

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

MAR 18 1999

Ms. Nancy R. Robey
Regulatory Specialist
Agtrol International
7322 S.W. Freeway, Suite 1400
Houston, TX 77074

Dear Ms. Robey:

Subject: Micro Sulf
EPA Reg. No. 55146-75
Your Submission Dated January 7, 1999

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable with the following comments:

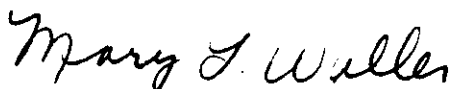
Move melons from fruit and nut crops to vegetable crops or miscellaneous crops.

In the third paragraph on page 10, change "conduction" to "combination".

Please submit one copy of your final printed labeling before you release the product for shipment. A stamped copy of the label is enclosed for your records.

If you have any questions, please contact Charlotte Davis of my staff at (703) 305-6700.

Sincerely yours,



Mary L. Waller,
Product Manager (21)
Fungicide Branch
Registration Division

Enclosure

CONCURRENCES							
SYMBOL	75050						
SURNAME	Davis						
DATE	3-18-99						

2/13

ACCEPTED
with COMMENTS
In EPA Letter Dated:
MAR 18 1999

Micro Sulf™

Micronized Wettable Sulfur

Fungicide - Miticide

For Use on Fruits - Nuts - Citrus - Vegetables - Hops

Sugar Beets - Cotton - Seed Alfalfa - Cereal Grains

Peanuts - Roses

Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.

35146-75

ACTIVE INGREDIENT:

Sulfur..... 80%

INERT INGREDIENTS:..... 20%

Total..... 100%

KEEP OUT OF REACH OF CHILDREN

CAUTION

STATEMENTS OF PRACTICAL TREATMENT

IF SWALLOWED: Give one or two glasses of water and induce vomiting by sticking finger down throat. Never give anything by mouth to an unconscious person.

IF ON SKIN: Wash with soap and water. Get medical attention if irritation persists.

.. IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

SEE BELOW FOR ADDITIONAL PRECAUTIONARY STATEMENTS

EPA Reg. No. 55146-75

EPA Est. No. 44420-FR-1

NET WT. _____

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

May cause irritation of eyes. Harmful if swallowed, inhaled, or absorbed through skin. Avoid breathing dust or spray mist. Avoid contact with skin, eyes, or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants waterproof gloves, shoes plus socks, and protective eyewear. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply where runoff is likely to occur. Do not contaminate water when disposing of equipment washwaters.

STORAGE AND DISPOSAL

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

STORAGE INSTRUCTIONS: Store product in a closed package in a cool, dry place. Do not store near flammable materials. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. If spilled during storage or handling, sweep up spillage and dispose of in accordance with the Pesticide Disposal Instructions below.

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

CONTAINER DISPOSAL INSTRUCTIONS: Completely empty bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment, then dispose of bag in a sanitary landfill, by incineration, or if allowed by State and local authorities, by burning. If burned stay out of smoke.

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.

OBSERVE SPECIFIC INSTRUCTIONS FOR USE IN CALIFORNIA

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling, and with the Worker Protection Standard (WPS), 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 PPE, notification to workers, and restricted-entry interval (REI). The requirements in this box only apply to uses of this product that are covered by the WPS.

Do not enter or allow worker entry into treated areas during the REI of 24 hours. PPE required for early entry to treated areas that is permitted under the WPS and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, waterproof gloves, shoes plus socks, and protective eyewear.

CHEMICAL OR PHYSICAL HAZARD

Keep away from heat, sparks, or flame. Do not smoke while applying this product.

IMPORTANT

In order to obtain effective mite and disease control, both the upper & lower sides of plant foliage and fruit must be thoroughly covered with Micro Sulf™ spray solution. Poor spray coverage will result in poor mite and disease control. When growing crops for "processing", consult the processor before applying sulfur. Do not use on any crop unless sulfur has been shown to be safe for that crop in your locality. Sulfur may burn foliage when temperatures exceed 90°F. Do not apply within 14 days of an oil spray for all crops except Citrus. For Citrus do not apply within 21 days of an oil spray.

APPLICATION INSTRUCTIONS

Apply through any type of handheld, knapsack, mechanical or pneumatic spraying equipment.

MIXING: Pour the required amount of MICRO SULF into the indicated amount of water while stirring. MICRO SULF disperses instantly.

Dilute Application:

Field: Specified rate in 20 to 60 gallons of water per acre.

Orchard: Specified rate in 100 to 800 gallons of water per acre.

Concentrated Application:

Field: Specified rate in 5 to 10 gallons of water per acre.

Orchard: Specified rate in 20 to 100 gallons of water per acre.

Aerial Application:

Field: Specified rate in 3 to 20 gallons of water per acre.

Orchard: Specified rate in 10 to 20 gallons of water per acre.

COMPATIBILITY

MICRO SULF is completely compatible with Bordeaux mixture, copper fungicides, liquid fertilizers and all organic fungicides, insecticides, acaricides and herbicides.

USE INSTRUCTIONS

Some crops may be damaged by sulfur under certain climatic conditions, such as when temperature high. AGTROL INTERNATIONAL does not recommend application if temperature will exceed 90°F within the three days following spraying, due to the risk of crop injury. Crops grown in greenhouses may be much more sensitive to sulfur injury, so the lowest labeled rate (or below labeled rates) should be tried initially. Do not use on any crop unless sulfur has been shown to be safe in your locality. Do not allow spray to drift into sulfur-sensitive crops such as apricots, cranberries, spinach and d'Anjou pears.

Do not use within two weeks of an oil spray treatment, except for Dormant, Delayed Dormant, or Postharvest applications with a suitable oil. For citrus, do not apply within 21 days of an oil spray. Spreaders/stickers are not required for use with MICRO SULF. If spreaders/stickers are used with MICRO SULF, foliar injury may be enhanced under high temperatures. When growing crops for processing, consult the processor before applying sulfur.

(NOTE: The application rates specified for each crop are the maximum that should be applied. These amounts may be reduced if experience or local practice indicate that lesser amounts may be effective. Consult State Agriculture Experiment Station or State Extension Service specialist for rates recommended in your local area.

VEGETABLE CROPS

BEANS, *Leaf Spot, Powdery Mildew*. Apply at a rate of 7 lbs/acre. Apply at early leaf stage and repeat at 14-day intervals or as needed.

BROCCOLI, BRUSSELS SPROUT, CABBAGE, CAULIFLOWER, *Powdery Mildew, Red Spider Mite*. Apply at a rate of 3-10 lbs/acre. Begin in early leaf stage. Repeat every 10 to 14 days or as needed.

CARROTS, *Powdery Mildew, Petrobia Mite*. Apply at a rate of 3-10 lbs/acre. Apply at early leaf stage and repeat every 14 days or as needed.

CUCUMBERS, *Powdery Mildew*. Apply at a rate of 2-4 lbs/acre. Apply when disease first appears and repeat as necessary. Do not apply more than 2 pounds MICRO SULF per acre per application during periods of high temperatures.

GREENS: COLLARDS, KALE, MUSTARD, TURNIP*, *Powdery Mildew, Red Spider Mite*. Apply at a rate of 3-10 lbs/acre. Apply at early leaf stage and repeat every 14 days or as needed.

*CALIFORNIA ONLY: Apply 5 lbs/acre at early leaf stage and repeat every 14 days or as needed.

LETTUCE (HEAD AND LEAF), *Powdery Mildew, Rust, Red Spider Mite*. Apply at a rate of 5-6 lbs/acre. Apply at early leaf stage and repeat every 14 days or as needed. Thorough coverage is required.

ONIONS*, GARLIC*, DRY ONIONS*, DRY SHALLOTS*, *Powdery Mildew, Petrobia Mite*. Apply at a rate of 3-10 lbs/acre. Apply when disease first appears and repeat as needed.

*CALIFORNIA ONLY: Apply 6 lbs/acre when disease first appears and repeat as necessary.

PEAS, *Powdery Mildew, Septoria Leaf Spot, Red Spider Mite*. Apply at a rate of 3-5 lbs/acre. Start application at early leaf stage. Repeat application every 10-14 days or immediately after rain.

POTATOES, *Powdery Mildew, Red Spider Mite*. Apply at a rate of 5 lbs/acre. Apply at early leaf stage and repeat every 14 days or as needed.

RUTABAGAS*, *Powdery Mildew, Red Spider Mite*. Apply at a rate of 3-10 lbs/acre. Apply at early leaf stage and repeat every 14 days or as needed.

*CALIFORNIA ONLY: Apply 5 lbs/acre at early leaf stage and repeat every 14 days or as needed.

SQUASH, *Powdery Mildew*. Apply at a rate of 5-10 lbs/acre. Apply when disease first appears and repeat as needed. Sulfur can injure plants, especially when temperature reaches 95 °F. Do not use on sulfur sensitive varieties.

TOMATOES, *Two-Spotted Mite*, Russet Mite, Powdery Mildew*. Apply at a rate of 5-10 lbs/acre. Begin application when symptoms first appear. Thorough coverage is required.

*NOT FOR THIS USE IN CALIFORNIA

FRUIT AND NUT CROPS

ALMONDS, *Brown Rot, Leaf Spot, Silver Mite, Flat Mite, Red Spider Mite*. Apply at a rate of 10-20 lbs/acre. Apply at bloom or early petal fall. Repeat as necessary, usually 10 to 14 days after a period of wet weather.

APPLES, PEARS, *Powdery Mildew, Scab, Blister Mite, Two-Spotted Mite*, Red Spider Mite*. Apply at a rate of 10-20 lbs/acre. Apply at pre-bloom and petal fall. Apply with cover sprays throughout the season. Do not apply to d'Anjou pears.

*NOT FOR THIS USE IN CALIFORNIA

APPLES, PEARS (DORMANT, DELAYED DORMANT, OR POSTHARVEST), *Pear Psylla, Blister Mite, Two-Spotted Mite*, Red Spider Mite*. Apply at a rate of 10-20 lbs/acre. Apply with a suitable spray oil postharvest and during the dormant periods of bud development. Do not apply to sensitive varieties of pears except at these stages.

*NOT FOR THIS USE IN CALIFORNIA

AVOCADOS, *Brown Mite*. Apply at a rate of 10-20 lbs/acre. Apply as needed

CITRUS, *Broad Mite*, Citrus Rust Mite*, Flat Mite, Silver Mite, Bud Mite*, Red Spider Mite, Six Spotted Mite*, Thrips*, Yuma Spider Mite**. Apply at a rate of 10-15 lbs/acre. Apply as needed. Do not apply within 21 days of an oil spray.

*NOT FOR THIS USE IN CALIFORNIA

FIGS, *Mites, including Fig Mite, Eriophyid Mite*. Apply at a rate of 5 lbs/acre. Apply at a minimum of 100 gallons per acre. Begin applications in April, and continue on a 3-4 week schedule through June.

GRAPES, *Powdery Mildew, Bud Mite, Blister Mite, Red Spider Mite, Phomopsis*. Apply at a rate of 3-10 lbs/acre. Apply throughout the season at 7-14 day intervals or as needed. Thorough coverage is required.

NOTE: Use with caution on concord or labrusca type grapes as injury can occur after bloom.

MANGOS, *Powdery Mildew*. Apply at a rate of 10-30 lbs/acre. Begin application before bloom. Repeat at bloom, after fruit set, and 3 weeks later or as needed.

MELONS, *Powdery Mildew*. Apply at a rate of 5-10 lbs/acre. Apply when disease first appears and repeat as needed. Sulfur can injure plants, especially when temperature reaches 95°F. Do not use on sulfur sensitive varieties.

PECANS*, *Powdery Mildew, Sooty Mold, Two-Spotted Mite, Red Spider Mite, Eriophyid Mite (including Pecan and Hickory)*. Apply at a rate of 5-10 lbs/acre. Apply throughout the season as needed.

***NOT FOR USE IN CALIFORNIA**

NOTE: Some varieties of pecans are sensitive to sulfur sprays under certain conditions. Do not apply unless varieties are known to be tolerant of sulfur.

PISTACHIOS, *Mites*. Apply at a rate of 10-20 lbs/acre. Begin applications in June-July. Make additional applications as necessary. When temperatures exceed 95°F, lower rates and more frequent applications are advised in order to avoid crop injury.

POMEGRANATES, *Mites*. Apply at a rate of 3-10 lbs/acre. Begin applications in May or June. Make additional applications on a 3-4 week schedule, or as necessary. Use higher rates if past mite damage has been high. If temperatures exceed 95°F, lower rates and more frequent applications advised in order to avoid crop injury.

STONE FRUITS: PEACHES, PLUMS, CHERRIES, NECTARINES, PRUNES, *Powdery Mildew, Brown Rot, Leaf Spot, Silver Mite, Flat Mite Red Spider Mite*. Apply at a rate of 10-20 lbs/acre. Follow directions for almonds, above. For Brown Rot of fruit, apply when fruit starts to ripen. Do not apply to apricots.

WALNUTS, MACADAMIAS*, *Pacific Mite, Almond Mite, Two-Spotted Mite*, Red Spider Mite, Broad Mite**. Apply at a rate of 10-20 lbs/acre. Apply throughout the season as needed.

***NOT FOR THIS USE IN CALIFORNIA**

NOTE: Some varieties of walnuts are sensitive to sulfur sprays under certain conditions. Do not apply unless varieties are known to be tolerant of sulfur.

FIELD CROPS

SEED ALFALFA*, *Atlantic Mite, Red Spider Mite*. Apply at a rate of 8-10 lbs/acre. Apply throughout the season as necessary.

***NOT FOR USE IN CALIFORNIA**

CEREALS: CORN, WHEAT, BARLEY, OATS, RYE, SORGHUM, *Red Spider Mite, Two-Spotted Mite, *Pacific Mite, Atlantic Mite*.** Apply at a rate of 8-10 lbs/acre. Apply when symptoms first appear and repeat applications as necessary.

***NOT FOR THIS USE IN CALIFORNIA**

COTTON, *Atlantic Mite, *Two-Spotted Mite**, *Red Spider Mite*.** Apply at a rate of 5-10 lbs/acre. Apply throughout the season as necessary.

***CALIFORNIA ONLY:** Apply a maximum of 5 lbs/acre as necessary.

PEANUTS, *Powdery Mildew, Leaf Spot, Two-Spotted Mite, Red Spider Mite, Rust.** Apply at a rate of 5-8 lbs/acre. Apply at early leaf stage and repeat application as necessary.

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SOYBEANS, *Leaf Spot, Powdery Mildew*. Apply at a rate of 10-15 lbs/acre. Apply at early leaf stage and repeat at 14-day intervals or as needed.

SUGAR BEETS, *Powdery Mildew, Red Spider Mite*. Apply at a rate of 5-10 lbs/acre. Apply as soon as symptoms appear and repeat every 2 to 3 weeks or as needed.

SMALL FRUITS AND BERRIES

(JACKBERRIES, BOYSENBERRIES, DEWBERRIES, LOGANBERRIES, BLUEBERRIES, GOOSEBERRIES, HUCKLEBERRIES,

CURRENTS, *Powdery Mildew*. Apply at a rate of 6-15 lbs/acre. Begin application before blossoms open and continue at 10-day intervals or as needed.

RASPBERRIES, *Powdery Mildew*. Apply at a rate of 6-15 lbs/acre. Apply each week from first bloom to fruit set. Repeat as the weather requires.

STRAWBERRIES, *Powdery Mildew, Two-Spotted Mite, *Red Spider Mite**.** Apply at a rate of 5-10 lbs/acre. Begin application at early leaf stage and repeat as needed. Do not use on sulfur-sensitive varieties.

***NOT FOR THIS USE IN CALIFORNIA**

MISCELLANEOUS CROPS

SPEARMINT*, PEPPERMINT*, *Powdery Mildew*. Apply at a rate of 4-6 lbs/acre. Apply when mint is 5-6" tall or when disease appears. Repeat twice, at 30-day intervals. Do not apply within 30 days of harvest.

***NOT FOR USE IN CALIFORNIA**

HOPS*, *Red Spider Mite*. Apply at a rate of 2-6 lbs/acre. Begin applications at early leaf stage, and repeat as needed.

***NOT FOR USE IN CALIFORNIA**

ORNAMENTALS, ROSES, *Powdery Mildew, Leaf Spot, Two-Spotted Mite**. Apply at a rate of 3-10 lbs/acre by ground or 3-20 lbs/acre by air. Apply to ensure complete plant coverage. Begin when disease first appears and repeat at 5-10 day intervals.

***NOT FOR THIS USE IN CALIFORNIA**

DIRECTIONS FOR USE THROUGH CHEMIGATION SYSTEMS

NOT FOR THIS USE IN CALIFORNIA

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Observe all applicable precautions and limitations on the Federal label. Label must be in the possession of the user at the time of pesticide application.

GENERAL INSTRUCTIONS

Apply this product through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

If you have any questions about calibration, you should contact your State Extension Service specialists, equipment manufacturers or other experts.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Do not connect the chemigation system to any public water system. Public water system means a system for the provision of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

MICRO SULF may be applied in conduction with chemically neutral liquid fertilizers. Application in conduction with highly alkaline fertilizers, such as aqueous ammonia, may cause a degradation of the pesticide, resulting in reduced performance, and should be avoided.

SYSTEM REQUIREMENTS

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operate valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functioning interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

APPLICATION INSTRUCTIONS

Observe the requirements in the System Requirements section above.

Apply MICRO SULF only through systems containing anti-syphon and check valves designed to prevent water source contamination or overflow of the mix tank and containing interlocking controls between the metering device and the water pump to insure simultaneous shutoff.

Maintain a gentle continuous agitation in mix tank during mixing and application to assure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute suspension per unit time.

Application of more than recommended quantities of irrigation water per acre may result in decrease product performance.

Do not apply when wind speed favors drift, when system connection or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product cannot be flushed and must be dismantled and drained. In a center pivot system, block the nozzle set nearest the well/pivot/injection unit to prevent spray being applied to this area.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

SPRAY PREPARATION

Remove scale, pesticide residues, and other foreign matter from the chemical tank and entire injector system. Flush with clean water. Prepare a suspension of MICRO SULF in a mix tank. Fill the tank with $\frac{1}{2}$ or $\frac{3}{4}$ the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of MICRO SULF and then the remaining volume of water.

SPRINKLER IRRIGATION NOTES:

Observe all System Requirements and Application Instructions above.

Set sprinkler system to deliver 0.1 to 1.25 inches of water per acre. Volumes of water higher than this may reduce product efficacy. Start sprinkler and then uniformly inject the suspension of MICRO SULF into the irrigation waterline so as to deliver the desired rate per acre. The suspension of MICRO SULF should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. When treatment with MICRO SULF has been completed, do not irrigate the treated area for 24 to 48 hours to prevent washing the chemical off the crop.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Where sprinkler distributed patterns do not overlap sufficiently, unacceptable pest control may result.

Check local restriction and requirements regarding sprinkler irrigation applications, as they may vary from state to state.

AGTROL INTERNATIONAL

Houston, TX 77074