

Spray Oil Emulsion Fungicide, Insecticide and Miticide

SUFFOIL-X®

ACTIVE INGREDIENT:

Mineral Oil* 80.00%

OTHER INGREDIENTS:

..... 20.00%

TOTAL:

..... 100.00%

*Contains petroleum distillates Unsulfonated Residue of Petroleum Oil 92.0% min.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

FIRST AID

If On Skin Or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. **If Swallowed:** Immediately call a poison control center or doctor 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 the person. Do not give anything by mouth to an unconscious person. **If In Eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes. Then continue rinsing eye. Call a poison control center or doctor for treatment advice. **If Inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

HOT LINE NUMBER: Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact the National Pesticide Information Center at 1-800-858-7378 for emergency medical treatment information.

NOTE TO PHYSICIAN: Contains petroleum distillate - do not induce vomiting since vomiting may pose aspiration pneumonia hazard.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. **PESTICIDE STORAGE:** Store in a cool, dry, locked area out of reach of children. Protect from excessive heat. Keep container tightly closed in storage to prevent entry of water. **PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. **For liquid dilutable formulations in 5 gallon or larger nonrefillable containers: CONTAINER HANDLING/DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. 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 2 more times. Offer for recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. **For liquid dilutable formulations in nonrefillable containers small enough to shake (i.e., with capacities equal to or less than 5 gallons): CONTAINER HANDLING/DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/2 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. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

EPA Reg. No.: 48813-1-68539 EPA Est. No.: 48813-IL-1



BioWorks®

Distributed by: **BioWorks, Inc.**

100 Rawson Road • Suite 205 • Victor, NY 14564 • 800.877.9443 • bioworksinc.com

FIRST AID	
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 – 20 minutes. • Call a poison control center or doctor for treatment advice.
If swallowed	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor 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 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 15–20 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 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 mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact the National Pesticide Information Center at 1-800-858-7378 for emergency medical treatment information.	
NOTE TO PHYSICIAN	
Contains petroleum distillate – do not induce vomiting since vomiting may pose aspiration pneumonia hazard.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if absorbed through skin. Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are barrier laminate, nitrile rubber, neoprene rubber or viton. If you want more options, follow the instructions for category (G) on the EPA chemical resistance category selection chart.

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

- long-sleeve shirt and long pants
- chemical-resistant gloves made of Barrier Laminate or Viton, and
- shoes plus socks.

Follow manufacturer's instructions for clean/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)].

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 washwater or rinsate.

Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

Apply this product only as specified on the label.

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.

This product may be used on tree crops, vegetables (row crop and field crop), greenhouse vegetables, small fruits, shade trees, shrubs, ornamentals, flower and foliage plants, Christmas trees, and greenhouse ornamentals.

Do not apply this product through any type of irrigation system (i.e., via chemigation).

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 apply only 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 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. Keep unprotected persons out of treated areas until sprays have dried.

PRODUCT INFORMATION

This insecticide's mode of action is through suffocation of eggs, larvae and nymphs of insects and mites and adults of soft-bodied insects. This mode of action necessitates total spray coverage. As a fungicide this product interferes with the attachment of the pathogen to the host and acts as a suffocant. Use enough spray solution to completely penetrate the leaf canopy and cover both top and bottom of all of the leaves until wet without significant runoff. Most mature trees will require 20 to 500 gallons of spray solution per acre although citrus trees may require 15 to 1000 gallons of spray solution per acre. Row crops generally require 20 to 100 gallons of spray solution per acre. Greenhouse Use – Apply at the rates of 20 to 100 gallons of spray solution per acre for control of the greenhouse pest. (Be sure to check with your equipment and local recommendations.) This product may be used to control mite and insect pests in the egg stage, including: spider mites, eriophyid mites, armored scale, soft scale, mealybugs, psyllids, whiteflies, aphids, leafrollers, leafhoppers, leafminers, webworms, cankerworms, plant bugs, leafhoppers and adelgids. This product will kill other immature insect forms if the spray covers the insect. See APPLICATION RATES tables for species claimed to be controlled on specific types of plants. Use this product only on the types of plants identified in the APPLICATIONS RATES tables.

USE PRECAUTIONS AND RESTRICTIONS – All horticultural oils interfere with or slow plant transpiration and respiration during periods of evaporation. DO NOT apply during periods of drought or when plants exhibit moisture stress.

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, and 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.

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

GROUND-BASED APPLICATIONS: Apply using a nozzle height of no more than 4 feet above the ground or crop canopy. Do not apply at wind speeds greater than 15 mph at the application site. Apply as a medium or coarser spray (ASABE standard 572), and the minimum volume mean diameter (VMD) for spinner atomizer nozzles.

AIRBLAST APPLICATIONS: For 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.

AERIAL APPLICATIONS OF AGRICULTURAL PRODUCTS: Do not release spray at a height greater than 10 feet above the ground, top of crops, or above the orchard canopy. Apply as a medium or coarser spray (ASABE standard 572), and the minimum volume mean diameter (VMD) for spinning atomizer nozzles.

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.

COMPATIBILITY – SuffOil-X is compatible with most commonly used insecticides and fungicides. Read and follow all precautions and limitations on labeling of all products used in tank mixtures. DO NOT use in combination with or immediately before or after spraying with fungicides such as captan, folpet, oxythiquinox (Morestan) or any product containing sulfur. Also do not use with Carbaryl (Sevin) or dimethoate (Cygon). Do not use with any product whose label recommends the use of no oils. Do not use in combination with NPK foliar fertilizer applications.

TIMING THE TREATMENT – You must determine the precise timing to fit local growth and climatic conditions. This product can be applied up to day of harvest.

MIXING DIRECTIONS – Add sufficient water to the mixing tank to allow proper agitation. Add the correct amount of SuffOil-X to tank. Maintain agitation until solution is used. If other pesticides are to be added, do so after SuffOil-X has been thoroughly mixed.

APPLICATION INSTRUCTIONS

Use enough spray solution to completely penetrate the leaf canopy and cover both top and bottom of all leaves until wet without significant runoff. Most mature trees will require 20 to 500 gallons of spray solution per acre, although citrus trees may require 15 to 1000 gallons of spray solution per acre. Row crops generally require 20 to 100 gallons of spray solution per acre. (Be sure to check with the instructions for the equipment used and with local Agricultural Extension agents.) Aerial application – Apply a minimum of 20 gallons of spray solution per acre.

APPLICATION RATES

TREE CROPS

CROP	PEST	APPLICATION RATE Gallons of SuffOil-X per 100 Gallons of Water	TIME OF APPLICATION
Almond, Apricot, Cherry, Plum, Prune	Aphids, Fruit Tree Leaf Roller, Mites, Scales, Whiteflies	1-2	As Needed
Apple (all varieties)	Aphids, Bugs (including Apple Red Bug), Fruit Tree Leaf Roller, Mites (including European Red Mite), Powdery Mildew, Scales (Hard, Soft, Scurfy), Whiteflies	1-2	As Needed
Avocado, Banana, Cocoa, Coffee, Macadamia, Papaya	Bugs, Leafhoppers, Scales, Sigatoka, Leafroller, Thrips	1-2	As Needed
Citrus ¹	Blackfly, Greasy Spot, Mites, Scales (Glover, Chaff, Purple, Yellow, Red, Snow, Brown and California), Sooty Mold, Whiteflies	1-2	Fall Early Winter Post-bloom March-April
Hops	Aphids, Leaf Roller, Mites, Powdery Mildew, Scales, Whiteflies	1-2	As Needed
Nectarines, Peach, Pecan	Aphids, Fruit Tree Leaf Roller, Mites, Scales, Whiteflies	1-2	As Needed

CROP	PEST	APPLICATION RATE Gallons of SuffOil-X per 100 Gallons of Water	TIME OF APPLICATION
Pear (all varieties)	Aphids, Fruit Tree Leaf Roller, Mites (including Pear leaf Blister Mite), Pear Psylla, Powdery Mildew, Scales, Whiteflies	1-2	As Needed
Pineapple	Aphids, Mealybugs, Mites, Scales	1-2	As Needed
Fig, Kiwi, Olive, Pistachio, Walnut ²	Aphids, Mites, Scales	1-2	As Needed

¹ Citrus – Oils applied after October may increase cold damage to trees; applied in August and September may affect solids content, retard color. **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. **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.

² Walnut – Apply late spring to mid-summer only. Do not apply after husk split.

VEGETABLES (ROW CROP AND FIELD CROP)

CROP	PEST	APPLICATION RATE Gallons of SuffOil-X per 100 Gallons of Water	TIME OF APPLICATION
Asparagus, Pepper, Bean Pumpkin, Cucumber Radish, Eggplant, Squash, Melon, Tomato, Peanut	Aphids, Beetle larvae, Leafhoppers, Leaf Miners, Mites, Powdery Mildew, Thrips, Whiteflies	1-2	As Needed
Cabbage, Cauliflower, Celery, Cole Crops, Lettuce, Onion	Aphids, Leafhopper, Leaf Miners, Loopers, Mites, Plant Bugs, Thrips, Whiteflies	1-2	As Needed
Corn (Sweet, Field, Seed), Popcorn, Sugar Beet	Aphids, Leaf Miners, Mites, Whiteflies	1-2	As Needed
Cotton	Aphids, Bollworm eggs and larvae, Leafhoppers, Loopers, Mites, Plant Bugs, Thrips, Whiteflies	1-2	As Needed
Grasses (Grown for Seed)	Mites, Powdery Mildew, Rust	1-2	As Needed

CROP	PEST	APPLICATION RATE Gallons of Suffoil-X per 100 Gallons of Water	TIME OF APPLICATION
Potato Sweet Potato	Aphids, Leaf Miners, Mites, Whiteflies	1-2	As Needed
Tobacco	Leaf Miners Mites Whiteflies	1-2	As Needed

GREENHOUSE VEGETABLES

CROP	PEST	APPLICATION RATE Gallons of Suffoil-X per 100 Gallons of Water	TIME OF APPLICATION
Asparagus, Bean, Cucumber, Eggplant, Melon, Peanut, Pepper, Pumpkin, Radish, Squash, Tomato	Aphids, Beetle larvae, Leafhoppers, Leaf Miners, Mites, Powdery, Mildew, Thrips, Whiteflies	1-2	As Needed
Cabbage, Cauliflower, Celery, Cole Crops, Lettuce, Onion	Aphids, Leafhopper, Leaf Miners, Loopers, Mites, Plant Bugs, Thrips, Whiteflies	1-2	As Needed
Corn (Sweet, Field, Seed), Popcorn, Sugar Beet	Aphids, Leaf Miners, Mites, Whiteflies	1-2	As Needed
Potato, Sweet Potato	Aphids, Bollworm eggs and larvae, Leafhoppers, Loopers, Mites, Plant Bugs, Thrips, Whiteflies	1-2	As Needed

SMALL FRUITS

CROP	PEST	APPLICATION RATE Gallons of Suffoil-X per 100 Gallons of Water	TIME OF APPLICATION
Bushberries, Caneberries, Strawberry	Aphids, Mites, Powdery Mildew, Rust, Sawfly, Scales, Whiteflies	1-2	As Needed

CROP	PEST	APPLICATION RATE Gallons of Suffoil-X per 100 Gallons of Water	TIME OF APPLICATION
Grape	Botrytis, Leafhoppers, Leaf Miners, Mealybugs, Mites, Powdery Mildew, Scales, Whiteflies	1-2	As Needed

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

CROP	PEST	APPLICATION RATE Gallons of Suffoil-X per 100 Gallons of Water	TIME OF APPLICATION
Conifers, Flower, Foliage and Bedding Plants, Ornamentals ³ , Shade Trees, Shrubs, Christmas Trees ³	Aphids, Black Spot, Leaf Miners, Mites, Plant Bugs, Powdery Mildew, Psyllids, Rust, Sawfly, Scales, Whiteflies	1-2	As Needed
³ ORNAMENTALS, CHRISTMAS TREES - Oil might remove the glaucous (blue) bloom from such evergreens as Colorado Blue Spruce and Koster Spruce. Use with caution and reduced dosage for summer application on Japanese Red Maple, Amur Maple and Black Walnut. Use with caution and reduced dosage for dormant application on Sugar Maple and Redbud.			

GREENHOUSE ORNAMENTALS

CROP	PEST	APPLICATION RATE Gallons of Suffoil-X per 100 Gallons of Water	TIME OF APPLICATION
Azalea, Camellia, Carnation, Fuchsia, Gladiola, Hibiscus, Iris, Lily, Mums, Orchids, Poinsettia, Rhododendron, Rose, Vines	Aphids, Fungus Gnat, Leaf Miners, Mealy Bugs, Mites, Powdery Mildew, Rust, Scales, Thrips, Whiteflies	1-2	As Needed

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a cool, dry, locked area out of reach of children. Protect from excessive heat. Keep container tightly closed in storage to prevent entry of water.

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

For liquid dilutable formulations in 5 gallon or larger nonrefillable containers:

CONTAINER HANDLING/DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ 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 2 more times. Offer for recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

For liquid dilutable formulations in nonrefillable containers small enough to shake (i.e., with capacities equal to or less than 5 gallons):

CONTAINER HANDLING/DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{2}$ 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. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The Directions for Use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of the product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use of application, all of which are beyond the control of BioWorks, Inc. To the extent permitted by applicable law, all such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, BioWorks, Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of BioWorks, Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, BioWorks, Inc. disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at BioWorks, Inc.'s election, the replacement of product.