**NATURAL® 2EC**

Mosquito Larvicide

Liquid Emulsifiable Concentrate. To be used in governmental mosquito control programs, by professional pest control operators, or in other mosquito or midge control operations.

<table>
<thead>
<tr>
<th>Active Ingredient:</th>
<th>Spinosad (a mixture of Spinosyn A and Spinosyn D)</th>
<th>20.6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Ingredients:</td>
<td></td>
<td>79.4%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Contains 2 lb of active ingredient per gallon.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

**First Aid**

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

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

Have the product container or label with you when calling a poison control center or doctor going for treatment. You may also contact 1-800-214-7753 for emergency medical treatment information.

**PRECAUTIONARY STATEMENTS**

**Hazards to Humans and Domestic Animals**

Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing. Water protective eyewear. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

**Environmental Hazards**

This product is toxic to aquatic invertebrates. Non-target aquatic invertebrates may be killed in water where this pesticide is used. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not apply when weather conditions favor drift from treated areas. Drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Apply this product only as specified on the label.

This product is toxic to bees exposed to treatment and for 3 hours following treatment. Do not apply to flowering plants during this time period, 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.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

**General Information**

NATURAL 2EC is a product for killing mosquito and midge larvae. This product’s active ingredient, spinosad, is biologically derived from the fermentation of Saccharopolyspora spinosa, a naturally occurring soil organism. NATURAL 2EC may be applied with suitable ground or aerial application equipment.

**General Use Precautions**

**Integrated Pest Management (IPM) Programs**

NATURAL 2EC is intended to kill mosquito and midge larvae. Mosquitoes are best controlled when an IPM program is followed. Larval control efforts should be managed through habitat mapping, active adult and larval surveillance, and integrated with other control strategies such as source reduction, public education programs, harborage or barrier adult mosquito control applications, and targeted adulticide applications.

**Insecticide Resistance Management (IRM)**

NATURAL 2EC contains a Group 5 insecticide. Insect biotypes with acquired resistance to Group 5 insecticides may eventually dominate the insect population if appropriate resistance management strategies are not followed. Currently, only spinetoram and spinosad active ingredients are classified as Group 5 insecticides. Resistance to other insecticide groups is not likely to impact the effectiveness of this product. Spinosad may be used in rotation with all other labeled products in a comprehensive IRM program.

To minimize the potential for resistance development, the following practices are recommended:

- Base insecticide use on comprehensive IPM and IRM programs.
- Routinely evaluate applications for loss of effectiveness.
- Rotate with other labeled effective mosquito larvicides that have a different mode of action.
- In dormant rice fields, standing water within agricultural/crop sites, and permanent marine and freshwater sites, do not make more than 20 applications per year.
- Use insecticides with a different mode of action (different insecticide group) on adult mosquitoes so that both larvae and adults are not exposed to products with the same mode of action.
- Contact your local extension specialist, technical advisor, and/or Clarke representative for insecticide resistance management and/or IPM recommendations for the specific site and resistant pest problems.
- For further information or to report suspected resistance, you may contact your local Clarke representative by calling 800-323-5727.

**Mixing**

NATURAL 2EC should be diluted with water. Shake well before using as NATURAL 2EC may separate on standing and must be thoroughly agitated prior to dilution. Partially fill spray tank with water. Start agitation and add the required amount of NATURAL 2EC. Continue agitation while mixing and filling the spray tank to the required spray volume. Maintain sufficient agitation during application to ensure uniformity of the spray mix. Do not allow water or spray mixture to back-siphon into the water source. Do not mix more NATURAL 2EC than can be used in a single application.

**Mixing Formula:**

If an application rate of X fl oz of NATURAL 2EC per acre is desired, the spray equipment is calibrated to deliver Y gallons per acre, and a total of Z acres is being treated, the following formula would apply:

\[
\text{X fl oz of NATURAL 2EC per acre x Z acres to be treated = W total fl oz of NATURAL 2EC required}
\]

\[
\text{Y gallons per acre x Z acres to be treated = V total volume of water required}
\]

To treat Z acres, mix W fl oz of NATURAL 2EC in V gallons of water and apply at a rate of Y gallons per acre.

For example, to treat 10 acres at 2 fl oz of NATURAL 2EC per acre with equipment calibrated at 2 gallons per acre, mix 20 fl oz of NATURAL 2EC into 20 gallons of water and apply at a rate of 2 gallons of finished spray per acre. The addition of NATURAL 2EC to the total volume of water will not significantly affect the total targeted volume of spray mixture.

**Spray Drift Management**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making the decision to apply this product.

The following spray drift management requirements must be followed to avoid off-target drift movement from aerial applications.

1. The boom width must not exceed 75% of the wingspan or 90% of the rotor blade.
2. Nozzles must always point backward, parallel with the air stream, and never be pointed downward more than 45 degrees.
3. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
4. Do not apply when wind speed favors drift beyond the treatment area.

Where states have more stringent regulations, they must be observed.
Application
Proper application techniques help ensure adequate coverage and correct dosage necessary to obtain optimum kill of mosquito and midge larvae. The following recommendations are provided for ground and aerial application of NATURAL 2EC.

Ground Application
Use conventional ground application equipment with enough water to provide uniform coverage of the targeted area. Use hand-pump, airlift, mist blower, etc. spray equipment. Apply at the designated rate for the targeted site.

Spot Treatment
Apply NATURAL 2EC as a spot treatment to areas where mosquitoes are breeding at rates appropriate for the treatment site habitat and conditions.

Aerial Application
NATURAL 2EC may be aerially applied either undiluted or diluted with water through fixed wing aircraft or helicopter with either conventional boom and nozzle systems or rotary atomizers. Use a nozzle configuration that produces a droplet size distribution that ensures droplet deposition in the targeted area. Apply at the designated rates for the targeted site.

Application Sites and Rates
The rates listed are typical for efficaciously killing mosquito and midge larvae in the listed habitat sites. Within this range, use lower rates when water is shallow, vegetation and/or pollution are minimal, and mosquito populations are low. Do not use less than labeled rates. NATURAL 2EC may be applied at rates up to 6.4 fl oz per acre in waters high in organic content (such as polluted water, sewage lagoons, animal waste lagoons, and waters with high concentrations of leaf litter or other organic debris), deep-water mosquito habitats or those with dense surface cover, and where monitoring indicates a lack of kill at typical rates. Do not re-apply within 7 days of the initial application unless monitoring indicates that larval populations have reestablished or weather conditions have rendered initial treatments ineffective.

Do not apply this product to commercial fish farm ponds, fisheries or other waters used for aquaculture operations.

For killing mosquito larva species in the following non-crop sites:

<table>
<thead>
<tr>
<th>Non-Crop Site</th>
<th>NATURAL 2EC fl oz/acre (lb/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporary Standing Water</td>
<td>0.018 - 0.033</td>
</tr>
<tr>
<td>Retention ponds, freshwater ditches, seeps, pond edges, and similar areas</td>
<td>1.1 - 2</td>
</tr>
<tr>
<td>Freshwater Swamps and Marshes</td>
<td>0.045</td>
</tr>
<tr>
<td>Wetland ponds, fresh water marshes, and similar water areas</td>
<td>2.8</td>
</tr>
<tr>
<td>Stormwater/Drainage Systems</td>
<td>0.033 - 0.045</td>
</tr>
<tr>
<td>Stormwater, drainage ditches, and similar areas</td>
<td>2 - 2.8</td>
</tr>
<tr>
<td>Wastewater</td>
<td>0.008 - 0.033</td>
</tr>
<tr>
<td>Sewage effluent, sewage lagoons, cesspools, oxidation ponds, septic tanks and similar areas</td>
<td>1.1 - 2</td>
</tr>
<tr>
<td>Natural and Artificial Containers</td>
<td>0.018 - 0.045</td>
</tr>
<tr>
<td>Tree holes, bromeliads, leaf axils, and similar natural water holding containers</td>
<td>1.1 - 2.8</td>
</tr>
<tr>
<td>Agricultural/Crop sites where mosquito breeding occurs:</td>
<td></td>
</tr>
<tr>
<td>Apply NATURAL 2EC at the rate of 1.1 to 2.8 fl oz/acre in standing water within agricultural/crop sites where mosquito breeding occurs: pastures/ hay fields, rangelands, orchards, vineyards and citrus groves. Do not apply to waters intended for irrigation.</td>
<td></td>
</tr>
</tbody>
</table>

Blending Instructions and Directions for Use as a Custom Blend on Sand and application by standard ground and aerial granular dispersal equipment. NATURAL 2EC may be blended on site following the preparation instructions below and applied as a sand mixture using standard granular dispersal equipment. Apply at a rate of 8.5 to 12 pounds of the blended sand per acre to areas with dense vegetation or heavy canopy or to other areas where a granular formulation will aid in ensuring the active ingredient reaches the target water and is released from the sand.

Blending Instructions
The following materials are required to prepare a 100-lb batch of NATURAL 2EC blended sand:

- HiSil 233 (silicon dioxide) 12.3 fl.oz. Water 96.5 lbs Washed, dry sand (20-45 mesh)
- NATURAL 2EC 23.8 fl.oz.
- Tumbling mixer 0.9 lbs HiSil 233 (silicon dioxide)
- Spray apparatus (such as a hand pump or other low pressure sprayer)

HiSil 233 is added to achieve a dry, free-flowing mixture. The amount required for on-site blending may vary depending on the particle size distribution and moisture content on the sand.

1. Measure the time required for a level funnel of (unblended) sand to empty.
2. Load the sand into a tumbling mixer such as a cement mixer.
3. Shake or agitate NATURAL 2EC well.
4. In a separate mix tank, add NATURAL 2EC to water and blend well.
5. While the mixer is rotating, spray the mixed NATURAL 2EC solution onto the tumbling sand until all liquid is used.
6. Mix (tumble) the sand until it is uniformly wet (usually five to ten minutes). Turn off mixer.
7. Drill a hole in the center of the sand, and add HiSil. Cover the mixture with sand from the tumbler to minimize dusting. Start the mixer and tumble until free flowing (approximately 5 minutes).
8. Measure the time required for a level funnel of NATURAL 2EC blended sand to empty. If the flow rate is significantly slower than measured in Step No. 1, repeat step 6, adding incrementally more HiSil. If it flows at a faster rate or is excessively dusty, reduce the amount of HiSil in subsequent batches.

Do not allow NATURAL 2EC blended granules to drift.

Do not use NATURAL 2EC blended sand in a covered, secure, dry storage area away from wind and precipitation. Store in containers only (e.g., tumbler, hopper, tote, drum). Do not store for long periods. Avoid blending more material than may be used in 72 hours.

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

Pesticide Storage: Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

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

Container Disposal: Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Pressure 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 ½ full with water and recap. Shake for 10 seconds. Pour rinseate into application equipment or a mix tank or store rinseate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinseate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Warranty
To the extent consistent with applicable law CLARKE MOSQUITO CONTROL PRODUCTS, INC. makes no warranty, express or implied concerning the use of this product other than as indicated on the label. Buyer assumes all risk of use/handling of this material when use and/or handling is contrary to label instructions.

MANUFACTURED BY:
Clarke Mosquito Control Products, Inc.
159 North Garden Avenue
Roselle, Illinois 60172
U.S.A.

For more information call 1-800-323-5727

Natural® is a Trademark of Clarke Mosquito Control Products, Inc.
EPA Reg. No.: 8329-82
EPA Est. No.: __________
Lot No.: __________
Available Container Size: 2.5 gal

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