

83222-10

7/5/2011

10412



**U.S. ENVIRONMENTAL PROTECTION AGENCY**

Office of Pesticide Programs  
Registration Division (7504P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

83222-10

Date of Issuance:

JUL 15 2011

**NOTICE OF PESTICIDE:**

- Registration
  - Reregistration
- (under FIFRA, as amended)

Terms of Issuance:

**Unconditional**

Name of Pesticide Product:

**DORMANT & SUMMER  
SPRAY OIL**

Name and Address of Registrant (include ZIP Code):

Ms. Jane Miller  
Agent for J. Oliver Products, LLC  
Biologic, Inc.  
115 Obtuse Hill  
Brookfield, CT 06804

5898638  
676/1275

5898637  
676/1135  
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5898635  
676/1140

5873674  
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5898634  
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**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

EPA received a label amendment request submitted by email on June 23, 2011. EPA grants this request under the authority of section 3(c)(5) of the Federal Insecticide, Fungicide and Rodenticide Act, as amended. With this accepted labeling, all requirements set forth in the Reregistration Eligibility Decision for Aliphatic Solvents have been satisfied. Therefore, EPA reregisters the product listed above. This action is taken under the authority of section 4(g)(2)(c) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended. Reregistration under this section does not eliminate the need for continual reassessment of pesticides. EPA may require submission of data at any time to maintain the registration of your product.

Submit one (1) copy of all final printed labeling. Amended labeling will supersede all previously accepted labels. A copy of your label stamped "Accepted" is enclosed for your records. Products shipped after 12 months from the date of this Notice or the next printing of your label, whichever occurs first, must bear the new revised label.

Continued on Page 2

Signature of Approving Official:

Venus Eagle, Product Manager 01  
Insecticide-Rodenticide Branch  
Registration Division

Date:

JUL 15 2011

20/12

**Confidential Statement of Formula**

The basic Confidential Statement of Formula (CSF) dated June 16, 2011, is accepted and replaces all CSF's previously accepted for this product.

**Label Notes**

1. In the "**STORAGE AND DISPOSAL**" box (page 3), the ninth sentence of the paragraph specific to "**Containers greater than 5 gallons**" – the second appearance of "Empty the rinsate ... disposal" – may be deleted. The first appearance of the same sentence (as the seventh sentence on the same paragraph) is to be retained.
2. In the third from last sentence of the "**RESTRICTIONS AND PRECAUTIONS:**" paragraph (page 5), "3°5F" is to appear as "35°F" on printed labels.
3. In the pest list for "**ORANGES (NAVEL AND VALENCIA), GRAPEFRUIT, MANDARINS, CITRUS, and OTHER CITRUS spp.:**", "Citicola" should be changed to "Citricola".

If you have any questions or comments regarding this letter, please contact Dr. William W. Jacobs at (703) 305-6406 or via e-mail at [jacobs.bill@epa.gov](mailto:jacobs.bill@epa.gov).

30812

# DORMANT & SUMMER SPRAY OIL (INSECTICIDE-MITICIDE) LIQUID

ACCEPTED

JUL 5 2011

Under the Federal Insecticide, Fungicide,  
and Rodenticide Act, as amended, for the  
pesticide registered under:

83222-10

EPA. Reg. No.:

<b>ACTIVE INGREDIENT:</b>	
Mineral oil*.....	98.00%
<b>INERT INGREDIENTS:</b> .....	2.00%
<b>TOTAL</b> .....	100.00%

\* Contains petroleum distillates.

**THIS PRODUCT IS NOT INTENDED FOR GREENHOUSE USE.**

## CAUTION KEEP OUT OF REACH OF CHILDREN

<b>IF ON SKIN OR CLOTHING</b>	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. Take off contaminated clothing.
<b>IF SWALLOWED:</b>	Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give any liquid to a person. Do not give anything by mouth to an unconscious or convulsing person.
<b>IF INHALED:</b>	Move person to fresh air. If person is not breathing call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
<b>IF IN EYES:</b>	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall® International (866) 897-8050 for emergency medical treatment information.	
<b>NOTE TO PHYSICIAN:</b> This product contains petroleum distillates and may pose an aspiration pneumonia hazard. Do not induce vomiting.	
See Inside Panel for Additional Precautionary Statements	

EPA REG NO. : 83222-10

EPA EST. NO.

NET CONTENTS: 2.5 GALLONS (9.46 LITERS)

Manufactured for:  
J. OLIVER PRODUCTS, LLC  
3187 ROBERTSON GIN RD.  
HERNANDO, MS 38632

received  
6/23/11

4012

**PRECAUTIONARY STATEMENTS  
HAZARDOUS TO HUMANS & DOMESTIC ANIMALS**

**CAUTION:** Harmful if swallowed or absorbed through the skin or inhaled. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

Mixers, loaders, applicators, flaggers, and other handlers must wear;

- Long-sleeved shirt and long pants.
- Shoes plus socks, and
- Chemical-resistant gloves made of Barrier Laminate, Nitrile Rubber, Neoprene Rubber or Viton.

See **ENGINEERING CONTROLS** for additional requirements.

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

Discard clothing and other absorbent materials that have been heavily 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 WPS for agricultural pesticides [40 CFR 170.240(d) (6)].

**USER SAFETY RECOMMENDATIONS**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then, wash thoroughly and put on clean clothing.
- 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 toxic to fish. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of washwaters. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

**PHYSICAL OR CHEMICAL HAZARDS**

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

**CHEMIGATION PROHIBITION**

Do not apply the product through any type of irrigation system.

**DIRECTIONS FOR USE**

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

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

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

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

- Coveralls
- Chemical resistant gloves made of any waterproof material, and
- Shoes plus socks.

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in the box apply to uses of this product that are NOT within the scope of Worker Protection Standard for agricultural pesticides (40CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forest, nurseries, or greenhouses.

Do not enter or allow others to enter until sprays have dried.

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Keep container well sealed. Do not contaminate with water or other solutions to avoid loss of emulsification and phytotoxicity. Protect from excessive heat.

**PESTICIDE DISPOSAL:** Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL: Nonrefillable container.** Do not reuse or refill this container. Triple rinse (or equivalent) 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 1/4 full with mineral oil 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 container for recycling or reconditioning, or puncture and dispose of it in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Containers larger than 5 gallons:** Triple rinse as follows: Empty the remaining contents into application equipment. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll 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. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Once cleaned, offer container for recycling or reconditioning, or puncture and dispose of it in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**DORMANT & SUMMER SPRAY OIL** is a refined Phytonomic Oil Contact Insecticide. It is for use on plants in foliage or the dormant stage.

When using this product in combination with other pesticides as directed on this label, observe appropriate cautions, limitations for the products involved.

This product is intended for use by the commercial grower or commercial applicator in conventional hydraulic sprayers, concentrate application equipment, ground applicators or aerial. The rates of **DORMANT & SUMMER SPRAY OIL** are specified on a (per 100 gallons) dilute spray basis.

When applying by ground equipment, dilute or concentrate, use the specified amount in sufficient water for thorough coverage. The goal is to use enough spray solution to completely penetrate the leaf canopy and cover both top and bottom of all of the leaves and stems until wet but without significant runoff. Any guidance on volume of spray solution per acre is for mature trees and vines with normal foliage cover. Spray volume should be reduced proportionally for smaller, immature plants. Application rates applied by concentrate methods should equal the total amount of **DORMANT & SUMMER SPRAY OIL** applied per acre on the per 100 gallon basis except where the actual concentrate rates are specified. (Example: If a dilute application is specified at 1 gallon per 100 gallons and it requires 400 gallons per acre for proper coverage, the concentrate rate would contain 4 gallons per acre). The optimum spray gallonage is dependent on tree or crop size, density and growth stage. Typical spray gallonages per acre are 100-3000 gallons for dilute spray, 20-100 gallons for concentrate and 5-100 gallons for aerial. Note the specific limits set for applications to citrus crops.

**AERIAL APPLICATION:** Apply the quantity of product indicated in sufficient water to make a minimum of 20 gallons of spray per acre except where indicated otherwise. Because aerial application is not as efficient as ground sprays for trees, this method should only be used if growing and/or soil conditions indicate a ground application to be infeasible.

**SPRAY DRIFT MANAGEMENT**

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, and relative humidity) and method of application (e.g., ground, aerial, or airblast) can influence pesticide drift. The applicator and grower must evaluate all factors and make appropriate adjustments when applying this product.

**Wind Speed:** Do not apply at wind speeds greater than 15 mph at the application site.

**Temperature Inversions:** If applying at wind speeds less than 3 mph, the applicator must determine if a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

**Droplet Size:** Apply as a medium or coarser spray (ASABE standard 572) and the minimum volume mean diameter (VMD) for spinning atomizer nozzles.

**Ground Applications:** Apply using a nozzle height no more than 4 feet above the surface to be treated.

**Airblast Applications:** For airblast applications, turn off nozzles that point away from the surface to be treated. To minimize spray loss over the top in orchard applications, spray must be directed toward the surface to be treated.

**Aerial Applications:**

Release height: Do not release spray at a height greater than 10 feet above the water or other surfaces to be treated.

Boom length: The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Swath adjustment: When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind. Leave at least one swath unsprayed at the downwind edge of the treated field.

**MIXING INSTRUCTIONS**

- (1) Add enough water to the mixing tank for proper agitation.

- (2) Add micronutrients and other desired pesticides. If dry pesticide products are used, mix the materials with water thoroughly so that they are completely dispersed in the mixing tank. DO NOT add DORMANT & SUMMER SPRAY OIL before a uniform mixture of pesticide and water is obtained.
- (3) Maintain agitation of the mix until the spray is applied. Flush any spray mix remaining in hoses back into the tank if the solution stands for more than 20 minutes.
- (4) Ensure that spray equipment is thoroughly clean so that residues from other applications do not remain.

### RESTRICTIONS AND PRECAUTIONS

For foliage applications, the spray tank must be free of any sulfur residue before using DORMANT & SUMMER SPRAY OIL. Do not combine sulfur sprays with DORMANT & SUMMER SPRAY OIL on foliage. Do not follow a previous application of sulfur or apply sulfur following DORMANT & SUMMER SPRAY OIL until sufficient time (at least 30 days) has elapsed for safety except in the Northwest (Oregon and Washington) where this product may be used in combination with sulfur as a Post-Harvest (after all fruit is off the trees) treatment; as a Dormant and Delayed-Dormant (before the scales slip, or at or prior to bud swell) treatment; and, on Apples, prior to or up to the Delayed Dormant (1/2" green) period. If in doubt spray a portion of one tree previously treated with sulfur, using 1 quart to 25 gallons water. If sufficient time has not elapsed, burn will show in several days. When temperatures are above 90° F, use caution when applying. It is recommended that a small area be treated and observed. Allow enough time for symptoms to appear before continuing to spray. Do not use DORMANT & SUMMER SPRAY OIL when temperatures are above 95° F. When temperatures drop below 32°F (usually nighttime lows), do not spray tree and vine crops until daytime temperatures have warmed to a point above 3°F and are free from moisture due to melting frost or heavy dews. Do not use in combination with or immediately before or after spraying with dinitro compounds, fungicides such as Captan, Folpet, Dyrene, Morestan or any other product containing sulfur. Application to trees weakened by disease, drought, driving winds or high nitrogen applications may result in oil injury.

**ALFALFA (Seed Crop Only):** Use 1 quart per acre in a minimum of 20 gallons of water per acre by ground or a minimum of 10 gallons per acre by air when used in combination with insecticides or miticides that recommend the use of oil. To increase the effectiveness of desiccants, apply 2 gallons per acre in a minimum of 10 gallons of spray by air. Use is limited to those herbicides/desiccants labeled for Alfalfa Seed desiccation.

**ALMONDS, APRICOTS, CHERRIES (SEE NOTE BELOW), NECTARINES, PEACHES, PLUMS, PRUNES: Dormant or delayed Dormant:** *Dilute Spray:* Brown Apricot Scale, Black Scale, San Jose Scale, Olive Scale (Parlatoria Scale), Oleander Scale, Frosted Scale, Italian Pear Scale, European Fruit Lecanium, Putnam Scale, Parlatoria, Soft Brown Scale, other Scale insects, Eggs of Aphids, Red Spider Mites, Brown Mites – 1.5 to 2 gallons in 300 to 600 gallons per acre. *Concentrate Spray:* 4 to 6 gallons per acre in a minimum of 20 gallons of spray. Almonds and Apricots: for the European Red Mite, Brown Mite, San Jose Scale – 4 to 8 gallons per acre in a minimum of 20 gallons of spray. *Spring or Summer Dilute Spray:* Two-spotted, Pacific, European Red and Brown Mites: 1 to 2 gallons in 300 to 600 gallons of water per acre. *Spring or Summer Concentrate:* 4 to 6 gallons per acre in a minimum of 20 gallons of spray. Application by air: Use no more than 4-6 gallons of product in minimum of 20 gallons of spray. Plums and Prunes: for Peach Twig Borer – 1.5-2 gallons per 100 gallons of water. Concentrate spray: 6-8 gallons per 20-125 gallons of water. Application by air: 6-8 gallons in a minimum of 20 gallons of spray per acre.

**NOTE: For applications on CHERRIES ONLY:** Do not exceed a maximum application rate of 1.5 gallons per 100 gallons of spray mixture or 1.5% by volume. Do not apply this product to cherries in conjunction with azinphos-methyl based insecticides.

**APPLES: Rust Mite: Delayed Dormant** – 1-1/2 to 2 gallons. Summer Use – 1 to 1 ½ gallons.

**APPLES and PEARS: Dormant, Delayed Dormant** – dilute spray – San Jose and Pear Scale, Aphid Eggs, Red Spider Mites, (Rust Mites, Apples only – delayed dormant) 1 to 2 gallons. Pears only: Delayed dormant Pear psylla – 2 gallons. Concentrate spray- use 4 to 6 gallons in a minimum of 20 gallons of spray per acre. *Summer Dilute Spray:* Two-spotted Spider, Pacific and European Red Mites – 1 to 1.5 gallons dilute in 400 to 800 gallons of water. *Concentrate Spray:* use no more than 4 gallons per acre in a minimum of 20 gallons of spray. Application by air: Use no more than 4-6 gallons of product in a minimum of 20 gallons of spray per acre.

**Dormant:** (Washington and Oregon only): Apples – *Dilute Spray* for mites and San Jose scale, use 1 to 1 ½ gallons of oil plus sulfur or lime sulfur at the label specified rate. *Concentrate Spray* – use 4 to 6 gallons of oil per acre plus the label specified rate of sulfur and lime sulfur in 20 to 100 gallons of spray per acre. Pears – *Dilute Spray* – Pear psylla, use 1 to 1 ½ gallons of oil plus sulfur or lime sulfur at the label specified rate. *Concentrate Spray* – use no more than five gallons of oil plus the label specified rate of sulfur and lime sulfur in 20 to 100 gallons of spray per acre.

**NOTE:** Oil plus sulfur or lime sulfur can cause severe foliage and fruit bud injury if applied after the dormant period.

**ASPARAGUS, BEANS, BEETS, CORN, CUCURBITS, PEPPERS, SQUASH, & TOMATOES:** Aphids, Mites, Beetle Larvae, Leafminers, and Caterpillars – Use 1-2 gallons/100 gallons of water per acre.

**AVOCADOS:** For Mites and Thrips – use 1 to 4 gallons per 100 gallons in a dilute spray of 400 to 3000 gallons per acre. Use enough spray for thorough coverage. Do not exceed 30 gallons of oil per acre per application. For concentrate spray, use 1 to 18 gallons of this product in enough water for adequate coverage. For aerial application, use 1 to 18 gallons per acre in 20 to 100 gallons of spray. When the application of oil is more than 2% v/v concentration, treat and observe a small area. Allow enough time for symptoms to appear before continuing to spray.

**BANANAS, PLANTAINS:** For control of Black Leaf Streak, Black Sigatoka, and Yellow Sigatoka: Use ½ to 1 ½ gallons in 20 to 100 gallons water per acre. (Mist Blower: Use 1-1 ½ gallons in 6 gallons of water per acre). Note: Begin application when disease first appears and continue every 10 to 15 days during rainy periods or as is needed. Do not apply when daytime temperatures exceed 80°F as injury may occur. Phytotoxicity may be affected by the quantity of oil used, vigor of trees and temperature at this of application. Bag fruits, or use a directed spray on unbagged fruits. Bagged fruit improves crop safety whereas unbagged fruit may show phytotoxicity. This application also loosens Sooty Mold Fungus and limits its formation through the control of Aphids, Mealybugs, Scales, and Whitefly.

**BLUEBERRIES, BUSHBERRIES, CANEBERRIES:** For control of Mites, Powdery Mildew, and Rust, apply 0.75 – 1.5 gallons in 100 gallons of water per acre. Using ground equipment, spray for optimum coverage of leaf surfaces. For Fungal Disease, use at least 200 psi spray pressure.

**COFFEE:** For control of Green Scale, use 3 to 6 gallons in 100 gallons of water per acre. Use only water as a diluent.

**FIGS:** Fig Scale – dormant or Delayed Dormant: *Dilute Spray:* Use 2 to 3 gallons per 100 gallons in 300 to 600 gallons of water per acre. Use 3 gallons for severe infestations. *Concentrate Spray:* use 4 to 6 gallons in a minimum of 50 gallons of spray.

**GRAPES:** *Dormant: Dilute Spray:* Mealybugs – Use 1 to 2 gallons plus the appropriate labeled rate of an insecticide registered for use on grapes for mealybug control in 200 to 300 gallons water per acre. *Concentrate Spray:* use 1 to 2 gallons plus the appropriate labeled rate of an insecticide registered for use on grapes for mealybug control per acre in enough water for thorough coverage. Suppression of Grape and Variegated Leafhopper Nymphs: use 1 to 1.5 gallons per 100 gallons dilute or 1 to 3 gallons per acre concentrate. Mite suppression: 1-2 gallons per acre concentrate. Narrow range oils such as DORMANT



& SUMMER SPRAY OIL can temporarily affect surface bloom appearance but will not cause subsurface injury. Do not apply DORMANT & SUMMER SPRAY OIL to grapes intended for fresh market for leafhopper or mite suppression within 2 days of harvest.

**HOPS:** For control of Mites and Powdery Mildew: Use 1 to 2 gallons of oil in 100 gallons of water per acre. **Note: Powdery Mildew:** Initiate sprays at early leaf stage. Continue sprays every 10-14 days. **Mite:** Control will be effective under the same spray interval as powdery mildew sprays. Discontinue sprays at Burr development.

**OLIVES:** *Dilute Spray:* Parlatoria, Oleander, Olive and Black Scales, Spider Mites – use 1.5 gallons in 400 to 500 gallons per acre water. This product may be used post bloom (late May through June when crawlers are present), in Summer (July 15 through August), and post-harvest (October through November).

**PISTACHIOS:** Dormant and Delayed Dormant Applications: Soft Scale, Wintering Phytocoris – for use alone or in combination with other registered products shown to be effective for Soft Scale.

*For Concentrate applications:* Use 4 to 8 gallons of DORMANT & SUMMER SPRAY OIL in 70 to 150 gallons of water per acre. No more than 6% v/v solutions are permitted as a concentrate application.

*For Dilute applications:* Use 5 to 10 gallons of DORMANT & SUMMER SPRAY OIL in 250 to 500 gallons of water per acre. No more than 2% v/v solutions are permitted as a dilute application. For moderate to severe insect population, concentrate applications should be made. To enhance efficacy, apply by mid-February. Applications made in January or February, especially at rates approaching 10 gallons of product per acre may result in advanced bud break and bloom, which may increase the potential for frost damage. Do not apply the product when the orchard is not vigorous or when under stress.

**STRAWBERRIES:** Two-spotted Spider Mites – Use 1.0% - 2.0% volume to volume in 60 gallons of water/acre with air assisted low volume ground applications or 200 gallons of water/acre with standard ground spray equipment. Application may be made during the winter months when plants are semi-dormant. Do not use oil from peak bloom through peak fruiting period. Application should be made when mites are at no more than a moderate infestation level. Higher levels of mite infestations will require treatment with more effective miticides. Make applications at no less than 14 days between applications. Consult your local Extension office for more specific local mite threshold density recommendations for this type of treatment. When using refined petroleum oils on strawberries there will be a danger of phytotoxicity. To minimize the problem, do not apply this product when warm temperatures, 75 degrees F and higher, are expected for several days after application. In California do not apply this product from: January 16 to May 30 in Orange and San Diego counties and the Oxnard Plains. February 1 to June 15 in the Santa Maria Valley. March 1 to June 30 in Monterey and Santa Cruz counties.

**TROPICAL FRUITS (Kiwi, Papaya, Pineapple):**

**Kiwi:** For Control of Latania Scale, Greedy Scale, Oleander Scale, and San Jose Scale: Use 4-6 gallons of oil per 100 gallons of water per acre. Use the higher rate when scale populations are high.

**Mango:** For control of Mites and Powdery Mildew: Use 1 to 1.5 gallons of oil in 100 gallons of water per acre.

**Papaya:** For control of Mites, Powdery Mildew, Papaya Ringspot Virus: Use 0.75 to 1.5 gallons in 100 gallons of water per acre.

**Pineapple:** For control of Mealybugs, Bud Moth, Chinese Rose Beetle: Spray: Use 1 to 2 gallons of oil in 100 gallons of water per acre. Dip: use 1 to 2 gallons of oil in 200 gallons of water. Dip for 30 seconds.

**TOBACCO:** For control of Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, and Whitefly: Use 0.75 to 1 gallon of oil per 100 gallons of water.

**CITRUS (*Citrus* spp. and *Fortunella* spp.)**

**ORANGES (NAVEL AND VALENCIA), GRAPFRUIT, MANDARINS, CITRON, and OTHER CITRUS spp.:** Red, Yellow, Citicola, Purple, Black, and Brown Soft Scales, Red Spider Mites, Pacific Spider Mites, Two-Spotted Spider Mites – *Dilute Spray:* apply 1.2 to 1.4 gallons of product per 100 gallons of water in late summer through October. For Southern California make application to Grapefruit from July through September.) Oxnard Plains; follow application directions for Southern California except applications can be made throughout the year. On navels do not apply during or after color break. Make applications in enough water for thorough coverage. *Concentrate Spray:* Apply apply 1.2 to 1.4 gallons of product in a minimum of 20 gallons of water per acre.

**LEMONS, LIMES:** *Dilute Spray:* Red, Yellow, Purple, Black, and Brown Soft Scales, Red Spider Mites, Bud Mites, Flat Mites – apply 1.2 to 1.4 gallons of product per 100 gallons of water. Apply in late spring and late summer through December. For California: Central California – apply 1.2 to 1.4 gallons of product per 100 gallons of water in August and late September only. Southern California (Coastal) - apply .5 to 1.4 gallons of product per 100 gallons of water in May and June and/or September through December. (Interior) apply .5 to 1.4 gallons of product per 100 gallons of water in April and May and/or September through November. Oxnard Plains: follow application directions for Southern California except applications can be made throughout the year, no timing restrictions. Make applications in enough water for thorough coverage. *Concentrate Spray:* Apply 1.2 to 1.4 gallons of product in a minimum of 20 gallons of water per acre.

**ALL CITRUS VARIETIES:** All citrus varieties – use as an adjuvant: This product may be used as an adjuvant with a suitable insecticide or miticide. Do not exceed 0.4% v/v concentration. Do not use oil when freezing temperatures are expected within 24 hours of the application. Care should be taken in combining oil sprays with certain insecticides and miticides, due to possible increased phytotoxicity when applied over foliage. See an Agriculture Extension Service Agent for recommendations on special combinations.

**MAXIMUM APPLICATION AMOUNTS:** Do not exceed of 159 pounds active ingredient per acre (in a maximum of 1500 gallons of spray mix per acre) when treating citrus in Texas and Florida. Do not exceed 212 pounds active ingredient per acre (in a maximum of 2000 gallons of spray mix per acre) when treating citrus in California.

**WALNUTS:** Delayed Dormant: Black, San Jose, Olive, Frosted Calico, European Fruit Lecanium Scales, Red Spider Mite Eggs and Walnut Aphid Eggs – *Dilute Spray* – Use 2 gallons of product in 300 to 500 gallons of water per acre. Foliar (fully expanded leaves): Spider Mites – use 4 gallons of product in 200 to 400 gallons of water per acre. *Concentrate Spray:* for delayed dormant and foliar sprays, apply 2 gallons of product in a minimum of 40 gallons of water per acre. Use oil only on trees that have not suffered from lack of moisture or other stressing factors during the growing season. Do not apply when soil moisture is low. Do not apply after husk split. As an adjuvant for neutral copper compounds for control of Walnut Blight in pre and post-bloom sprays: Use 1 quart per 100 gallons of water as a dilute spray. Follow dosages and timings on the copper product label.

**SHADE TREES, SHRUBS, ORNAMENTALS, FLOWER AND FOLIAGE PLANTS, CHRISTMAS TREES**

Shade trees and shrubs including Conifers, Deciduous Broadleaf Evergreens and Woody Ornamentals: Aphids, Adelgids, Bugs (immature), Caterpillars, Eriophyid Mites, Gall Mites, Lace Bug, Leaf Beetle Larvae, Leafminer, Mealybugs, Psyllids (immature), Sawfly (larvae), Scales (immature), Spider Mites, Whiteflies (immature): Winter Dormant Period as needed 2-4 gallons oil per 100 gallons of water. Summer (Foliar or Cover), as needed 1-3 gallons of oil per 100 gallons of water.

**ORNAMENTAL TREES:** Shrubs along city streets, other rights-of-way including Conifers, Deciduous and Broadleaf Evergreens: Aphids, Adelgids, Bugs (immature), Caterpillars, Eriophyid Mites, Gall Mites, Lace Bug, Leaf Beetle Larvae, Leafminer, Mealybugs, Psyllids (immature), Sawfly (larvae), Scales (immature), Spider Mites, Whiteflies (immature): Winter Dormant Period as needed 2-4 gallons oil per 100 gallons of water. Summer (Foliar or Cover), as needed 1-3 gallons of oil per 100 gallons of water.

**FOLIAGE ORNAMENTALS & BEDDING PLANTS:** Aphids, Adelgids, Bugs (immature), Caterpillars, Eriophyid Mites, Gall Mites, Lace Bug, Leaf Beetle Larvae, Leafminer, Mealybugs, Psyllids (immature), Sawfly (larvae), Scales (immature), Spider Mites, Whiteflies (immature): Winter Dormant Period as needed 2-3 gallons oil per 100 gallons of water. Summer (Foliar or Cover), as needed 1-2 gallons of oil per 100 gallons of water.

**CHRISTMAS TREES:** Aphids, Adelgids, Scale (soft and hard) (immature), Spider Mites: Winter 2-4 gallons oil per 100 gallons of water. Summer 1-3 gallons of oil per 100 gallons of water.

**Oil removes the Glaucous (blue) bloom from such evergreen as Colorado Blue Spruce and Koster Spruce.** Always use lower dosage or test spray oil sensitive plants such as Cryptomeria, Smoke Tree, Chamaecyparis, Juniper, Japanese Holly and Spruce. Tendency toward sensitivity: Red Cedar and Douglas Fir. Do not spray Walnut foliage.

**Restrictions:** Spray no more than 4 times during the growing season: use a 2 week minimum application interval. Do not spray when buds have fully opened and shoot elongation is occurring. Do not spray when there is obvious moisture deficit in leaves, or plant is under stress. For fall dormant applications, reduce rate to 2 gallons oil per 100 gallons of water. In the state of California only, limit use to: American Red Oak, Japanese Black Pine, Dogwood, Weeping Cherry, Crabapple, Norway Maple, Purple Leaf Plum. Keep spray away from open blooms. Bleaching and spotting of open blooms have been observed with some types of plants.

**CONDITIONS OF SALE – LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES**

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

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

The exclusive remedy against the Company for any cause of action relating to the handling of use of this product shall be limited to, at J. Oliver Products, LLC election, one of the following:

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

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

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