



# SuffOil-X®

## Spray Oil Emulsion Insecticide, Miticide, Fungicide

SuffOil-X® is a unique concentrate of pre-emulsified, highly refined, high paraffinic, low aromatic oil. It is the ideal choice for effective insect, mite and disease control in a broad range of greenhouse, nursery and vegetable crops.

SuffOil-X's pre-emulsification process breaks down the oil particle, reducing the droplet from 700 microns to approximately 50 microns (1/14th its original size). Emulsifiers are then added in the final step of the manufacturing process. The small oil droplets assure that a very thin, uniform coating of oil is applied to the plant. SuffOil-X is highly effective at smothering and killing pests while maintaining plant safety.

### SuffOil-X Benefits

- Effectively controls a broad range of insects, mites and fungi - including powdery mildew
- Suffocates eggs, larvae, nymphs and adult soft bodied insects and mites
- Uniform coverage to suffocate pests without causing burn or stress to plants
- Works well in high or low pressure spray applications
- Excellent compatibility with pesticides labeled for use with oil
- Penetrates dense spots in plant canopy
- Does not require rigorous agitation to maintain homogenous mix and stay in suspension
- 4-Hour REI; OMRI Listed
- Poses few risks to people and many beneficial insects, allowing it to integrate well with biological controls

### Advantages of Pre-Emulsification

**Mixing:** SuffOil-X dilutes with water easier and more thoroughly than other horticultural spray oils. Hard water is not a problem for SuffOil-X.

**Stability:** Even after dilution, SuffOil-X won't separate for many hours in a spray tank. The stable emulsion of SuffOil-X is long lasting, ensuring that the spray application is consistent from the beginning of an application to the end.

**Reliability:** SuffOil-X applications are more uniform than conventional oil emulsions that break apart causing the oil to separate and float to the surface of the tank. This uniformity greatly reduces the chance of plant phytotoxicity and improves its effectiveness.

**Safety:** Because it is manufactured using the finest oils and emulsifiers, SuffOil-X does not risk your crop by using heavy oils known for their phytotoxic risk. The unique formulation of SuffOil-X provides excellent coverage and durability with little risk of plant damage.



# BioWorks®

How You Grow Matters™

100 Rawson Road | Suite 205  
Victor, NY 14564  
P 800 877 9443  
F 800 903 2377  
www.bioworksinc.com



# SuffOil-X®

## Applications

SuffOil-X® used alone, or in combination with other products is a highly effective control for a broad range of insects, mites and fungi - including powdery mildew. SuffOil-X's mode of action is primarily through the suffocation of eggs, larvae, nymphs and adults of soft bodied insects. Additionally, it does not allow fungal mycelia to attach to the leaf and interferes with the transmission of plant virus by insect transmission.

SuffOil-X controls a wide variety of mite and insect pests such as:

Adelgids	Mealybugs
Aphids	Plant bugs
Armored scales	Psyllids
Cankerworms	Soft scales
Eriophyid mites	Spider mites
Leafhoppers	Webworms
Leafrollers	Whiteflies
Leaf tiers	

## 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, Oxythioquinox (Morestan™) or any other product containing sulfur. Also do not use with Carbaryl™ (Sevin) or Dimethoate (Cygon™). Do not use with any product whose label does not recommend the use of oils. Do not use in combination with NPK foliar fertilizer applications.

## Rate Recommendations

SuffOil-X is labeled for use on a wide variety of crops within these categories:

Field crops	Shade trees
Flowers	Shrubs
Foliage plants	Small fruits
Greenhouse ornamentals	Tree crops
Ornamentals*	Vegetable crops

\* 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 applications on Japanese Red Maple, Amur Maple and Black Walnut. Use with caution and reduced dosage for dormant application on Sugar Maple and Redbud.

Mix 1-2 gallons of SuffOil-X per 100 gallons of water. Most mature trees will require 20 to 500 gallons of spray solution per acre. Row crops generally require 20 to 100 gallons per acre. Apply as needed.

## Light Spray Oil General Guidelines

(Universities of California and Florida)

- Insure thorough coverage
- To avoid phytotoxicity, do not apply on overcast, humid days and after rain
- Spray when relative humidity is less than 90%
- Goal is to have the oil dry and evaporate in 1-2 hours
- Spray early in the day before temperatures reach above 90° to 95° F (33°-35°C) or late in the day when temperature cools
- Temperature not to exceed 90° to 95° F (33°-35°C) **at the time of spray**
- Insure soil moisture is adequate and plants are not drought stressed
- Do not mix with sulfur, sulfur-based fungicides or insecticides (e.g. Omite) or carbaryl (Sevin)



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Please refer to product labels for complete application details. Additional technical information is available from either our website: [www.bioworksinc.com](http://www.bioworksinc.com), or your BioWorks sales representative. Always read and follow label directions.

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