-resistant apron for mixers/loaders, persons cleaning equipment and persons exposed to the concentrate

In addition to the above PPE, mixers and loaders supporting aerial applications to forests must wear at least a NIOSH-approved respirator with:

- A dust/mist filter with MSHA/NIOSH approval number prefix TC-21C, or any R, P, or HE filter.

See Engineering Controls for additional requirements.

## USER SAFETY REQUIREMENTS

Follow manufacturer's instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

## ENGINEERING CONTROLS

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

## USER SAFETY RECOMMENDATIONS

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

## ENVIRONMENTAL HAZARDS

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

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

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

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 OR 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.

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

## Precautions and Use Restrictions

- Apply this product only as specified on this label.
- Apply this product at temperatures greater than 50° F and when wind speed equals or exceeds 1 mph.
- Not for use in metered release systems.
- Not for use in outdoor residential misting systems.
- Do not spray this product on or allow it to drift onto cropland (other than crops listed) or potable water supplies.
- 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.
- For hand carried and/or lawn mower foggers: Do not fog wet foliage. Do not fog when wind conditions exceed 10 mph. Only use a clean, well maintained and properly calibrated fogger known to give excellent performance. Fog down wind.
- Do not apply by fixed wing aircraft at a height less than 100 feet or by helicopter at a height less than 75 feet unless specifically approved by the state or tribe based on public health needs.
- Apply when wind speed is greater than 1 mph.
- Do not make applications during rain.

Do not retreat site more than once in 3 days. Do not exceed 25 applications at 0.007 lbs permethrin per acre per application or 0.007 lbs PBO per acre per application or 0.18 lbs of permethrin per acre per season or 0.18 lbs PBO per acre per year. More frequent treatments may be made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

## HOW TO APPLY

For proper ground application, mount the fog applicator so that the nozzle is at least 4 ½ feet above ground level and directed out the back of the vehicle. May be applied at speeds of 5 mph up to 20 mph. Failure to follow these label directions may result in reduced effectiveness. For "Aerial Application", refer to the Aerial Application section on this label. PERM-X™ UL 30-30 may be used as is, or diluted with a suitable solvent, i.e., a 60 to 100 second viscosity mineral oil and applied at a rate not to exceed 0.9636 fl oz of PERM-X™ UL 30-30 per acre. Both aerial and ground applications should be made when the wind is less than 10 mph. For exact rates, see the "UNDILUTED" or the "DILUTION" Rates charts on this label. PERM-X™ UL 30-30 is approved for application as an Ultra Low Volume (ULV) Thermal or Non-thermal aerosol (cold fog) to control adult mosquitoes, and other insects as listed on this label, in residential and recreational areas where these insect pests become a problem, such as parks, campsites, woodlands, athletic fields, golf courses, residential area, municipalities, gardens, play grounds, and non-crop waste areas. Treat when mosquitoes or insects are most active and weather conditions are conducive to keeping the fog close to the ground, e.g., cool

temperatures and wind speeds not greater than 10 mph. Applications during the cool hours of night or early morning are usually preferable. Repeat treatment when recommended by Public Health officials, or Mosquito Abatement Districts.

## Spray Droplet Size Determination

**Ground-Based Application:** Spray equipment must be adjusted so that the volume median diameter is less than 30 microns ( $D_{v,0.5} < 30 \mu\text{m}$ ) and that 90% of the spray is contained in droplets smaller than 50 microns ( $D_{v,0.9} < 50 \mu\text{m}$ ). Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using laser-based equipment must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

**Aerial Application made at  $\leq 200$  feet above ground elevation:** Spray equipment must be adjusted so that the volume median diameter produced is less than 60 microns ( $D_{v,0.5} < 60 \mu\text{m}$ ) and that 90% of the spray is contained in droplets smaller than 100 microns ( $D_{v,0.9} < 100 \mu\text{m}$ ). The effects of flight speed and, for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

**Aerial Application made at  $> 200$  feet above ground elevation:** Spray equipment must be adjusted so that the volume median diameter produced is less than 70 microns ( $D_{v,0.5} < 70 \mu\text{m}$ ) and that 90% of the spray is contained in droplets smaller than 145 microns ( $D_{v,0.9} < 145 \mu\text{m}$ ). The effects of flight speed and, for non-rotary nozzles, nozzle angle on the droplet size spectrum must be considered. Directions from the equipment manufacturer or vendor, pesticide registrant or a test facility using a wind tunnel and laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

## ULV NON-THERMAL AEROSOL (COLD FOG)

To control adult mosquitoes, flies, and gnats (black flies) apply PERM-X™ UL 30-30 using truck-mounted ground ULV (cold fog) equipment with a swath width of 300 feet in areas such as residential, recreational, industrial areas. For best results, apply when insects are most active and conditions are conducive to keeping the fog close to the ground. Apply the undiluted product at flow rates of 0.5472 to 2.1816 fluid ounce per minute at a truck speed of 10 mph. These rates are equivalent to 0.00175 to 0.007 pounds of permethrin a.i. and 0.00175 to 0.007 pounds of piperonyl butoxide a.i. per acre. If a different vehicle speed is used, adjust the flow rate accordingly. An accurate flow control system must be used to ensure proper flow rate. Use the maximum flow rates and application rates listed on this label to treat heavy vegetation or when target insect populations are high. Do not exceed the highest flow rates specified by the manufacturer. PERM-X™ UL 30-30 may also be applied by diluting with 60-100 second mineral oil or another suitable solvent, applied so as not to exceed 0.007 lb a.i. per acre using a swath width of 300 feet for calculation. Refer to the rates chart for suggested rates for diluted use. PERM-X™ UL 30-30 may be used to treat outdoor aggregation and harborage sites including storm drains, underground drainage pipes, and pipe chases.

## THERMAL AEROSOL FOGGING

Refer to the DILUTION RATES tables for fogging applications. Droplet size of thermal "fog" will be very small usually in the 0.5 to 1.0 micron range.

TRUCK-MOUNTED - Apply PERM-X™ UL 30-30 diluted or undiluted with suitable thermal fogging equipment. If diluted, use a 60 to 100 second viscosity mineral oil or another suitable non-phytotoxic diluent, to reduce oil requirement and sludge buildup in equipment. Do not exceed the maximum 0.007 lb a.i. permethrin per acre rate. May be applied at speeds of 5 mph up to 20 mph. For use with HAND CARRIED and/or LAWN MOWER FOGGERS, use the same rates of a.i. per acre with a 50 foot swath width at a walking speed of 2 mph. Apply PERM-X™ UL 30-30 at 0.00175 lb to 0.007 lb of a.i. permethrin/a.i. piperonyl butoxide per acre.

## USE AS AN INSECT BARRIER AS AN INSECT BARRIER – USE A “BACKPACK” FOG-TYPE MIST BLOWER

For use in Non-Thermal ULV, motorized, portable, backpack, fog-type mist blower equipment, apply PERM-X™ UL 30-30 with equipment adjusted to deliver ULV particles of 50 to 100 volume median diameter. PERM-X™ UL 30-30 may be applied undiluted or diluted (see Application Rates tables section). If diluted, use a 30 to 100 second viscosity mineral oil, or another, (if recommended by Public Health Officials), suitable non-phytotoxic diluent. Use 0.00175 to 0.007 pound permethrin a.i. per acre at a 50 ft (15.2 m) swath width, while walking at a speed of 2 mph (3.2 kph). Whether applied undiluted or diluted or at a different speed, make sure that the same amount of permethrin a.i. – PBO a.i. is applied/acre.

## DIRECTIONS FOR AERIAL APPLICATION

Use aircraft specially equipped and capable of applying Ultra-Low Volumes of PERM-X™ UL 30-30 according to the rate chart on this label. Applications can be made diluted or undiluted but cannot exceed the specified rates of 0.007 lbs permethrin per acre and 0.007 lbs PBO per acre, equivalent to 0.3646 fl oz of undiluted PERM-X™ UL 30-30 per acre. Applications should be made at an altitude of 100 to 300 feet. Apply at airspeed sufficient to deliver the appropriate amount of active ingredient per acre. A forward speed of 150 mph achieving a swath width of 500 feet is recommended. The minimum height (from the ground) for aerial application of this product is 100 feet. Treat when insects are most active and meteorological conditions are conducive to keeping the spray cloud close to the ground. In order to compensate for windy conditions and ensure drift onto the target area, aerial application with aircraft equipped with Global Positioning Systems (GPS) is recommended.

**PROHIBITION ON AERIAL USE IN FLORIDA:** Not for aerial use in Florida UNLESS specifically authorized by the Bureau of Entomology and Pest Control, Florida Department of Agriculture and Consumer Services.

This product can be applied over specific growing crops prior to harvest and range grasses 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, Almonds, Apples, Artichokes, Asparagus, Avocados, Broccoli, Brussel sprouts, Cabbages, Cantaloupes, Cauliflower, Celery, Cherries, Corn (field and pop), Corn (sweet), Eggplants, Filberts (Hazelnuts), Garlic, Horseradish, Lettuce, Onions (dry bulb only), Papayas (FL only), Peaches/Nectarines, Pears, Bell peppers, Pistachios, Potatoes, Soybeans, Spinach, Tomatoes, and Walnuts.

Cucurbit vegetables, including Chayote (fruit), Chinese wax gourd (Chinese preserving melon), Citron melon, Cuban pumpkin, Cucumber, Gherkin, Gourd (edible, includes hyotan, cucuzza, 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, snake melon and winter melon), Pumpkin,

Squash (includes summer squash types such as: butternut squash, calabaza, crookneck squash, Hubbard squash, scallop squash, straightneck squash, vegetable marrow and zucchini, and winter squash types such as: acorn squash and spaghetti squash), Watermelon (includes hybrids and/or varieties of *Citrullus lanatus*).

Leafy Vegetables, including Leafy vegetables (except *brassica*) (Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (roquette), Chervil, Chrysanthemum (edible leaved and garland), Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Spinach (including New Zealand and vine (Malabar spinach, Indian spinach)).

Conditions and Rates To Use Perm-X™ UL 30-30 Undiluted						
Pounds A.I. Per Acre		Application Rates				Fluid Ounces of Perm-X™ UL 30-30 per Acre
		Fluid Ounces per Minute at MPH				
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.00700	0.00700	1.0938	2.1876	3.2814	4.3752	0.3646
0.00350	0.00350	0.5468	1.0938	1.6507	2.1876	0.1823
0.00175	0.00175	0.2736	0.5472	0.8208	1.0944	0.0912

### DILUTION RATES FOR PERM-X™ UL 30-30 FOR A 1:4 DILUTION

Mix 1 part PERM-X™ UL 30-30 with 4 parts Suitable Mineral Oil: Apply as follows:						
Pounds of A.I. Per Acre		Application Rates				Fl Oz Finished Spray Per Acre
		Fl Oz Per Minute At Vehicle Speeds				
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.00700	0.00700	5.3847	10.7694	16.1541	21.5388	1.7949
0.00350	0.00350	2.6925	5.3850	8.0775	10.7700	0.8975
0.00175	0.00175	1.3464	2.6928	4.0932	5.3856	0.4488

### DILUTION RATES FOR PERM-X™ UL 30-30 FOR A 1:8 DILUTION

Mix 1 part PERM-X™ UL 30-30 with 8 parts Suitable Mineral Oil: Apply as follows:						
Pounds of A.I. Per Acre		Application Rates				Fl Oz Finished Spray Per Acre
		Fl Oz Per Minute At Vehicle Speeds				
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.00700	0.00700	9.5457	19.0914	28.6371	38.1828	3.1819
0.00350	0.00350	4.7727	9.5454	14.3181	19.0908	1.5909
0.00175	0.00175	2.3862	4.7730	7.1595	9.5460	0.7955

### DILUTION RATES FOR PERM-X™ UL 30-30 FOR A 1:2 DILUTION

Mix 1 part PERM-X™ UL 30-30 with 2 parts Suitable Mineral Oil: Apply as follows:						
Pounds of A.I. Per Acre		Application Rates				Fl Oz Finished Spray Per Acre
		Fl Oz Per Minute At Vehicle Speeds				
Permethrin	PBO	5 mph	10 mph	15 mph	20 mph	
0.00700	0.00700	3.2814	6.5628	9.8442	13.1256	1.0938
0.00350	0.00350	1.6407	3.2814	4.9221	6.5628	0.5469
0.00175	0.00175	0.8205	1.6410	2.4615	3.2820	0.2735

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE AND SPILL PROCEDURES:** Store upright at room temperatures. Do not expose to extreme temperatures. In case of spill or leakage, ventilate the area, wear chemical resistant gloves, and footwear. Retrieve and filter the liquid in some manner and use as directed on this label, or “soak-up” the liquid with absorbent material such as sawdust, soil, fuller’s earth, etc. and dispose of the resulting chemical waste as follows.

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

**CONTAINER DISPOSAL:** Non-refillable container. Do not reuse or refill this container. Clean container promptly after emptying. **Containers 5 gallons or less – Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with mineral oil (or other solvent used when diluting the product) and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities. **Containers larger than 5 gallons – Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with mineral oil (or other solvent used when diluting the product). Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved state and local authorities. **Refillable 275 Gallon Stainless Steel Tote:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full of mineral oil or other suitable oil diluents. Agitate vigorously or recirculate mineral oil with pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Once triple rinsed, recycle if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Central Garden & Pet Company, 1501 East Woodfield Road, 200W, Schaumburg, Illinois 60173

**NOTE:** This specimen label is for informational purposes only. All uses may not be approved in all states. See product labeling for use directions.

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VEC 20-009

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Trade name : Perm-X UL 30-30  
Synonyms : 100208981; 100208982; 100208983; 100208984; 100510353; EPA Reg. No.: 89459-44

#### 1.2. Recommended use and restrictions on use

Recommended use : Insecticide.  
Restrictions on use : Avoid contact with eyes, skin and clothing. Avoid inhalation of vapors or fumes. Do NOT take internally. Keep out of reach of children.

#### 1.3. Supplier

Central Garden & Pet Company  
1501 E. Woodfield Road, Suite 200W  
Schaumburg, IL 60173 - United States

[www.centralmosquitocontrol.com](http://www.centralmosquitocontrol.com)

#### 1.4. Emergency telephone number

Emergency number : 1-800-248-7763  
1-800-424-9300 - CHEMTREC  
1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Acute toxicity (oral) Category 4	Harmful if swallowed
Acute toxicity (inhalation) Category 4	Harmful if inhaled
Skin sensitization, Category 1	May cause an allergic skin reaction
Specific target organ toxicity (single exposure) Category 1	Causes damage to organs
Aspiration hazard Category 1	May be fatal if swallowed and enters airways

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

Harmful if swallowed or if inhaled  
May be fatal if swallowed and enters airways  
May cause an allergic skin reaction  
Causes damage to organs (nervous system)

Precautionary statements (GHS US) :

Do not breathe dust/fume/gas/mist/vapours/spray.  
Wash hands, forearms and face thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Contaminated work clothing must not be allowed out of the workplace.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If swallowed: Immediately call a poison center or doctor.  
If on skin: Wash with plenty of water.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
If exposed: Call a poison center/doctor.  
Call a poison center or doctor if you feel unwell.  
Rinse mouth.  
Do NOT induce vomiting.  
If skin irritation or rash occurs: Get medical advice/attention.

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Wash contaminated clothing before reuse.  
Store locked up.  
Dispose of contents/container to in accordance with local/regional/national/international regulations.

### 2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : This product is extremely toxic to aquatic organisms, including fish and invertebrates. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%
Permethrin	(CAS-No.) 52645-53-1	30
Piperonyl butoxide	(CAS-No.) 51-03-6	30
Petroleum distillates, hydrotreated (mild) heavy paraffinic and hydrotreated (mild) light paraffinic	(CAS-No.) 64742-54-7 and 64742-55-8	38.81
Non-hazardous and/or does not meet criteria for classification	(CAS-No.) N/A	Balance

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.

First-aid measures after skin contact : IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice and attention.

First-aid measures after ingestion : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Call a physician immediately. Rinse mouth. Do NOT induce vomiting unless directed to do so by medical personnel.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Harmful if inhaled. Permethrin affects nervous system. Symptoms of overexposure to permethrin include diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity.

Symptoms/effects after skin contact : May cause an allergic reaction in individuals with a sensitivity to Piperonyl butoxide.

Symptoms/effects after ingestion : Harmful if swallowed. Permethrin affects the nervous system. Aspiration Hazard - may be fatal if swallowed and enters airways.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Avoid heavy hose streams.

### 5.2. Specific hazards arising from the chemical

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Do not allow fire fighting water to escape into waterways or sewers. Evacuate area. Move containers away from the fire area if this can be done without risk. Ventilate closed spaces before entering. Do not breathe gas/fumes/vapor/spray.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: Exposure controls/personal protection.

Emergency procedures : Do NOT wash away into sewer. Avoid release to the environment. Evacuate unnecessary personnel. Stop leak if safe to do so. Ventilate area. Wear appropriate personal protective equipment, avoid direct contact.

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Absorb spills with an inert material, clay granules or other inert absorbent material and put in container for disposal. Do not flush to sewer or allow to enter waterways. Wear appropriate personal protective equipment, avoid direct contact.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool. Avoid excess heat. Keep container tightly closed. Keep only in original container. Avoid extreme temperatures. Do not store near heat or open flame.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Petroleum distillates, hydrotreated (mild) heavy paraffinic and hydrotreated (mild) light paraffinic (64742-54-7 and 64742-55-8)

ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
ACGIH	ACGIH STEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>

#### 8.2. Appropriate engineering controls

Appropriate engineering controls : Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Environmental exposure controls : Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

##### Personal protective equipment:

See product label for specific PPE instructions.

##### Hand protection:

Wear chemical resistant gloves. Barrier laminate, nitrile rubber, neoprene rubber or Viton are recommended.

##### Eye protection:

Safety glasses

##### Skin and body protection:

Wear long-sleeved shirt and long pants, and shoes plus socks.

##### Respiratory protection:

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In case of insufficient ventilation, use NIOSH approved respiratory protection. Mixers and loaders supporting aerial applications to forests must wear at least a NIOSH-approved respirator with: A dust/mist filter with MSHA/NIOSH approval number prefix TC-21C, or any R, P, or HE filter.



### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear amber liquid
Color	: Amber
Odor	: Slight solvent and licorice
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 127 °C (260 °F)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: < 1 mmHg (torr) @ 3.9 °C (39 °F)
Relative vapor density at 20 °C	: No data available
Relative density	: 1.0012
Solubility	: Insoluble
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 18.5 cP @ 40 °C (104 °F)
Explosion limits	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: Not applicable

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Hazardous polymerization will not occur.

#### 10.4. Conditions to avoid

Avoid extreme temperatures. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Decomposes upon heating to produce toxic vapors/gases which may include oxides of carbon and nitrogen, hydrogen chloride and/or aldehydes.

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Permethrin (52645-53-1)	
LD50 oral rat	500 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	2.65 mg/l/4h

  

Piperonyl butoxide (51-03-6)	
LD50 oral rat	4300 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5 mg/l/4h

GHS-US Properties	Classification
Acute toxicity (oral)	Harmful if swallowed.
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Harmful if inhaled.
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Causes damage to organs.
Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	May be fatal if swallowed and enters airways.

#### Potential health effects

##### Inhalation

Acute : Harmful if inhaled. Permethrin affects nervous system. Symptoms of overexposure to permethrin include diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity.

##### Skin

Acute : May cause an allergic skin reaction in individuals with a sensitivity to piperonyl butoxide.

##### Eye

Acute : Under normal conditions of use, no health effects are expected.

##### Ingestion

Acute : Aspiration hazard - small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema. Harmful if ingested. Permethrin affects nervous system. Symptoms of overexposure to permethrin include diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity.

**Mutagenicity** : Permethrin was not mutagenic in a battery of in vitro and in vivo tests. Piperonyl butoxide was not mutagenic in a battery of tests.

**Carcinogenicity** : Permethrin is not classified as carcinogen by NTP, IARC and OSHA. Piperonyl butoxide is not classified as carcinogen by NTP, IARC and OSHA.

**Reproductive Effects** : Permethrin does not cause birth defects or adverse effects on reproduction. Piperonyl butoxide did not produce any birth defects or adverse effects on reproductive parameters in tests with rats and rabbits.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Permethrin (52645-53-1)	
LC50 Acute fish 1	0.00079 mg/l (Exposure time: 96h - Blue gill)
LC50 Acute fish 2	0.0022 mg/l (Exposure time: 96h - Atlantic silverside)
LC50 Acute crustacea 1	0.000019 mg/l (Exposure time: 96h - Mysid shrimp)
LC50 Acute crustacea 2	0.0001 mg/l (Hexagenia bilineata)
EC50 Daphnia 1	0.00043 mg/l (48 h, Daphnia magna, Literature study)
NOEC Chronic fish 1	0.0003 mg/l (Fathead minnow)
NOEC Chronic fish 2	0.00083 mg/l (Sheepshead minnow)

# Perm-X UL 30-30

## Safety Data Sheet

Permethrin (52645-53-1)	
NOEC Chronic crustacea 1	0.000039 mg/l (Daphnia magna)
NOEC Chronic crustacea 2	0.000011 mg/l (Mysid shrimp)
Piperonyl butoxide (51-03-6)	
LC50 Acute fish 1	1.9 mg/l (Rainbow trout)
LC50 Acute fish 2	3.94 mg/l (Sheepshead minnow)
LC50 Acute crustacea 1	0.49 mg/l (Mysid shrimp)
LC50 Acute crustacea 2	0.51 mg/l (Gammarus fasciatus (amphipod))
NOEC Chronic fish 1	0.04 mg/l (Fathead minnow)
NOEC Chronic crustacea 1	0.03 mg/l (Daphnia magna)

### 12.2. Persistence and degradability

Permethrin (52645-53-1)	
Persistence and degradability	Permethrin: not rapidly biodegradable.

### 12.3. Bioaccumulative potential

Permethrin (52645-53-1)	
Bioaccumulative potential	Permethrin: Bioconcentration factor (BCF) 300; Does not bioaccumulate.

### 12.4. Mobility in soil

Permethrin (52645-53-1)	
Mobility in soil	Permethrin: Immobile in soil

### 12.5. Other adverse effects

Perm-X UL 30-30	
Ecological Fate	This product is extremely toxic to aquatic organisms, including fish and invertebrates. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## SECTION 14: Transport information

	UN number	Proper Shipping Name	Transport hazard class(es)	Packing group	Environmental hazards
<b>DOT</b>	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable
<b>IMDG</b>	UN3082	Packaging greater than 5 L: Environmentally hazardous substance, liquid, n.o.s (Permethrin and Piperonyl butoxide)	9	III	Marine pollutant
<b>IATA</b>	UN3082	Packaging greater than 5 L: Environmentally hazardous substance, liquid, n.o.s (Permethrin and Piperonyl butoxide)	9	III	Acute aquatic toxicity

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

Permethrin (52645-53-1)	
Not listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 %

# Perm-X UL 30-30

## Safety Data Sheet

<b>Piperonyl butoxide (51-03-6)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 %
<b>Petroleum distillates, hydrotreated (mild) heavy paraffinic and hydrotreated (mild) light paraffinic (64742-54-7 and 64742-55-8)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>FIFRA Labelling</b>	
EPA Registration Number	89459-44
This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.	
FIFRA Signal word	<b>Caution</b>
FIFRA Precautionary Statement	KEEP OUT OF REACH OF CHILDREN.
FIFRA Hazards to Humans and Domestic Animals	Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Causes moderate eye irritation.
FIFRA First Aid	IF SWALLOWED: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by the 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. 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 treatment advice. Note to Physician: Contains petroleum distillate - vomiting may cause aspiration pneumonia.
FIFRA Environmental Hazards	This pesticide is extremely toxic to aquatic organisms, including fish and invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates. Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist. This pesticide is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area. 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.
FIFRA Physical Hazard	Do not use, pour, spill, or store near heat or open flame

### 15.2. US State regulations

No additional information available

## SECTION 16: Other information

Date of issue : 14 December 2015  
Revision date : 24 March 2020

Indication of changes:

Revised Sec. 1: Added material number(s).

SDS US (GHS HazCom 2012) - CGP

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



# DUET<sup>®</sup>

## Dual-Action Adulticide

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

A Quick Knockdown, Oil Soluble Synergized Synthetic Pyrethroid for Effective Control of Adult Mosquitoes, Gnats, Biting and Non-Biting Midges, and Blackflies in Outdoor Residential and Recreational Areas.

### ACTIVE INGREDIENTS:

Prallethrin: (RS)-2-methyl-4-oxo-3-(2-propynyl) cyclopent-2-enyl-(1RS)-cis, trans-chrysanthemate .....	1.00%
Sumithrin®: 3-Phenoxybenzyl-(1RS, 3RS, 1RS, 3SR)-2,2-dimethyl-3-(2-methylprop-1-enyl) cyclopropanecarboxylate .....	5.00%
* Piperonyl Butoxide .....	5.00%
** OTHER INGREDIENTS .....	89.00%
	100.00%

Contains 0.0717 pounds of Prallethrin/Gallon, 0.359 pounds of Sumithrin®/Gallon and 0.359 pounds of Piperonyl Butoxide (PBO)/Gallon

\*(butylcarbityl)(6-propylpiperonyl) ether and related compounds

\*\*Contains petroleum distillate

## KEEP OUT OF REACH OF CHILDREN

## CAUTION

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

### FIRST AID

#### IF SWALLOWED:

- Immediately call a poison control center or doctor.
- Do not induce vomiting unless told to do so by a poison control center or a doctor.
- Do not give **any** liquid to the person.
- Do not give anything by mouth to an unconscious person.

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

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information regarding medical emergencies or pesticide incidents, call 1-888-740-8712.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)** Mixers, loaders, applicators, and other handlers must wear the following: long-sleeved shirt, long pants, shoes and socks. See engineering controls for additional requirements.

**USER SAFETY REQUIREMENTS** Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

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

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

#### ENVIRONMENTAL HAZARDS

This pesticide is highly toxic to aquatic organisms, including fish and aquatic invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates. Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not

apply to or allow drift onto blooming crops or weeds when bees are foraging in the treatment area, except when applications are made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

#### PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

#### DIRECTIONS FOR USE

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

#### USE RESTRICTIONS

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

IN CALIFORNIA: This product is to be applied by County Health Department, State Department of Health Services, Mosquito and Vector Control or Mosquito Abatement District personnel only.

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

Do not treat a site with more than 0.0036 lb. of each a.i., Sumithrin and piperonyl butoxide and 0.00072 lbs. prallethrin per acre in a single application or in any 24-hour period. Do not apply more than 0.0108 lb. each of Sumithrin and piperonyl butoxide and 0.0022 lb. prallethrin to the same treatment area in a 7 day period. Do not apply more than 0.0216 lb. each of Sumithrin and piperonyl butoxide and 0.0043 lb. prallethrin to the same treatment area in 1 month. Do not exceed 0.1 lb. of Sumithrin or piperonyl butoxide or 0.02 lb. prallethrin per acre in any site in one year. More frequent applications may be made to prevent or control a threat to public and/or animal health determined by a state, tribal, or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.

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

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

DUET cannot be diluted in water. Dilute this product with light mineral oil if dilution is preferred.

#### USE INFORMATION

DUET is approved for application as a thermal aerosol and as an Ultra Low Volume (ULV) nonthermal aerosol (cold fog) in mosquito adulticiding programs involving outdoor residential, urban, industrial, and recreational areas where adult mosquitoes are present in annoying numbers, and in vegetation surrounding parks, woodlands, swamps, marshes, overgrown areas and golf courses.

DUET may be applied over crops or to areas favoring drift over crops, including row, tree, fruit, citrus, pasture and other areas where agricultural enterprises take place.

#### SPRAY DROPLET SIZE DETERMINATION

**Ground-based, wide area mosquito abatement application:** Spray equipment must be adjusted so that the volume median diameter (VMD) is less than 30 microns (Dv 0.5 < 30 um) and that 90% of the spray is contained in droplets smaller than 50 microns (Dv 0.9 < 50 um). Directions from the equipment manufacturer or vendor, pesticide registrant, or a test facility using a laser-based measurement instrument must be used to adjust equipment to produce acceptable droplet size spectra. Application equipment must be tested at least annually to confirm that pressure at the nozzle and nozzle flow rate(s) are properly calibrated.

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

#### GROUND ULV APPLICATION

To control Mosquitoes and other listed insects, apply DUET at a flow rate of 2.6 to 7.8 fluid ounces per minute at an average vehicle speed of 10 mph using a swath width of 300 feet for acreage calculations (see chart below). For best results, apply when mosquitoes are most active and meteorological conditions are conducive to keeping the spray cloud close to the ground. Certain mosquito species such as *Aedes aegypti* and *Aedes albopictus*, are most active during the day. Application in calm air conditions is to be avoided. Apply only when ground wind speed is greater than or equal to 1 mph. All types of applications should be conducted at temperatures above 50 °F. Under normal residential conditions a flow rate of 4.8 fluid ounces per minute at an average vehicle speed of 10 mph is recommended. If a different vehicle speed is used, adjust rate accordingly. These rates are equivalent to 0.00024 to 0.00072 pounds of Prallethrin and 0.0012 to 0.0036 pounds of Sumithrin® and Piperonyl Butoxide per acre. Vary flow rate according to vegetation density and mosquito population. Use higher flow rate

in heavy vegetation or when populations are high. DUET may also be diluted with a suitable solvent such as mineral oil and applied by GROUND ULV equipment so long as 1.28 fluid ounces per acre of DUET is not exceeded. Refer to the dilution tables on this label for flow rate calculations for diluted end-use formulations of DUET. Use the following tables to calculate application rates:

Pounds a.i./Acre			DUET Fl.oz./Acre	Flow Rates in fluid oz./minute at truck speeds of:			
Prallethrin	Sumithrin®	PBO		5 MPH	10 MPH	15 MPH	20 MPH
0.00072	0.0036	0.0036	1.28	3.9	7.8	11.7	15.6
0.00044	0.0022	0.0022	0.79	2.4	4.8	7.1	9.5
0.00036	0.0018	0.0018	0.64	1.9	3.9	5.8	7.8
0.00024	0.0012	0.0012	0.43	1.3	2.6	3.9	5.2

DUET may be applied through truck mounted thermal fogging equipment. Do not exceed the maximum rates listed above. May be applied at speeds of 5 to 20 mph. To reduce oil requirement and sludge buildup in equipment, use a 60-100-second viscosity mineral "fog" oil or other fuel-type oil. Use a clean, well-maintained and properly calibrated fogger. Do not wet foliage since oil base formulations may be phytotoxic.

**Urban ULV Mosquito Control:** DUET may be applied for control of resting or flying adult mosquitoes in urban and industrial areas such as utility tunnels, pipe chases, underground basements, underground passages, parking decks, open parking garages, abandoned warehouses, crawl spaces, uninhabited buildings, rail yards, waste yards, junkyards, tire dumps, and other areas where adult mosquitoes may be found. Apply using mechanical-foggers, or truck-mounted ULV equipment, or other spray equipment suitable for this application. Apply at rates up to but not exceeding 0.0036 lb of each a.i., Sumithrin and piperonyl butoxide and 0.00072 lbs. prallethrin per acre in a single application or in any 24-hour period.

#### AERIAL APPLICATION

DUET may be applied at rates of 0.43 to 1.28 fluid ounces of DUET per acre by fixed wing or rotary aircraft equipped with suitable ULV application equipment. Appropriate spray systems include rotary atomizers, flat fan, high pressure, and high pressure impaction nozzles characterized and oriented to achieve the droplet characteristics specified in this label. DUET may also be diluted with a suitable solvent such as mineral oil and applied by aerial ULV equipment so long as 1.28 fluid ounces per acre of DUET is not exceeded. Refer to the dilution tables on this label for flow rate calculations for diluted end-use formulations of DUET. Do not apply by fixed wing aircraft at a height less than 100 feet above the ground or canopy, or by helicopter at a height less than 75 feet above the ground or canopy unless specifically approved by the state or tribe based on public health needs. When making aerial application at an altitude of less than 100 feet, apply only when wind speed at altitude is greater than or equal to 5 mph. When making application at an altitude of 100 feet or greater, apply only when wind speed at altitude is greater than or equal to 3 mph.

## STORAGE AND DISPOSAL

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

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

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

#### CONTAINER DISPOSAL:

[For 2.5-gallon Jugs]: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with mineral oil and recap. Shake for 10 seconds. Pour rinsate into application equipment or a rinse tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

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

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

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

Sumithrin® - Registered Trademark of Sumitomo Chemical Company, Ltd.

Duet® - Registered Trademark of Clarke Mosquito Control Products, Inc.

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

#### DILUTION CALCULATIONS

For a 4% Sumithrin product, dilute 1 gallon DUET with 0.25 gallon oil. Finished spray contains 0.29 lbs Sumithrin & PBO and 0.06 pounds Prallethrin per gallon.

Dosage Description	Pounds a.i./Acre			Fluid oz. Finished spray/Acre	Flow Rates in fluid oz./minute at truck speeds of:			
	Prallethrin	Sumithrin	PBO		5 MPH	10 MPH	15 MPH	20 MPH
High Population	0.00072	0.0036	0.0036	1.61	4.9	9.7	14.6	19.5
Recommended	0.00044	0.0022	0.0022	0.98	3.0	5.9	8.9	11.9
Light Population	0.00036	0.0018	0.0018	0.80	2.4	4.9	7.3	9.7
	0.00024	0.0012	0.0012	0.54	1.6	3.2	4.9	6.5

For a 2.5% Sumithrin product, dilute 1 gallon DUET with 1 gallon oil. Finished spray contains 0.179 lbs Sumithrin & PBO and 0.036 pounds Prallethrin per gallon.

Dosage Description	Pounds a.i./Acre			Fluid oz. Finished spray/Acre	Flow Rates in fluid oz./minute at truck speeds of:			
	Prallethrin	Sumithrin	PBO		5 MPH	10 MPH	15 MPH	20 MPH
High Population	0.00072	0.0036	0.0036	2.57	7.8	15.6	23.4	31.1
Recommended	0.00044	0.0022	0.0022	1.57	4.8	9.5	14.3	19.0
Light Population	0.00036	0.0018	0.0018	1.28	3.9	7.8	11.7	15.6
	0.00024	0.0012	0.0012	0.86	2.6	5.2	7.8	10.4

For a 2% Sumithrin product, dilute 1 gallon DUET with 1.5 gallons oil. Finished spray contains 0.143 lbs Sumithrin & PBO and 0.029 pounds Prallethrin per gallon.

Dosage Description	Pounds a.i./Acre			Fluid oz. Finished spray/Acre	Flow Rates in fluid oz./minute at truck speeds of:			
	Prallethrin	Sumithrin	PBO		5 MPH	10 MPH	15 MPH	20 MPH
High Population	0.00072	0.0036	0.0036	3.21	9.7	19.5	29.2	38.9
Recommended	0.00044	0.0022	0.0022	1.96	5.9	11.9	17.8	23.8
Light Population	0.00036	0.0018	0.0018	1.61	4.9	9.7	14.6	19.5
	0.00024	0.0012	0.0012	1.07	3.2	6.5	9.7	13.0

AVAILABLE PACKAGING: 2.5 GAL, 30 GAL, 55 GAL, 275 GAL TOTE

LOT NO.: Marked on Container Label

EPA REG. NO.: 1021-1795-8329

EPA EST. NO.: \_\_\_\_\_

AL0477



# SAFETY DATA SHEET

## DUET<sup>®</sup> Dual-Action Adulticide

Effective Date: 15 November 2021

v.03

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### SECTION 1. Identification of the Substance/Mixture and of the Company

#### Product Identifier

Formulation Identifier: DUET<sup>®</sup> Dual-Action Adulticide

EPA Registration Number: 1021-1795-8329

#### Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant identified uses: An insecticide for mosquito and vector control

Uses advised against: See product label for use restrictions

#### Details of the Supplier

Clarke Mosquito Control Products, Inc.  
675 Sidwell Court  
St. Charles, IL 60174 U.S.A.  
+1 (630) 894-2000  
Email: Clarke@clarke.com

#### Emergency Telephone Number

24 Hour MEDICAL Emergency: SafetyCall<sup>®</sup>: (888) 740-8712 or (952) 852-9509

24 Hour TRANSPORTATION Emergency: CHEMTREC<sup>®</sup>: (800)-424-9300

International: (703) 527-3887

### SECTION 2. Hazards identification

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

#### Classification of the Substance or Mixture

Acute Toxicity (Inhalation): Category 4

Aspiration Toxicity: Category 1

Pictogram:



Signal Word: DANGER

Hazard Statements: Harmful if inhaled.

May be fatal if swallowed and enters airways.

Precautionary Statements:

PREVENTION: Avoid breathing mist/vapors/spray. Use only outdoors or in well-ventilated area.

RESPONSE: IF INHALED- Remove victim to fresh air and keep at rest in a position for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

IF SWALLOWED: Immediately call a poison center/doctor. Do NOT induce vomiting.

STORAGE: Store locked up in a well ventilated place. Keep container tightly closed.

DISPOSAL: Dispose of contents/container to an approved waste disposal plant.

**Other Hazards Not Classifiable Under OSHA 2012 HCS - Not applicable**



# SAFETY DATA SHEET

## DUET® Dual-Action Adulticide

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Comments: This material is considered hazardous by the 2012 OSHA Hazard Communication Standard [29 CFR 1910.1200(a)(1), and the GHS

### SECTION 3. Composition/Information on Ingredients

#### Components

Substance Name	CAS No.	Concentration % w/w
ETOC® (Prallethrin)	23031-36-9	1.0
SUMITHRIN® (d-Phenothrin)	26002-80-2	5.0
Piperonyl Butoxide	51-03-6	5.0
Petroleum Distillates, hydrotreated light	64742-47-8	20-30 *
White Mineral Oil	8042-47-5	50-75 *

\* The exact percentage (concentration) of composition has been withheld as trade secret.

Ingredients not identified are non-hazardous and/or are not required to be disclosed pursuant to 29 CFR 1910.1200 (2012), and are withheld as trade secret.

### SECTION 4. First Aid Measures

#### Description of First Aid Measures

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

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

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

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

#### Indication of Immediate Medical Attention and Special Treatment

Notes to Physician: Contains Pyrethroids and Petroleum Distillates – vomiting may pose an aspiration hazard. For skin effects, a highly efficient therapeutic agent for Pyrethrin/Pyrethroid exposure is topical application of Tocopherol Acetate (Vitamin E).

### SECTION 5. Fire-Fighting Measures

#### Extinguishing Media

Suitable Extinguishing Media: Water Fog, Carbon Dioxide (CO<sub>2</sub>), Dry Chemical, foam

Unsuitable Extinguishing Media: Do not use water jet.

#### Special Hazards Arising From the Substance or Mixture

Specific Hazards: No information available.

#### Explosion data:

Sensitivity to Mechanical Impact: None

Sensitivity to static discharge: Yes, use proper bonding and/or grounding procedures.

#### Special Protective Equipment and Precautions for Fire-Fighters

Protection against fire: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Special Procedures: Treat as oil fire. Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Dike for later disposal. Use extinguishing agents



# SAFETY DATA SHEET

## DUET® Dual-Action Adulticide

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appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

### SECTION 6. Accidental Release Measures

#### Personal Precautions, Protective Equipment and Emergency Procedures

General Precautions: Use appropriate protection (see section 8). Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment as required.

Environmental Precautions: Prevent product from entering into drains and waterways. Collect and dispose of this material and its container in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities.

#### Methods and Material for Containment and Cleaning Up

Methods for containment: Prevent further leakage of spillage if safe to do so. Move containers from spill area.

Small spill: Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Large Spill: Prevent entry into sewers, water courses, basements or confined areas. Dam up and soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

### SECTION 7. Handling and Storage

#### Precautions for Safe Handling

Protective measures: Wear a long-sleeved shirt, long pants, shoes and socks. Take prudent precautions to avoid contact with skin, eyes, and clothing. Mechanical ventilation should be used when handling this product in enclosed spaces. Do not contaminate water, food or feedstuffs, by storage, handling, or by disposal.

Hygiene Measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

#### Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a cool, dry place. Keep container closed. Always store pesticides in the original container. Store away from food and pet food. Keep out of reach of children.

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

### SECTION 8. Exposure Controls / Personal Protection

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

#### Control Parameters

Component Name	CAS No.	List	Type	Value
ETOC® (Prallethrin)	23031-36-9	OSHA; ACGIH		None
SUMITHRIN® (d-Phenothrin)	026002-80	OSHA; ACGIH		None
Piperonyl Butoxide	51-03-6	OSHA; ACGIH		None
Petroleum Distillates	64742-47-8	OSHA & ACGIH	TLV/TWA (as oil-mist, if generated)	5 mg/m <sup>3</sup>



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Mineral Oil	8042-47-5	OSHA & ACGIH	PEL / TLV, TWA (oil mist, mineral)	5 mg/m <sup>3</sup>
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### Exposure controls

Engineering Controls: Use with adequate ventilation. Local exhaust ventilation may be necessary for some operations..

Individual Protection Measures, such as Personal Protection Equipment:

Eye Protection: Safety Glasses, Goggles or Face Shield. Take prudent precautions to avoid contact with eyes.

Skin Protection: Wear a long-sleeved shirt and long pants, shoes and socks.

Hand Protection: It is good industrial hygiene practice to minimize skin contact. If required or preferred, use suitable protective chemical resistant gloves such as latex, nitrile, or neoprene.

Respiratory Protection: None required. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

## SECTION 9. Physical and Chemical Properties

### Information on Basic Physical and Chemical Properties

Appearance:	Clear, yellow-colored liquid
Color:	1.0 on Gardner Scale
Odor:	Solvent odor
Odor Threshold:	No information available
pH:	Not applicable. Product is not miscible in water
Melting Point:	No information available
Freezing Point:	No information available
Initial Boiling Point:	No information available
Flash Point:	>93.3°C (>200°F) (Tag Closed Cup)
Evaporation Rate:	No information available
Flammability:	No information available
Explosion limits [U/L]:	No information available
Vapor Pressure:	No information available
Vapor Density (Air =1):	Heavier than air
Relative Density:	No information available
Specific Gravity (Water = 1)	0.860 @ 20°C (68°F)
Solubility:	Immiscible
Partition Coefficient:	No information available
Auto-Ignition Temperature:	No information available
Viscosity:	18 cPs @ 22.0°C (71.6°F) Brookfield
Decomposition Temperature:	No information available
Explosive Properties:	No information available
Oxidizing Properties:	No information available
VOC Content (%):	<1.000%

## SECTION 10. Stability and Reactivity

### Reactivity

No data available

### Chemical Stability



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Stable under recommended normal storage conditions

### Possibility of Hazardous Reactions

Hazardous Reactions: None under normal conditions  
Hazardous Polymerization: Hazardous polymerization does not occur

**Conditions to avoid** Extremes of temperature and direct sunlight

**Incompatible materials** Not compatible with strong acids and bases. Not compatible with oxidizing agents.

### Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

## SECTION 11. Toxicological information

### Information on Likely Routes of Exposure

Routes of entry: Oral, Dermal, Inhalation

May be fatal if swallowed and enters airways due to petroleum distillate. Vomiting may cause aspiration pneumonia.

### Information on Toxicological Effects

#### Acute Toxicity / Effects

Assessment of acute toxicity: Slightly toxic after ingestion. Relatively non-toxic after short-term inhalation. Moderately toxic after short term skin contact. Some or all of the toxicity data reported is bridged from a substantially similar formula.

Oral, (Rat) LD<sub>50</sub> >5,000 mg/kg

Dermal, (Rabbit) LD<sub>50</sub> >2,000 mg/kg

Inhalation, Rat LC<sub>50</sub> >2.04 mg/l (4 hours)

Skin Corrosion/Irritation: Slight irritation at 72 hours. Irritation Index = 0.92

Serious Eye Damage/Irritation: Irritation clearing in 24 hours.

Skin Sensitization: Negative; Not considered to be a dermal sensitizer (Buehler).

Conditions aggravated by exposure: None known

#### Chronic Toxicity / Effects

Assessment of repeated dose toxicity: No significant signs or symptoms indicative of any adverse health effects are expected to occur.

Germ Cell Mutagenicity This product has not been tested. The statement has been derived from the properties of the individual components. No data is available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not carcinogenic. This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Marginally higher incidences of benign liver tumors in mice were observed following lifetime high dose exposures to PBO. The significance of these observations is undetermined and under review. The doses at which tumors were observed for PBO greatly exceeded potential exposure from labeled uses.

Reproductive Effects: This product has not been tested. The statement has been derived from the properties of the individual components. No data is available to indicate product or any components present at greater than 0.1% produce a fertility impairing effect. No indication of a developmental toxic / teratogenic effect.

STOT – Single exposure Not classified

STOT – Repeated exposure Not classified

## SECTION 12. Ecological Information

### Ecotoxicity:

Product specific data is not available. Data referenced is in relation to active ingredients, d-Phenothrin and PBO



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Toxicity to Fish:	d-Phenothrin 96-hr Acute LC <sub>50</sub> 16.7 µg/L (rainbow trout), 15.8 µg/L (bluegill sunfish) PBO: 96-hour Acute LC <sub>50</sub> 6/12 ppm (rainbow trout) Prallethrin LC <sub>50</sub> 0.012 mg/L (rainbow trout)
Toxicity to Aquatic Invertebrates:	d-Phenothrin 48-hr LC <sub>50</sub> 4.4 µg/L <i>Daphnia magna</i> d-Phenothrin 48-hr LC <sub>50</sub> 0.025 µg/L <i>Mysidopsis bahia</i> PBO: 96-hr LC <sub>50</sub> 0.49 ppm, <i>Americamysis bahia</i> Prallethrin 48-hr EC <sub>50</sub> 0.0062 mg/L <i>Daphnia</i>
Toxicity to Plants:	No data available
<u>Persistence and Degradability</u> Product specific data not available. Data referenced is in relation to the active ingredients, d-Phenothrin and PBO	
Biodegradability:	Not readily biodegradable (by OECD criteria)
Bioconcentration Factor:	d-Phenothrin: 592 (edible), 4,000 (non-edible) PBO: 2, 175 Prallethrin: no data available
Log Kow:	d-Phenothrin: 6 PBO: 4.95 Prallethrin: 4.49
Depuration:	d-Phenothrin, PBO: 2-4 days
Mobility in Soil:	d-Phenothrin has low water solubility and binds tightly to soil. Based on these properties, d-phenothrin is relatively immobile in soil and its potential to contaminate groundwater is low.  PBO is not very soluble in water and adheres moderately to soil with organic matter.  Prallethrin is not very water soluble and adheres moderately with organic material. The hazard for prallethrin to move off the site of application with rain or irrigation is rated moderate.

### SECTION 13. Disposal Considerations

#### Waste Treatment and Disposal methods

Pesticide wastes are regulated. Consult product label for chemical substance and container disposal instructions. Avoid release to the environment. Improper disposal of excess product or rinsate is a violation of Federal law. If these wastes cannot be disposed or 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: Rinse thoroughly in accordance with label instructions.

### SECTION 14. Transport Information

#### DOT (US)

Proper Shipping Name: Agricultural Insecticide. N.O.I. Non-Hazardous  
Primary Hazard Class/Division: Non-Hazardous

In Non-Bulk quantities (i.e., less than or equal to 119 Gallons / 450 Liters): This material is not regulated by the DOT as a hazardous material.

In Bulk Quantities (more than 119 Gallons / 450 Liters):

UN Number: UN3082

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (d-PHENOTHRIN)

Hazard Class: 9

Packing Group: III

Marine Pollutant: Yes

#### IMDG (Vessel)



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## DUET<sup>®</sup> Dual-Action Adulicide

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UN Number: UN3082  
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (d-PHENOTHRIN)  
Hazard Class: 9  
Packing Group: III  
Marine Pollutant: Yes

### ICAO/IATA (Air transport)

UN Number: UN3082  
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (d-PHENOTHRIN)  
Hazard Class: 9  
Packing Group: III  
Marine Pollutant: Yes

## SECTION 15. Regulatory Information

**FIFRA Information:** This chemical is a pesticide product regulated by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal word: CAUTION  
KEEP OUT OF REACH OF CHILDREN

**PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS:** CAUTION. Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

**Personal Protective Equipment (PPE):** Mixers, loaders, applicators, and other handlers must wear the following: long-sleeve shirt, long pants, shoes and socks. See engineering controls for additional requirements.

**User safety requirements:** Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

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

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

### 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 a doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

Note to physician: Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information regarding medical emergencies or pesticide incidents call 1-888-740-8712.

### Other Federal Regulations

#### SARA TITLE III CLASSIFICATION

Section 302: None

Section 311/312: Immediate (acute) health hazard

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

CAS Number	Chemical Name	% by wt.
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26002-80-2  
51-03-6

d-phenothrin  
piperonyl butoxide

5.0  
5.0

CERCLA RQ: None

U.S. California Proposition 65: Not listed

STATE RIGHT-TO-KNOW: National, state, provincial or local emergency planning, community right-to-know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### SECTION 16. Other Information

DISCLAIMER OF LIABILITY: The information in this SDS was obtained from sources we believe to be reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared as is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

NFPA Health Hazards 2  
Flammability 1  
Instability 0  
Physical and Chemical Properties –

HMIS Health Hazards 1  
Flammability 1  
Physical Hazards 0  
Personal Protection X

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# Altosid<sup>®</sup> PELLETS

## MOSQUITO GROWTH REGULATOR

**A GRANULAR PRODUCT TO PREVENT ADULT MOSQUITO EMERGENCE (INCLUDING THOSE WHICH MAY TRANSMIT WEST NILE VIRUS)**

### SPECIMEN LABEL

**ACTIVE INGREDIENT:**

(S)-Methoprene (CAS #65733-16-6) . . . . . 4.25%

**OTHER INGREDIENTS:** . . . . . 95.75%

Total . . . . . 100.00%

EPA Reg No. 2724-448      EPA Est. No. 39578-TX-1

KEEP OUT OF REACH OF CHILDREN  
**CAUTION**

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

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

**FIRST AID**

Call a poison control center or doctor for treatment advice.

- |                   |   |
|-------------------|---|
| <b>If in eyes</b> | <ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> </ul> |
|-------------------|---|

- |                               |   |
|-------------------------------|---|
| <b>If on skin or clothing</b> | <ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> </ul> |
|-------------------------------|---|

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-248-7763 for emergency medical treatment information.

**ENVIRONMENTAL HAZARDS**

Do not contaminate water when disposing of rinsate or equipment washwaters.

**DIRECTIONS FOR USE**

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

**INTRODUCTION**

ZOËCON<sup>®</sup> ALTOSID<sup>®</sup> Pellets (ALTOSID<sup>®</sup> Pellets) release ALTOSID<sup>®</sup> Insect Growth Regulator as they erode. ALTOSID<sup>®</sup> Pellets prevent the emergence of adult standing water mosquitoes, including *Anopheles*, *Culex*, *Culiseta*, *Coquillettidia*, and *Mansonia* spp., as well as adults of the floodwater mosquitoes such as *Aedes*, *Ochlerotatus*, and *Psorophora* spp. from treated sites.

**GENERAL DIRECTIONS**

ALTOSID<sup>®</sup> Pellets release effective levels of ALTOSID<sup>®</sup> Insect Growth Regulator for up to 30 days under typical environmental conditions. Continue treatment through the last brood of the season. Treated larvae continue to develop normally to the pupal stage where they die. **NOTE:** This insect growth regulator has no effect on mosquitoes which have reached the pupal or adult stage prior to treatment.

**APPLICATION SITES AND RATES**

Use lower application rates when water is shallow, vegetation and/or pollution are minimal, and insect populations are low. Use higher rates when water is deep (>2 ft), vegetation, pollution, and/or organic debris or water flow are high, and insect populations are high. In instances of high organic debris and water flow, residual activity may be diminished.

**MOSQUITO HABITAT** **RATE (LB/ACRE)**

**Floodwater sites**

Pastures, meadows, rice fields, freshwater swamps and marshes, salt and tidal marshes, cattail marshes, woodland pools, flood-plains, tires, other artificial water-holding containers 2.5–5

Dredging spoil sites, waste treatment and settling ponds, ditches and other manmade depressions 5–10

**Permanent water sites**

Ornamental ponds and fountains, fish ponds, cattail marshes, water hyacinth beds, flooded crypts, transformer vaults, abandoned swimming pools, construction and other manmade depressions, treeholes, other artificial water-holding containers 2.5–5

Storm drains, catch basins, roadside ditches, cesspools, septic tanks, waste settling ponds, vegetation-choked phosphate pits 5–10

**APPLICATION METHODS**

**Mosquitoes:** Apply **ALTOSID® Pellets** up to 15 days prior to flooding, or at any stage of larval development after flooding or in permanent water sites. Fixed wing aircraft or helicopters equipped with granular spreaders capable of applying rates from 2.5 to 10 lb/acre may be used to apply **ALTOSID® Pellets**. The pellets may also be applied using ground equipment which will achieve good, even coverage at the above rates. Apply **ALTOSID® Pellets** to artificial containers such as tires and catch basins, etc.

**STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage or disposal. Store closed containers of **ALTOSID® Pellets** in a cool, dry place.

**PESTICIDE DISPOSAL**

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

**CONTAINER HANDLING**

Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent). Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**WARRANTY AND CONDITIONS OF SALE**

Seller makes no warranty, expressed or implied, concerning the use and handling of this product other than indicated on the label. Buyer assumes all risks of use and handling of this material when such use and handling are contrary to label instructions.

For information or in case of an emergency, call **1-800-248-7763**.

**www.altosid.com**

**Wellmark International**  
1501 East Woodfield Road 200W  
Schaumburg, Illinois 60173





## Safety Data Sheet

### Section 1: Identification

#### Product identifier

##### Product Name

• **Zoecon Altosid Pellets**

##### Synonyms

• 100503099; 100526053; 37720B; 37730D; 38540; EPA Reg. No.: 2724-448; Prolink Pellets Mosquito Growth Regulator; Strike Pellets; Zoecon Altosid Pellets WSP; Zoecon Altosid WSP; Zoecon RF-330 Altosid Mosquito Growth Regulator

##### Product Description

• Black rod-shaped pellets.

#### Relevant identified uses of the substance or mixture and uses advised against

##### Recommended use

• Insect growth regulator

##### Restrictions on use

• Keep out of the reach of children. Avoid contact with eyes, skin or clothing. Avoid breathing dust.

#### Details of the supplier of the safety data sheet

##### Manufacturer

• Wellmark International  
1501 E. Woodfield Road, Suite 200 West  
Schaumburg, IL 60173  
United States  
www.centralmosquitocontrol.com

#### Emergency telephone number

##### Manufacturer

• 1-800-248-7763

##### Manufacturer

• 1-800-424-9300 - CHEMTREC

##### Manufacturer

• 1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

### Section 2: Hazard Identification

#### United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

#### Classification of the substance or mixture

##### OSHA HCS 2012

• Eye Mild Irritation 2B  
Combustible Dust  
Carcinogenicity 1A

#### Label elements

##### OSHA HCS 2012

**DANGER**



**Hazard statements** • May form combustible dust concentrations in air.  
 Causes eye irritation  
 May cause cancer.

### Precautionary statements

**Prevention** • Wash thoroughly after handling.  
 Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 Wear protective gloves/protective clothing/eye protection/face protection.

**Response** • IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 If eye irritation persists: Get medical advice/attention.  
 IF exposed or concerned: Get medical advice/attention.

**Storage/Disposal** • Store locked up.  
 Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Supplemental information** • The finished product is not considered carcinogenic because of the product's physical form. The Hazard Statement "May Cause Cancer" is presented because a component of this product contains a naturally occurring trace amount of crystalline silica (quartz) which is classified as carcinogenic to humans if inhaled. Respiratory exposure to silica dust from the finished product is not expected to occur under normal conditions of use due to the manner in which the constituents are bound or packaged in water soluble pouches. The crystalline silica in the finished product is unlikely to pose personal exposure via inhalation.

### Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

## Section 3 Composition/Information on Ingredients

### Substances

- Material does not meet the criteria of a substance.

### Mixtures

Composition		
Chemical Name	Identifiers	%
(s)-Methoprene	CAS:65733-16-6	4.25%
Plaster of paris	CAS:26499-65-0	69.16%
Silica, crystalline - quartz	CAS:14808-60-7	0.7%
Activated Carbon	CAS:7440-44-0	9.26%
Other ingredients	NDA	16.63%

## Section 4: First-Aid Measures

### Description of first aid measures

#### Inhalation

- IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms occur.

#### Skin

- IF ON SKIN: Wash with plenty of soap and water. If irritation or rash occurs, get

- medical advice/attention. Wash contaminated clothing before reuse.
- Eye**
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice.
- Ingestion**
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended.

### Most important symptoms and effects, both acute and delayed

- Causes eye irritation, may cause cancer. Refer to Section 11 - Toxicological Information.

### Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- Treat symptomatically and supportively.

## Section 5: Fire-Fighting Measures

### Extinguishing media

**Suitable Extinguishing Media** • Water fog, fine water spray, carbon dioxide or foam.

**Unsuitable Extinguishing Media**

- Avoid heavy hose streams.

**Firefighting Procedures**

- Do not allow fire fighting water to escape into waterways or sewers. Combustible dust - use low-pressure medium fog streams to avoid dust clouds.

### Special hazards arising from the substance or mixture

**Unusual Fire and Explosion Hazards**

- Combustible Dust.  
Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

**Hazardous Combustion Products**

- Carbon monoxide and carbon dioxide.

### Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).

## Section 6 Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions**

- Wear appropriate personal protective equipment, avoid direct contact. Keep all sources of ignition away and avoid creating dusty conditions. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not walk through spilled material. Ventilate enclosed areas.

**Emergency Procedures**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Contain spill and monitor for excessive dust accumulation. Keep unauthorized personnel away. Ventilate closed spaces before entering.

### Environmental precautions

- Avoid run off to waterways and sewers.

### Methods and material for containment and cleaning up

**Containment/Clean-up Measures**

- Carefully shovel or sweep up spilled material and place in suitable container. Use clean non-sparking tools to collect absorbed material. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).  
Wear appropriate personal protective equipment, avoid direct contact.

## Section 7 Handling and Storage

## Precautions for safe handling

### Handling

- Avoid contact with skin, eyes, and clothing. Wear appropriate personal protective equipment, avoid direct contact. Do not use in areas without adequate ventilation. Take precautionary measures against static charges. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

## Conditions for safe storage, including any incompatibilities

### Storage

- Store in cool, dry area, inaccessible to children. Store at temperatures not exceeding 90°F. Store away from heat or open flame. Store locked up.

### Incompatible Materials or Ignition Sources

- Heat, sparks, open flame. Strong acids, strong bases, and oxidizing agents.

## Section 8 Exposure Controls/Personal Protection

### Control parameters

- Exposure Limits/Guidelines** • It is recommended that dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Silica, crystalline - quartz (14808607)	TWAs	0.025 mg/m <sup>3</sup> TWA (respirable particulate matter)	0.05 mg/m <sup>3</sup> TWA (respirable dust)	50 µg/m <sup>3</sup> TWA
Plaster of paris (26499650)	TWAs	Not established	10 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable dust)	15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)

### Exposure Limits Supplemental OSHA

- Silica, crystalline - quartz (14808607): **Mineral Dusts:** ((30)/( %SiO<sub>2</sub> + 2) mg/m<sup>3</sup> TWA, total dust; (250)/( %SiO<sub>2</sub> + 5) mppcf TWA, respirable fraction; (10)/( %SiO<sub>2</sub> + 2) mg/m<sup>3</sup> TWA, respirable fraction)

## Exposure controls

### Engineering Measures/Controls

- Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is not leakage from the equipment). Local exhaust ventilation.

### Personal Protective Equipment Pictograms



### Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirator if nuisance dust exposure limits are exceeded or symptoms are experienced.

### Eye/Face

- Wear safety glasses.

### Hands

- Wear appropriate gloves.

### Skin/Body

- If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

### General Industrial Hygiene Considerations

- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

### Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

## Section 9 - Physical and Chemical Properties

### Information on Physical and Chemical Properties

<b>Material Description</b>			
Physical Form	Solid	Appearance/Description	Dark gray to black rod-shaped pellets.
Color	Dark gray to black.	Odor	Slight hydrocarbon.
Odor Threshold	No data available		
<b>General Properties</b>			
Boiling Point	No data available	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	Not relevant
Specific Gravity/Relative Density	No data available	Bulk Density	59 to 60 lb(s)/ft <sup>3</sup>
Water Solubility	Insoluble	Viscosity	Not relevant
<b>Volatility</b>			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
<b>Flammability</b>			
Flash Point	Not relevant	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
<b>Environmental</b>			
Octanol/Water Partition	No data available		

## Section 10: Stability and Reactivity

### Reactivity

- This material is friable and can create small dust particles during any handling, processing, and transfer operations. This material can form explosive dust/air suspensions that are ignitable under some conditions.

### Chemical stability

- Stable under normal temperatures and pressures.

### Possibility of hazardous reactions

- Hazardous polymerization will not occur. May form combustible dust concentrations in the air.

### Conditions to avoid

- Heat, sparks, open flame, other ignition sources, and oxidizing conditions. Strong oxidizers.

### Incompatible materials

- Heat, strong acids, strong bases and oxidizing agents.

### Hazardous decomposition products

- Carbon monoxide and carbon dioxide.

## Section 11 - Toxicological Information

### Information on toxicological effects

CAS
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Zoecon Altosid Pellets

NDA

**Acute Toxicity:** Ingestion/Oral-Rat LD50 • >5100 mg/kg; Skin-Rabbit LD50 • >2100 mg/kg; **Irritation:** Eye-Rabbit • Mild irritation; Skin-Rabbit • Essentially nonirritating

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation - Classification criteria not met; Acute Toxicity - Oral Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	OSHA HCS 2012 • Carcinogenicity 1A
Germ Cell Mutagenicity	OSHA HCS 2012 • Not classified - data lacking
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Classification criteria not met
STOT-RE	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Eye Mild Irritation 2B

## Potential Health Effects

### Inhalation

#### Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

#### Chronic (Delayed)

- Exposure to respirable crystalline silica is not expected during normal use of this product. However, prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis).

### Skin

#### Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

#### Chronic (Delayed)

- No data available.

### Eye

#### Acute (Immediate)

- Causes eye irritation.

#### Chronic (Delayed)

- No data available

### Ingestion

#### Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

#### Chronic (Delayed)

- No data available

### Other

#### Chronic (Delayed)

- No data available.

### Carcinogenic Effects

- Exposure to respirable crystalline silica dust from the finished product is not expected to occur due to the manner in which the constituents are bound, thus the finished product is not considered carcinogenic under conditions of normal use.

## Section 12 - Ecological Information

### Toxicity

Component	CAS	Data
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(s)-Methoprene  
(4.25%)

65733166

**Crustacea:** NOEC Crustacea 0.014 mg/L [Chronic]; 48 Hour(s) LC50 Crustacea 0.36 mg/L [Acute];  
**Fish:** 96 Hour(s) LC50 Fish 0.76 mg/L [Acute]; 96 Hour(s) LC50 Fish 0.37 mg/L [Acute]; NOEC Fish  
 0.048 mg/L [Chronic]

### Persistence and degradability

- No data available

### Bioaccumulative potential

- No data available

### Mobility in Soil

- No data available

### Other adverse effects

- No studies have been found.

## Section 13 Disposal Considerations

### Waste treatment methods

#### Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

#### Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## Section 14 Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	N/A	Not regulated	N/A	N/A	N/A
IMO/IMDG	N/A	Not regulated	N/A	N/A	N/A
IATA/ICA	N/A	Not regulated	N/A	N/A	N/A

**Special precautions for user** • None specified.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** • No data available

#### Other information

**IMO/IMDG** • No data available

**IATA/ICAO** • No data available

#### Key to abbreviations

= N/A = Not applicable.

## Section 15 Regulatory Information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

**SARA Hazard Classifications** • Acute

### FIFRA – Pesticide Labeling

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal

pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

## CAUTION

**Hazard Statements** • KEEP OUT OF REACH OF CHILDREN

### Precautionary Statements

**Hazards to Humans and Domestic Animals** • HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

**First Aid** • Call a poison control center or doctor for treatment advice. If in eyes • Hold eye open and rinse slowly and gently with water for 1520 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. If on skin or clothing • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 1520 minutes.

**Environmental Hazards** • Do not contaminate water when disposing of risate or equipment wash waters.

Inventory		
Component	CAS	TSCA
(s)-Methoprene	65733166	No
Activated Carbon	7440440	Yes
Plaster of paris	26499650	No
Silica, crystalline - quartz	14808607	Yes

## Section 16 Other Information

**Revision Date** • 31/May/2017  
**Last Revision Date** • 22/July/2015  
**Preparation Date** • 22/June/2015

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**Revision Statement:** Section 1 Revised