



SPRAY OIL 470

ACTIVE INGREDIENT:		By Wt.
Mineral Oil*	98.00%
OTHER INGREDIENTS:		2.00%
TOTAL		100.00%

*Contains petroleum distillates

Unsulphonated Residue 98.00% (minimum)

Aromatic Composition by ASTM D2140 ... 0.0%

KEEP OUT OF REACH OF CHILDREN CAUTION

See Below For Additional Precautionary Statements.

FIRST AID	
Have the product container or label with you when calling a poison control center or doctor or going for treatment.	
If swallowed:	<ul style="list-style-type: none">• Immediately call a poison control center or doctor.• Do not induce vomiting unless told to do so by a poison control center or doctor.• Do not give any liquid to the person.• Do not give anything by mouth to an unconscious person.
If in eyes:	<ul style="list-style-type: none">• 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.
If on skin or clothing:	<ul style="list-style-type: none">• 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.
If Inhaled:	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.• Call a poison control center or doctor for further treatment advice.
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. 11800-CA-001

NET CONTENTS 30 GALS. (113.5 L)

080510 V2D 10/12

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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):

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

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 Worker Protection Standard (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

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 when disposing of equipment wash waters. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

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.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Aerial application of this product is prohibited.

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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.

SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, 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 EQUIPMENT APPLICATIONS

Release Height: Apply using a nozzle height of no more than 4 feet above the ground or crop canopy.

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

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

AIRBLAST APPLICATIONS

Turn off outward pointing nozzles at row ends and when spraying outer row. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

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

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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®), dikar, dinocap (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.

FRUIT AND NUT CROPS

APPLES AND PEARS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
APPLES AND PEARS:	DORMANT OR DELAYED DORMANT: Use	
European fruit lecanium scale	1.0 to 2.0 gal/100 gal of water at 100 to	
European red mite eggs	800 gal/A.	
Olive scale	(Concentrate Spray: Use 3.0 to 8.0 gal/A	
San Jose scale	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 1.5 gal/100 gals of water at	
	100 to 800 gal/A. Do Not exceed more	
	than 1.5 gal/A/application for <i>SUMMER</i>	
	treatments.	
	(Concentrate Spray: Do not exceed more	
	than 1.5 gal/A/application.	
	Apply a minimum of 50.0 gal water/A.)	
	West of the Mississippi: Use 1.0 qt to 1.5	
	gal/100 gal of water at 100 to 800 gal/A.	
	(Concentrate Spray: Do not exceed more	
	than 1.5 gal/A/application. Apply a minimum	
	of 20.0 to 100 gal water/A.)	

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APPLES ONLY: Apple aphid eggs Rosy apple aphid eggs	DORMANT OR DELAYED DORMANT: Use 1.0 to 2.0 gal/100 gal 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.)	
Apple red bug Fruit tree leafroller Scurfy scale	GREEN TIP TO DELAYED DORMANT: Use 1.0 to 3.0 gal/100 gal 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)	
European red mite Forbes scale San Jose scale	DORMANT, GREEN TIP TO DELAYED DORMANT: Use 1.0 to 2.0 gal/100 gal 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.)	Delayed dormant preferred
PEARS ONLY: Pear psylla	DORMANT: Use 1.0 to 2.0 gal/100 gal 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.)	Apply before eggs are laid.
Fruit tree leafroller Pear leaf blister mite	DORMANT: Use 1.0 to 3.0 gal/100 gal 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 scale Brown mite eggs European fruit lecanium scale European red mite eggs Frosted scale Fruitree leafroller eggs Olive scale San Jose scale Terrapin scale	DORMANT AND DELAYED DORMANT: Use 1.0 to 3.0 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 of water/A.)	Preferred times of application for Black European fruit lecanium scale and European red mite eggs are Green Tip to Delayed Dormant, and for San Jose scale are Dormant, Green Tip to Delayed Dormant.
Cottony peach scale	DELAYED 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 European red mite Pacific mite Two-spotted spider mite	FOLIAR SPRAY: Use 1/2 to 1.5 gal/100 gal of water at 300 to 600 gal/A. (Concentrate Spray: Do not use more than 4.0 gal/A in a minimum of 20.0 gal water/A.)	Certain varieties of Plums and Prunes may be injured by oil sprays, check for tolerance prior to treatment. Do not apply to trees lacking moisture.
White peach scale on Peaches: Only for use in Alabama, Florida, Georgia, North Carolina, and South Carolina.	DORMANT: Use 1.5 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 of water/A.)	Apply before buds begin to swell in the spring. Make 2 applications , 7 to 14 days apart, according to local recommendations, during the dormant period.

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PLUMS AND PRUNES (Sacramento Valley of California Only)

PEST	APPLICATION RATE & TIMING	COMMENTS
Black scale Brown mite eggs European fruit lecanium scale European red mite eggs Frosted scale Leaf curl plum aphid eggs Mealy plum aphid eggs Olive scale San Jose scale	PRE-BLOOM WHEN FRUIT BUDS SHOW GREEN TIPS: Use 1.5 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.)	Application at this time is preferred.
Brown mite European red mite Pacific mite Two-spotted spider mite	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 water/A.)	Oil sprays may injure certain varieties of Plums and Prunes, check for tolerance prior to treatment.

AVOCADOS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
Avocado brown mite Praceia mite Thrip	Use 1/2 to 1.0 gal/100 gal of water with thorough coverage in 400 to 3000 gal/A. (Concentrate Spray: Use 4.0 to 15.0 gal/A in a minimum of 50 to 100 gal/A.)	Apply through late fall. Consult with your local University of California Cooperative Extension Service for proper timing and application parameters.

BANANAS, PLANTAINS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
Black leaf streak (<i>Mycosphaerella fijiensis</i>) Black sigatoka (<i>Mycosphaerella fijiensis</i> var. <i>difformis</i>) Yellow sigatoka (<i>Mycosphaerella musicola</i>)	Use 1/2 to 1.5 gal in 20.0 to 100 gal of water/A. (Mist Blower: Use 1.5 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 (gal of oil/100 gal 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.

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

PEST	APPLICATION RATE & TIMING	COMMENTS
Mites -Citrus bud -Citrus flat -Citrus red -Citrus rust	Central California: Apply 1/2 to 1.5 gal of oil/100 gal of water as thorough coverage spray (TC). Alternately, use a low volume spray (LV) to apply 1.0 to 10.0 gal of oil/A.	Apply July through September.
Scales -Black -Brown soft -California red -Citricola -Purple -Red -Yellow	Apply up to 10.0 gal of oil/A on bearing trees up to 10 feet in height. Add 1.0 gal of oil/A for each foot of tree height over 10 feet. Apply as a low volume spray (LV) 1.0 to 10.0 gal of oil/A.	
	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	Southern California: Apply 1/2 to 1.5 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.
Scales -Black -Brown soft -California red -Citricola -Purple -Red -Yellow	Apply up to 10.0 gal of oil/A on bearing trees up to 10 feet in height. Add 1.0 gal of oil/A for each foot of tree ht over 10 ft. Apply as a low volume spray (LV) 1.0 to 10.0 gal of oil/A.	
	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 1.5 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 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.	Make applications as needed throughout the year.
Scales -Black -Brown soft -California red -Citricola -Purple -Red -Yellow		

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

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coverage spray, with 1.5 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. Apply as a dilute spray.	Does not control Citrus snow scale.
Spider mites	5.0 to 10.0 gal of oil/A. Apply as a dilute spray.	
Scale insects -Black soft -Brown soft -Chaff -Glover -Purple -Red -Yellow	5.0 gal of oil/A + 6.0 pt Ethion 4EC. Apply as a dilute spray.	Summer spray only. Observe all applicable precautions on Ethion label. Do not apply to Navel oranges.
Scale insects -Black soft -Brown soft -Chaff -Glover -Purple -Red -Yellow	5.0 to 10.0 gal of oil/A. Apply as a dilute spray.	
Whitefly	5.0 gal of oil/A. Apply as a dilute spray.	
Greasy spot (Grapefruit)	5.0 gal of oil/A. Apply as a dilute spray.	Tank mix with sufficient copper fungicide to provide 4.0 lb/A of metallic copper.
Greasy spot (all other varieties)	5.0 to 10.0 gal of oil/A. Apply as a dilute spray.	If disease pressure is severe, tank mix 4.0 lb (metallic) copper/A. Do not exceed 5.0 gal oil if copper used.
Loosening sooty mold Apply as a dilute spray.	5.0 to 10.0 gal of oil/A. is heavy.	Use higher rate when disease pressure

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 1.5 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.

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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 (gal of oil/100 gal of water)	COMMENTS
Fig scale	1.0 to 3.0	Dormant or Delayed Dormant
Mites	1.0 to 2.0	Foliar Spray
Mealybug		
Scale		

GRAPES:

PEST	APPLICATION RATE & TIMING	COMMENTS
Mealybug	DORMANT: Use 1.0 to 3.0 gal plus the appropriate label rate of insecticide registered for use on Grapes in 200 to 300 gal of water/A.	Do not apply over 300 gal of water/A.
Mites		
Leafhopper*		Using ground equipment, spray for optimum coverage of leaf surfaces. Repeat sprays every 10 to 14 days.
Whiteflies*		
Powdery mildew		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
Olive (Parlatoria) scale	POSTBLOOM THROUGH AUGUST AND POST HARVEST: Use 1.0 to 1.5 gal/100 gal of water at 400 to 1500 gal/A.	
Oleander scale		
Black scale		
Mites		Prebloom to Postbloom Buckshot

PECANS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
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.
Aphids (eggs)		
Mites (eggs)		

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STRAWBERRIES:

PESTS	APPLICATION RATE & TIMING (gal of oil/100 gal 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 <u>not</u> apply after budbreak. Do <u>not</u> 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 Calico scale European fruit lecanium scale Frosted scale Olive scale San Jose scale	DELAYED DORMANT: Use 4.0 to 6.0 gal/A in 200 to 500 gal of water/A.	Use only on trees that have not suffered from lack of moisture at any time during the growing season. Do not apply to orchards where soil moisture is low. Trees must be fully dormant. Do not apply after husk split.
European red mite eggs Walnut aphid eggs Soft scales Spider mites	SUMMER FOLIAR (when leaves fully expanded): Use 4.0 to 6.0 gal/A in 200 to 500 gal water/A.	

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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 Lon), Chinese cabbage (Gai Choy), Chinese spinach, Chinese waxgourd, Cilantro, Citron melon, Dasheen, Ginger, Ginseng, Japanese artichoke, Japanese radish (Daikon), Rambutan):

PESTS	APPLICATION RATE & TIMING (gal of oil/100 gal 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 (oz of oil/gal of water)	COMMENTS
Adelgids Aphids	1.0 to 2.5 oz/gal	Summer (Foliar or Cover): Do not spray 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 (oz of oil/gal of water)	COMMENTS
Adelgids Aphids Eriophyid mites Gall mites Honey locust plant bug Lace bug Leaf beetle larvae Leafrollers Leafminer Mealybugs Psyllids (immature) Red mites Sawfly (larvae) Scales (immature) Spider mites Webworms Whiteflies	Winter Dormant Period: 2.5 to 4.0 oz/gal Summer (Foliar or Cover): 1.0 to 2.5 oz/gal	CAUTION: Spray no more than 4 times during the growing season; Use 2 week minimum application interval. Do not spray when there is obvious moisture deficit in leaves, or the plant is under stress. For fall dormant applications, reduce rate to 2.0 gal oil/100 gal water and limit use only to: American red oak, Japanese black pine, Dogwood, Weeping cherry, Cornelian cherry, Crabapple, Norway maple, Purple plum. Note: May cause discoloration of Blue spruce. Do not use on Conifers or Ferns not tolerant to oil sprays. 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. Do not spray during flowering.

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FLOWERING AND FOLIAGE PLANTS INCLUDING ROSES AND OTHER FLOWERING SHRUBS:

PESTS	APPLICATION RATE & TIMING (oz of oil/gal 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 (oz of oil/gal 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, Chamaecyparis, 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 (gal of oil/100 gal 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 (oz of oil/gal of water)	COMMENTS
	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 (gal of oil/100 gal of water)	COMMENTS
Aphids Fungus gnats Leafminers Mealybugs Scales (soft & hard) Spider mites Thrips Whitefly	1.0 to 2.0	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.

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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 (gal of oil/100 gal of water)	COMMENTS
Aphids Armyworm Corn earworm Leafminers Mites Rootworm Whitefly	Corn: 1.0 to 2.0 Sugar Beets: 2.0	

HOPS*:

PESTS	APPLICATION RATE & TIMING (gal of oil/100 gal of water)	COMMENTS
Mites Powdery mildew	1.0 to 2.0	For Powdery mildew: Initiate sprays at 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 (gal of oil/100 gal of water)	COMMENTS
Aphids Beetle larvae Leafhopper Leafminers Mites Thrips Whitefly	0.75 to 1.0	

***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.

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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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