

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

March 9, 2021

Robert Avalos Manager of Registrations Loveland Products Inc. P.O. Box 1286 Greeley, CO 80632-1286

Subject: Registration Review Label Mitigation for Aliphatic Solvents Product Name: SPRAY OIL 470 EPA Registration Number: 34704-809 Application Date: June 10, 2020 Decision Number: 563756

Dear Mr. Avalos:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Aliphatic Solvents Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

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If you have any questions about this letter, please contact Marisa Wright by phone at (703) 347-0463, or via email at <u>wright.marisa@epa.gov</u>.

Sincerely,

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Linda Arrington, Branch Chief Risk Management and Implementation Branch 4 Pesticide Re-Evaluation Division Office of Pesticide Programs

Enclosure





ACTIVE INGREDIENT: Mineral Oil*		By Wt.
OTHER INGREDIENTS:		<u>2.00%</u>
	TUTAL	100.00%

*Contains petroleum distillates

KEEP OUT OF REACH OF CHILDREN CAUTION

See inside label booklet for First Aid, Precautionary Statements and Directions for Use.

FIRST AID Have the product container or label with you when calling a poison control center or doctor or going for treatment.	
If swallowed:	 Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.
lf in eyes:	 Hold eye open and rinse slowly and gently with water for 15 to 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.
lf on skin or clothing:	 Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.
lf inhaled:	 Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
NOTE TO PHYSICIAN: Petroleum distillate poses aspiration pneumonia hazard. Only minor irritation should	

NOTE TO PHYSICIAN: Petroleum distillate poses aspiration pneumonia hazard. Only minor irritation should be expected from any type of exposure other than pulmonary aspiration. Ingestion may result in some gastroenteritis and mild diarrhea.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565.

EPA REG. NO. 34704-809 EPA EST. NO. NET CONTENTS

[Print Code to be placed here]

MANUFACTURED FOR: LOVELAND PRODUCTS, INC. P.O. BOX 1286 GREELEY, COLORADO 80632-1286

ACCEPTED

Mar 09, 2021

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

EPA Reg. No. 34704-809

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed or absorbed through skin or inhaled. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. This product is a potential skin sensitizer. 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):

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

- Long-sleeved shirt, long pants,
- Shoes plus socks, and
- Chemical-resistant gloves made of any waterproof material.

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

Engineering controls: Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)]. When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

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 aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment wash water or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Avoid drift or run off into storm drains, drainage ditches, or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to maximize the chances that wind, or rain will not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

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 through any type of irrigation system.

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. Do not apply this product in a way that will contact adults, children, or pets, directly or through drift.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation. Aerial application of this product is prohibited.

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 soil or water, is:

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

NON-AGRICULTURAL USE REQUIREMENTS

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

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

Advisory Spray Drift Language SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.

Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.

Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

BOOM HEIGHT – Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The pres-

ence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Boom-less Ground Applications:

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications:

Take precautions to minimize spray drift.

MIXING DIRECTIONS

Use only in equipment with sufficient agitation to keep spray thoroughly mixed. Be sure tank is clean. With agitator running, start filling tank with water; add oil when tank is about 1/2 full. Pump this mixture through the overflow and back into tank for about two minutes. If this mixture turns white, it indicates good emulsification. Fill the tank with water, adding other desired materials as tank is filling. If wettable powders are used, add and thoroughly mix before adding oil. Observe all cautions and limitations on labeling of all products used in mixtures. Keep agitator running at all times. If an injector is used, first add 25.0 to 50.0 gallons of water to tank with engine running to provide good pressure. Put injector suction tube into the measured amount of spray oil, opening injector valve to allow the oil to be sucked into the tank, then fill the tank with water.

DO NOT USE THIS MATERIAL IF IT DOES NOT EMULSIFY.

USE LIMITATIONS AND PRECAUTIONS

Preharvest Interval - This product may be used up to the day of harvest.

To ensure thorough coverage, dilute applications (greater than 150 gallons of spray solution per acre) should be used. Concentrate applications (usually from 20.0 to 150 gallons of spray solution) may reduce the coverage and thus the effectiveness. Application volumes depend on the crop type, crop size and target pest.

Adjust the spray volume to obtain the best coverage without runoff. Extreme care should be taken when using concentrate sprays as the potential for enhanced crop phytotoxicity is increased. A concentrate application can provide satisfactory results as long as the spray unit is properly engineered, calibrated and operated.

Note: Use efficient equipment of the proper type. Avoid spraying during or immediately prior to hot or freezing weather (over 95 °F or under 32 °F), hot dry winds, rain or other unsuitable conditions; avoid over spraying or double spraying. Plants should be sprayed only when in vigorous condition and when their moisture condition is suitable. Before using, make certain spray tank is free of sulfur residues. Do not apply sulfur within 30 days except in the Northwest (Oregon and Washington) where it may be used in combination on Pears as a Post Harvest (after old fruit is off the tree), 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 inch green) period. In areas west of the Continental Divide do not apply to captan treated trees within 90 days after or 60 days before this oil. In areas east of the Continental Divide do not apply to captan treated trees within 10 to 14 days before and after this oil. If in doubt, spray a portion of one tree previously treated with sulfur or captan using 1.0 quart to 25.0 gallons water. Burn will show in several days if sufficient time has not elapsed.

This product has not been tested on all species or varieties. Before treating a large area, treat a small area and observe prior to full scale application.

A period of 14 days must elapse before any of the following chemicals are used before or after an application of this product: anilazine (Dyrene), chlorothalonil (Bravo®), dicloran (Botran®), dicofol (Kelthane®), dinocap (Dikar™, Karathane®), permethrin (Ambush®, Pounce®).

Do not use chlorothalonil (Bravo) or dimethoate (Cygon®) in a spray program with this product on Grapes, Ornamentals and Strawberries. Do not use dicofol (Kelthane) in a spray program with this product on Ornamentals and Strawberries. Do not use propargite (Omite®) with an oil spray or within 30 days before or after an oil spray.

The maximum application rate for citrus in Texas and Florida is 159 pounds active ingredient per acre (maximum 1500 gallons of spray mix per acre), and, in California, 212 pounds active ingredient per acre (maximum 2000 gallons of spray mix per acre).

FRUIT AND NUT CROPS

APPLES AND PEARS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
APPLES AND PEARS:	DORMANT OR DELAYED DORMANT:	
European fruit lecanium scale	Use 1.0 to 2.0 gal/100 gal of water at	
European red mite eggs	100 to 800 gal/A.	
Olive scale	(Concentrate Spray: Use 3.0 to 8.0	
San Jose scale	gal/A in a minimum of 20.0 to 100 gal water/A.)	
European red mite	FOLIAR SPRAY (Post Bloom):	
Pacific red mite	East of the Mississippi: Use 1.0 qt	
Two-spotted spider mite	to 1-1/2 gal/100 gal of water at	
	100 to 800 gal/A. Do not exceed	
	more than 1-1/2 gal/A/application	
	for SUMMER treatments.	
	(Concentrate Spray: Do not exceed more	
	than 1-1/2 gal/A per application.	
	Apply a minimum of 50.0 gal water/A.) West of the Mississippi: Use 1.0 gt to	
	1-1/2 gal/100 gal of water at 100 to 800	
	gal/A.	
	(Concentrate Spray: Do not exceed more	
	than $1-1/2$ gal/A/application. Apply a	
	minimum of 20.0 to 100 gal water/A).	
APPLES ONLY:	DORMANT OR DELAYED DORMANT:	
Apple aphid eggs	Use 1.0 to 2.0 gal/100 gal of water at	
Rosy apple aphid eggs	100 to 800 gal/A.	
	(Concentrate Spray: Use 3.0 to 8.0 gal/A	
	in a minimum of 20.0 to 100 gal water/A.)	
Apple red bug	GREEN TIP TO DELAYED DORMANT:	
Fruit tree leafroller	Use 1.0 to 3.0 gal/100 gal of water at	
Scurfy scale	100 to 800 gal/A.	
Francisco and arite	(Concentrate Spray: Use 3.0 to 12.0 gal/A	Deleved de une est suefermed
European red mite Forbes scale	in a minimum of 20.0 to 100 gal water/A.) DORMANT, GREEN TIP TO DELAYED	Delayed dormant preferred
San Jose scale	DORMANT: Use 1.0 to 2.0 gal/100 gal	
Sall Juse scale	of water at 100 to 800 gal/A.	
	(Concentrate Spray: Use 3.0 to 8.0 gal/A	
	in a minimum of 20.0 to 100 gal	
	water/A.)	
PEARS ONLY:	DORMANT: Use 1.0 to 2.0 gal/100 gal	Apply before eggs are laid.
Pear psylla	of water at 100 to 800 gal/Å.	FF 7
	(Concentrate Spray: Use 3.0 to 8.0 gal/A	
	in a minimum of 20.0 to 100 gal	
	water/A.)	
Fruit tree leafroller	DORMANT: Use 1.0 to 3.0 gal/100 gal	
Pear leaf blister mite	of water at 100 to 800 gal/A.	
	(Concentrate Spray: Use 3.0 to 12.0 gal/A	
	in a minimum of 20.0 to 100 gal water/A.)	

ALMONDS, APRICOTS, CHERRIES, NECTARINES, PEACHES, PISTACHIO, PLUMS AND PRUNES: (Directions for use on Plums and Prunes in California's Sacramento Valley can be found in the table following this one):

PEST	APPLICATION RATE & TIMING	COMMENTS
Aphid eggs	DORMANT AND DELAYED DORMANT:	Preferred times of application for
Black scale	Use 1.0 to 3.0 gal/100 gal of water at	European fruit lecanium scale and
Brown mite eggs	300 to 600 gal/A.	European red mite eggs are Green Tip
European fruit lecanium scale	(Concentrate Spray: Use 6.0 to 8.0	to Delayed Dormant, and for San Jose
European red mite eggs	gal/A in a minimum of 20.0 gal of	scale are Dormant, Green Tip to
Frosted scale	water/A.)	Delayed Dormant.
Fruittree leafroller eggs	Water, A.	Bolayou Bormani.
Olive scale		
San Jose scale		
Terrapin scale	DELAYED DORMANT: Use 2.0 to 3.0	
	gals/100 gal of water at 300 to 600	
	gal/A.	
	(Concentrate Spray: Use 8.0 to 12.0	
	gal/A in a minimum of 20.0 gal of	
	water/A.)	
Cottony peach scale	DORMANT: Use 2.0 to 3.0 gal/100	
	gal of water at 300 to 600 gal/A.	
	(Concentrate Spray: Use 8.0 to 12.0	
	gal/A in a minimum of 20.0 gal of	
	water/A.	
Brown mite	FOLIAR SPRAY: Use 1/2 to 1-1/2 gal/100	Certain varieties of Plums and Prunes
European red mite	gal of water at 300 to 600 gal/A.	may be injured by oil sprays, check for
Pacific mite	(Concentrate Spray: Do not use more than	tolerance prior to treatment.
Two-spotted spider mite	4.0 gal/A in a minimum of 20.0 gal water/A.)	Do not apply to trees lacking moisture.
White peach scale on Peaches:	DORMANT: Use 1-1/2 to 2.0 gal/100	Apply before buds begin to swell in
Only for use in Alabama, Florida,	gal of water at 300 to 600 gal/A.	the spring. Make 2 applications
Georgia, North Carolina,	(Concentrate Spray: Use 6.0 to 8.0	7 to 14 days apart, according to local
and South Carolina.	gal/A in a minimum of 20.0 gal of	recommendations, during the
	water/A.)	dormant period.
	wator//n.j	domain porrou.

PLUMS AND PRUNES: (Sacramento Valley of California Only)

APPLICATION RATE & TIMING	COMMENTS
PRE-BLOOM WHEN FRUIT BUDS SHOW	Application at this time is preferred.
GREEN TIPS: Use 1-1/2 to 2.0 gal/100	
gal of water at 300 to 600 gal/A.	
(Concentrate Spray: Use 6.0 to 8.0	
gal/A in a minimum of 20.0 gal	
water/A.)	
FOLIAR SPRAY: Use 1/2 to 1.0 gal/100	Oil sprays may injure certain varieties
gal water at 300 to 600 gal/A.	of Plums and Prunes, check for
	tolerance prior to treatment.
gal/A in a minimum of 20.0 gal	-
water/A.)	
	PRE-BLOOM WHEN FRUIT BUDS SHOW GREEN TIPS: Use 1-1/2 to 2.0 gal/100 gal of water at 300 to 600 gal/A. (Concentrate Spray: Use 6.0 to 8.0 gal/A in a minimum of 20.0 gal water/A.)FOLIAR SPRAY: Use 1/2 to 1.0 gal/100 gal water at 300 to 600 gal/A. (Concentrate Spray: Use 4.0 to 6.0 gal/A in a minimum of 20.0 gal

AVOCADOS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
Avocado brown mite	Use 1/2 to 1.0 gal/100 gal of water	Apply through late fall.
Pracea mite	with thorough coverage in 400 to	Consult with your local University of
Thrip	3000 gal/A.	California Cooperative Extension
	(Concentrate Spray: Use 4.0 to 15.0	Service for proper timing and
	gal/A in a minimum of 50.0 to 100	application parameters.
	gal/A.)	

BANANAS, PLANTAINS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
Black leaf streak (Mycosphaerella fijiensis) Black sigatoka (Mycosphaerella fijiensis var. difformis) Yellow sigatoka (Mycosphaerella musicola)	Use 1/2 to 1-1/2 gal in 20.0 to 100 gal of water/A. (Mist Blower: Use 1-1/2 gal in 6.0 gal of water/A.)	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 the time 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 is also effective in loosening Sooty mold fungus and in preventing its formation by the control of Aphids, Mealybugs, Scales and Whitefly.

BLUEBERRIES*, BUSHBERRIES*, CANEBERRIES:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Mites Powdery mildew Rust	0.75 to 1.5	Using ground equipment, spray for optimum coverage of leaf surfaces. For fungal diseases use at least 200 psi
		spray pressure.

CITRUS: (California Only) - Grapefruit, Lemons, Limes, Oranges (Navel and Valencia), Tangelos and Tangerines and other Citrus hybrids.

PEST	APPLICATION RATE & TIMING	COMMENTS
Mites Citrus bud Citrus flat	Central California: Apply 1/2 to 1-1/2 gal of oil/100 gal of water as thorough coverage spray (TC). Alternately, use a	Apply July through September.
Citrus red Citrus rust	low volume spray (LV) to apply 1.0 to 10.0 gal of oil/A.	
Scales Black Brown soft California red Citricola	Apply up to 10.0 gal of oil/A on bearing trees up to 10 ft in ht. Add 1.0 gal of oil/A for each ft of tree ht over 10 ft. Apply as a low volume spray (LV) 1.0 to 10.0 gal of oil/A.	
Purple Red Yellow	Apply as a low volume spray (LV) 1.0 to 10.0 gal of oil/A.	For Lemons and Limes, make applications in all months except December through February; for Grapefruit make applications July through October; for Oranges make applications on Navels July through September and on Valencias, Tangelos and Tangerines and other Citrus hybrids July through October.
Aites Citrus bud Citrus flat Citrus red Citrus rust	Southern California: Apply 1/2 to 1-1/2 gal of oil/100 gal water as a thorough coverage spray (TC). Alternately, use a low volume spray (LV) to apply 1.0 to 10.0 gal of oil/A.	For Coastal Lemons and Limes, apply May and June and/or September through December. For Interior Lemons and Limes, apply in April and May and/or September through November.
Gcales Black Brown soft California red Citricola	Apply up to 10.0 gal of oil/A on bearing trees up to 10 ft in ht. Add 1.0 gal of oil/A for each ft of tree ht over 10 ft. Apply as a low volume spray (LV) 1.0 to 10.0 gal of oil/A.	
Purple Red Yellow	Apply as a low volume spray (LV) 1.0 to 10.0 gal of oil/A.	For Lemons and Limes, make applications in all months except December through February; for Grapefruit make applications July through October; for Oranges make applications on Navels July through September and on Valencias, Tangelos and Tangerines and other Citrus hybrids July through October.
Mites Citrus bud Citrus flat Citrus red Citrus rust	Oxnard Plains Area: Apply 1/2 to 1-1/2 gal of oil/100 gal of water as a thorough coverage spray (TC). Alternately, use a low volume spray (LV) to apply 1.0 to 10.0 gal of oil/A. Apply up to 10.0 gal of oil/A on bearing trees	Make applications as needed throughout the year.
cales Black Brown soft California red Citricola Purple Yellow	up to 10 ft in ht. Add 1.0 gal of oil/A for each ft of tree ht over 10 ft. Apply as a low volume spray (LV) 1.0 to 10.0 gal of oil/A.	

Thorough coverage spray (TC): Applications achieving a uniform film wetting of all portions of the tree at 250 to 2000 gallons of spray solution per acre. The total volume needed is dependent of the size of the trees. **Do not** exceed a maximum of 212 pounds of active ingredient (in a maximum volume of 2000 gallons of spray mix per acre) when treating Citrus in California (based on thorough

coverage spray, with 1-1/2 gallons of product mixed per 100 gallons of water).

Low-volume spray (LV): Applications with droplet depositions achieved on all interior and exterior parts of the tree using 10.0 to 100 gallons of spray solution per acre.

Do not apply prior to or during a period of excessively high temperatures.

Do not apply oil spray when trees show stress.

Consult with your local University of California Cooperative Extension Specialist for proper timing and spray program.

CITRUS: (Florida and Texas) -Grapefruit, Lemons, Limes, Oranges, Tangelos and Tangerines and other citrus hybrids.

PEST	APPLICATION RATE & TIMING	COMMENTS
Citrus rust mite	5.0 to 10.0 gal of oil/A.	Does not control Citrus snow scale.
	Apply as a dilute spray.	
Spider mites	5.0 to 10.0 gal of oil/A.	
	Apply as a dilute spray.	
Scale Insects	5.0 gal of oil/A + 6.0 pt Ethion 4EC.	Summer spray only.
-Black soft	Apply as a dilute spray.	Observe all applicable precautions on
-Brown soft		Ethion label.
-Chaff		Do not apply to Navel oranges.
-Glover		
-Purple		
-Red		
-Yellow		
Scale Insects	5.0 to 10.0 gal of oil/A.	
-Black soft	Apply as a dilute spray.	
-Brown soft		
-Chaff		
-Glover		
-Purple		
-Red		
-Yellow		
Whitefly	5.0 gal of oil/A.	
-	Apply as a dilute spray.	
Greasy spot	5.0 gal of oil/A.	Tank mix with sufficient copper
(Grapefruit)	Apply as a dilute spray.	fungicide to provide 4.0 lb/A of
		metallic copper.
Greasy spot	5.0 to 10.0 gal of oil/A.	If disease pressure is severe, tank mix
(all other varieties)	Apply as a dilute spray.	4.0 lb (metallic) copper/A. Do not
	····	exceed 5.0 gal oil if copper used.
Loosening sooty mold	5.0 to 10.0 gal of oil/A.	Use higher rate when disease pressure
	Apply as a dilute spray.	is heavy.

Dilute spray: Apply the spray oil application rate in up to 1500 gallons of water per acre, or 10.0 to 11.6 gallons per tree, to over 15.0 gallons per tree for large trees. **Do not** exceed a maximum of 159 pounds of active ingredient (in a maximum volume of 1500 gallons of spray mix per acre) when treating Citrus in Florida and Texas (based on dilute spray, with 1-1/2 gallons of product mixed per 100 gallons of water).

Improved efficacy can be obtained when the oil is added to a partially filled spray tank under proper agitation and all foliage is thoroughly covered.

Precautions in the use of oil include: **Do not** apply oil spray when trees are wilting. **Do not** apply oil and sulfur within 3 weeks of each other in Florida or Texas. Oil spray applied after October 1 may increase susceptibility of trees to cold damage and may reduce the fruit crop the following year. Oil sprays applied in the fall may inhibit solids formation in the juice and retard coloring of fruit and should not be applied within 60 days of anticipated harvest. Sensitive foliage may be injured.

Florida growers consult the Florida Citrus Spray and Dust Schedule, or your Agricultural Experiment Station or State Extension Service Specialist for complete details on the spraying program best suited to your locale. Texas growers consult with your Agricultural Experiment Station or State Extension Specialist for complete details on the spraying program suited to you locale.

COFFEE: *

PEST	APPLICATION RATE & TIMING	COMMENTS
Green scale	Use 3.0 to 6.0 gal in 100 gal of water/A. Use only water as a diluent.	Apply when insects appear and treat as necessary at 30 to 60 day intervals. Do not exceed 18.0 gal of oil/A in a growing season. Do not apply within 30 days of harvest when berries are handpicked. Oil residues make picking difficult

Do not apply this product through any type of irrigation system. Phytotoxicity may be affected by the quantity of oil used, vigor of trees and temperature at the time of application.

FIGS:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Fig scale	1.0 to 3.0	Dormant or Delayed Dormant
Mealybug	1.0 to 2.0	Foliar Spray
Mites		
Scale		

GRAPES:

PEST	APPLICATION RATE & TIMING	COMMENTS
Leafhopper* Mealybug	DORMANT: Use 1.0 to 3.0 gal plus the appropriate label rate of	Do not apply over 300 gal of water/A.
Mites Powdery mildew Whiteflies*	insecticide registered for use on Grapes in 200 to 300 gal of water/A.	Using ground equipment, spray for optimum coverage of leaf surfaces. Repeat sprays every 10 to 14 days.
		 For Powdery mildew - Make first application pre-bloom and continue every 10 days to 3 weeks depending on level of disease pressure. Use higher rate and/or shorter spray interval when disease conditions are severe. Oil will remove the bloom on Grapes. Table grapes should not be sprayed within 60 days of harvest. On Grapes, do not tank mix oil and copper more than once/season. Do not use copper and oil together with fruit present.

OLIVES:

PEST	APPLICATION RATE & TIMING	COMMENTS
Black scale	POSTBLOOM THROUGH AUGUST AND	
Oleander scale	POST HARVEST: Use 1.0 to 1-1/2	
Olive (Parlatoria) scale	gal/100 gal of water at 400 to 1500	
	gal/A.	
Mites		Prebloom to Postbloom Buckshot

PECANS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
Aphids (eggs) Mites (eggs) Scales	Use 2.0 to 3.0 gal in 100 gal of water using a minimum of 200 gal of water/A. Use the lower rate of oil when trees are in a weakened condition. (Concentrate Spray: Use 6.0 to 8.0 gal/A in a minimum of 20.0 to 125 gal of water.)	Apply from late February until buds first break.

STRAWBERRIES:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Leafminers* Mites Powdery mildew	0.75	Spray at no less than 400 psi using ceramic spray nozzles (ALBUZ® ATR, lilac color or their equivalent).

TROPICAL FRUIT: Kiwi, Mango, Papaya and Pineapple.*

PESTS	APPLICATION RATE & TIMING	COMMENTS	
KIWI Greedy scale Latania scale Oleander scale San Jose scale	Use 4.0 to 6.0 gal of oil in a minimum of 100 gal of water/A. Use higher rate when scale populations are high.	Do not apply after budbreak. Do not use on weak or stressed vines, or where soil moisture is inadequate.	
MANGO Mites Powdery mildew	Use 1.0 to 1.5 gal of oil in 100 gal of water/A.	Apply every 2 to 3 weeks as necessary depending on level of pest pressure.	
PAPAYA Mites Papaya ringspot virus Powdery mildew	Use 0.75 to 1.5 gal in 100 gal of water/A.	For Powdery mildew/mites: Spray every 10 to 14 days depending on the level of pest pressure. For Virus: Initiate spray when seeds are germinated. Spray weekly using 400 psi spray pressure and ceramic hollow cone nozzles.	
PINEAPPLE Bud moth Chinese rose beetle Mealybugs	Spray - Use 1.0 to 2.0 gal of oil in 100 gal of water/A. Dip - Use 1.0 to 2.0 gal of oil in 100 gal of water, dip for 30 seconds.	Allow fruit to dry for 1 hour before being stored.	

WALNUTS:

PEST	APPLICATION RATE & TIMING	COMMENTS
Black scale	DELAYED DORMANT: Use 4.0	Use only on trees that have not
Calico scale	to 6.0 gal/A in 200 to 500 gal	suffered from lack of moisture at any
European fruit lecanium scale	of water/A.	time during the growing season. Do
Frosted scale		not apply to orchards where soil
Olive scale		moisture is low.
San Jose scale		Trees must be fully dormant.
		Do not apply after husk split.
European red mite eggs		
Walnut aphid eggs		
Soft scales	SUMMER FOLIAR (when leaves fully	
Spider mites	expanded): Use 4.0 to 6.0 gal/A in	
	200 to 500 gal water/A.	

VEGETABLE CROPS

ASPARAGUS, BEANS, BEETS, CABBAGE, CAULIFLOWER and other Cole crops, CELERY, CUCURBITS, EGGPLANT, LETTUCE, MELON, PEPPER, POTATO, PUMPKIN, RADISH, SQUASH, SWEET POTATO, TOMATO, HERBS AND SPICES (Curly leaf basil, Lemon balm, Mexican oregano, Mint), ORIENTAL VEGETABLES (Acerola, Atemoy, Balsam pear (Bitter melon), Carambola, Chinese broccoli (Gai Ion), Chinese cabbage (Gai choy), Chinese spinach, Chinese waxgourd, Cilantro, Citron melon, Dasheen, Ginger, Ginseng, Japanese artichoke, Japanese radish (Daikon), Rambutan):

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Aphids Beetle larvae Leafhopper Leafminers Mites Thrips Whitefly	0.75 to 1.0	For virus control on Cucurbits use 0.75 gal/100 g. Spray once or twice weekly depending on the rapid growth of the crop and / or vector pressure. When using to control insect transmitted diseases, use higher pressure 400 psi and ceramic hollow cone nozzles.

ORNAMENTALS

FOLIAGE ORNAMENTALS & BEDDING PLANTS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
	(ounces of oil per gallon of water)	
Adelgids	1.0 to 2.5 oz/gal	Summer (Foliar or Cover): Do not spray
Aphids	-	plants during flowering.

SHADE TREES** AND SHRUBS INCLUDING CONIFERS, DECIDUOUS BROADLEAF EVERGREENS & WOODY ORNAMENTALS, ORNAMENTAL TREES**, SHRUBS ALONG CITY STREETS, OTHER RIGHTS-OF-WAY INCLUDING CONIFERS, DECIDUOUS AND BROADLEAF EVERGREENS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
	(ounces of oil per gallon of water)	
Adelgids	Winter Dormant Period:	CAUTION: Spray no more than 4 times
Aphids	2.5 to 4.0 oz/gal	during the growing season; use 2
Eriophyid mites	-	week minimum application Interval. Do
Gall mites		not spray when there is obvious
Honey locust plant bug	Summer (Foliar or Cover):	moisture deficit in leaves, or the plant is
Lace bug	1.0 to 2.5 oz/gal	under stress. For fall dormant
Leaf beetle larvae	-	applications, reduce rate to 2.0 gal
Leafminer		oil/100 gal water and limit use only to:
Leafrollers		American red oak, Japanese black pine,
Mealybugs		Dogwood, Weeping cherry, Cornelian
Psyllids (immature)		cherry, Crabapple, Norway maple,
Red mites		Purple plum.
Sawfly (larvae)		NOTE: May cause discoloration of Blue
Scales (immature)		spruce. Do not use on Conifers or Ferns
Spider mites		not tolerant to oil sprays. Use enough
Webworms		spray solution to completely penetrate
Whiteflies		the leaf canopy and cover both top and
		bottom of all of the leaves and stems
		until wet but without significant runoff.
		Do not spray during flowering.

FLOWERING AND FOLIAGE PLANTS INCLUDING ROSES AND OTHER FLOWERING SHRUBS:

PESTS	APPLICATION RATE & TIMING (ounces of oil per gallon of water)	COMMENTS
Same as above	Winter Dormant Period: 2.5 to 4.0 oz/gal	Do not spray during flowering.

CHRISTMAS TREES **:

PESTS	APPLICATION RATE & TIMING (ounces of oil per gallon of water)	COMMENTS	
Scale (soft & hard) (immature)	2.0 to 3.0	Winter	
Spider mites	0.75 to 2.0	Summer	

Use a lower concentration for more sensitive plants.

** This product removes the glaucous (blue) bloom from such evergreens as Colorado blue spruce and Koster spruce. Always use lower dosage or test spray oil sensitive plants such as Cryptomeria, Smoke tree, Chamaecypris, Juniper, Japanese holly and Spruce. Tendency toward sensitivity: Red cedar and Douglas fir.

GREENHOUSE AND CONTAINER

Frequency of Application: For the greenhouse pests listed, use once a week initially, then as the pest is controlled, decrease the frequency to every 2 to 3 weeks as needed.

Application safety during bloom period should be determined for each individual species of plant to be treated by conducting a small test.

AGERATUM, CROWN OF THORNS, DIEFFENBACHIA, FERNS, FICUS, LISIANTHUS, ORCHID, PALMS, PETUNIA, POINSETTIA, SCHEFFLERA, SUNFLOWER:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Aphids Fungus gnats Leafminers Mealybugs Scales (soft & hard) Spider mites Thrips Whitefly	0.5 to 1.0	Due to varietal differences in response to a treatment of this product at the specified rates, conduct a small test on 1 or 2 plants of the specific variety to be treated.

LEAF POLISH FOR HARDY PLANTS:

PESTS	APPLICATION RATE & TIMING	COMMENTS	
	(ounces of oil per gallon of water)		
	1.0		

AGLAONEMA, ASTER, AZALEAS, BEGONIAS, BROWALLIA, CAMELLIAS, CARNATION, CELOSIA, CHRYSANTHEMUM, COLEUS, COSMOS, DUSTY MILLER, EASTER LILIES, GARDENIAS, GERBERA, HELLICHRYSUM, HIBISCUS FOLIAGE, HYDRANGEA, JADE PLANT, MARIGOLD, NEW GUINEA IMPATIENS, NICOTONIA, PHILODENDRON, PORTULACA, REIGER BEGONIAS, SNAPDRAGON, ZINNIAS:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Aphids	1.0 to 2.0	Due to varietal differences in response
Fungus gnats		to a treatment of this product at the
Leafminers		specified rates, conduct a small test on
Mealybugs		1 or 2 plants of the specific variety to
Scales (soft & hard)		be treated.
Spider mites		
Thrips		
Whitefly		

Some plants are more sensitive to oil treatments if any of the following conditions are present when application is made: High humidity (74%), an overcast or cloudy day, inadequate air flow, a small greenhouse where the sunlight is magnified causing a fast build-up of temperature and light intensity.

FIELD CROPS

CORN (Sweet & Field), SUGAR BEETS:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Aphids	Corn: 1.0 to 2.0	
Armyworm	Sugar Beets: 2.0	
Corn earworm		
Leafminers		
Mites		
Rootworm		
Whitefly		
HOPS*:		
PESTS	APPLICATION RATE & TIMING	COMMENTS
	(gallons of oil per 100 gallons of water)	
Mites	1.0 to 2.0	For Powdery mildew: Initiate sprays at
Powdery mildew		early leaf stage. Continue sprays every
		10 to 14 days. Mite control will be
		effective under the same spray interval
		as Powdery mildew sprays. Discontinue
	sprays at burr development.	
TOBACCO:		
PESTS	APPLICATION RATE & TIMING	COMMENTS
	(gallons of oil per 100 gallons of water)	••••••
Aphids	0.75 to 1.0	
Beetle larvae		
Leafhopper		
Leafminers		
Mites		
Thrips		
Whitefly		

*Asterisk denotes crop, pest Not approved in California.

This product has not been tested on all species or varieties. Before treating a large area, treat a small area and observe prior to full scale application.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

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

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

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic 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 The Agricultural Container Recycling Council (ACRC) at www.acrecycle.org. If not recycled, then 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.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

For packages up to 5 gallons: 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 water 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. **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 rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. 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. **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 rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

For packages greater than 56 gallons: 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 application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

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

For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC – 1-800-424-9300.

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