

BASF

PM 21 7969-61

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ACCEPTED

DEC 17 1996

Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under
EPA Reg. No. 7969-61

Kumulus® DF

fungicide/acaricide

Water dispersible sulfur granule containing:

Active Ingredient:

Sulfur80%

Inert Ingredients:20%

Total100.0%

EPA Reg. No. 7969-61

EPA Est. No. 7969-WG-01

KEEP OUT OF REACH OF CHILDREN.

CAUTION

Statement of Practical Treatment

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If splashed in eyes: Get medical attention if irritation develops.

If spilled on skin: Wash skin with soap and plenty of water. If irritation develops, send for a physician.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the **Directions For Use** for information about this standard.

Net contents: 50 pounds

Made in Germany

BASF Corporation
P.O. Box 13528, Research Triangle Park, NC 27709

**Precautionary Statements
HAZARDS TO HUMANS (AND
DOMESTIC ANIMALS)**

Harmful if swallowed. Avoid breathing spray mist. Avoid contact with eyes, skin, and clothing.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- 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.

Engineering Controls Statement

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

User safety recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing 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, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of rinsate or equipment washwaters. Do not apply when weather conditions favor drift from 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 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.

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 24 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
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Restrictions and Limitations

Do not apply to or allow spray drift on sulfur-sensitive plants such as D'anjou pears, apricots, chrysanthemums, cranberries, spinach, or other sensitive crops listed on this labeling. Sulfur may burn foliage when temperature is excessively high.

Do not apply if temperatures during or within 3 days after application are expected to exceed 90° F in the area to be treated.

Do not apply with or following an oil application for 21 days.

Do not apply oil for 21 days following treatment.

When growing crops for processing, consult the processor before applying sulfur.

Do not apply **Kumulus® DF fungicide/acaricide** through any type of irrigation system.

Application Information

Dilute ground application

Orchard application: Apply specified rate in 100-800 gallons of water per acre.

All other applications: Apply specified rate in 20-60 gallons of water per acre.

Concentrate ground application

Orchard application: Apply specified rate in 20-100 gallons of water per acre.

All other applications: Apply specified rate in not less than 5 gallons of water per acre.

Aerial application

Orchard rates: Should not be applied in less than 10 gallons of water per acre.

All other applications: Apply specified rate in 5-20 gallons of water per acre.

Mixing Recommendations:

Pour the needed amount of **Kumulus DF** into the spray tank under agitation. If necessary, add a few drops of oil to avoid foaming.

Crop	Problem	Pounds per acre
Alfalfa Repeat at 1-2 week intervals.	Lygus, Pacific, and Strawberry (Atlantic) mites	12-25
Almonds, cherries, plums, prunes Apply at bloom or early petal fall. Repeat as necessary, usually 10-14 days or after wet weather. For brown rot of fruit, apply when fruit starts to ripen.	Brown rot blossom blight, Powdery mildew, Cherry leaf spot, Silver mite, Flat mite, Red spider mite	10-20
Apples, pears Do not apply to D'anjou pears or to sensitive apple varieties such as Ontario or Cox orange. Apply pre-bloom and petal fall. Apply with cover sprays throughout the season at 10-14 day intervals.	Powdery mildew, Scab, Blister mite, Red spider mite	10-20
Asparagus* Use after cutting stops. Irrigate and cultivate before applying Kumulus® DF fungicide/acaricide . Repeat at 7-10 day intervals through the fern growth season. * Not registered in California.	Rust	10-30
Avocados Apply when mites are first noticed.	Brown mite	10-30
Beans, peas, broccoli, Brussels sprouts, cabbage, cauliflower, collards, kale, peppers, potatoes, mustard greens, rutabagas, turnips Start at early leaf stage. Repeat application every 10-14 days with or without other pesticides immediately after a rain.	Powdery mildew, Septoria leaf spot, Red spider mite	3-5
Blackberries, boysenberries, dewberries, loganberries, raspberries (<i>Rubus</i> spp.) Begin when new shoots are 6 inches long and before blossoms open. Repeat at 10 day intervals or as necessary.	Powdery mildew	6-12
Blueberries, gooseberries, currants, huckleberries Begin when disease first appears. Repeat at 7-10 day intervals or as necessary.	Powdery mildew	6-15
Carrots, onions, garlic Begin when disease first appears and repeat as necessary.	Petrobia mite and Powdery mildew	3-10
Citrus Apply in any spray not containing oil . Do not apply within 21 days of an oil application.	Rust mite, Flat mite, Silver mite, Red spider mite	8-20
Corn, small grains, sorghum, soybeans Apply when disease first appears and repeat as necessary or with the regularly scheduled insecticide program.	Suppression of Red spider mite, Two-spotted mite, Grass banks mite, and Pacific mite; for control of Atlantic mite (small grain only), and for control of Powdery mildew	6-15
Cotton, seed alfalfa	Red spider mite	3-5
Grapes Apply in late dormancy or with the cutworm spray, early shoot period and through season on 14-day schedule or with other pesticides.	Powdery mildew, Bud mite, Blister mite, Red spider mite	2-5
Hops Do not apply in less than 10 gallons of water per acre.	Suppression of Red spider mites.	2-4
Mangoes Begin before bloom. Repeat in bloom, after fruit set, and 3 weeks later or as necessary.	Powdery mildew	10-30
Melons Treat when the disease first appears and repeat as necessary. Sulfur can injure plants, especially when the temperature reaches 95° F. Do not use on sulfur-sensitive varieties.	Powdery mildew	20-25
Mint Apply in sufficient water to ensure thorough coverage of plants when the first sign of infection appears. Apply additional sprays at 3-week intervals until pink bud stage or 4 weeks before harvest. Apply when infection appears and repeat at 3-week intervals as often as necessary to cover new growth or until growth ceases in the fall. Use a minimum of 20 gallons per acre of spray solution by ground and a minimum of 10 gallons per acre of spray solution by air. Before applying on a crop to be harvested for oil, authorization should be obtained from the buyer of the oil.	Powdery mildew	4
Peaches, nectarines Apply at bloom or early petal fall. Repeat as necessary, usually 10-14 days or after wet weather. For brown rot of fruit, apply when fruit starts to ripen.	Brown rot blossom blight, Powdery mildew, Silver mite, Red spider mite	10-20
Peanuts Start in early leaf stage. Repeat applications as necessary, usually 10-24 days.	Powdery mildew, Red spider mite, Leaf spot	3-5

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Crop	Problem	Pounds per acre
Pecans	Powdery mildew, Leaf spot, Silver mite, Flat mite, Red spider mite	10-20
Apply at bloom or early petal fall. Repeat as necessary, usually 10-14 days or after wet weather.		
Pistachios	Citrus Flat Mite	20-25
Apply when mites first appear. Repeat as necessary.		
Strawberries	Powdery mildew, Red spider mite	5-10
Start in early leaf stage, repeat applications at 10-14 day intervals with or without other pesticides. For Powdery mildew, begin at first signs of disease and repeat as necessary.		
Sugar beets	Red spider mite, Powdery mildew	10-20
Apply at first indication of problem with or without other pesticides. Repeat as necessary.		
Table beets	Red spider mite, Powdery mildew	3-5
Apply at first indication of problem with or without other pesticides. Repeat as necessary.		
Tomatoes	Russet mite	10-20
Thorough coverage is required.		
Walnuts	European red mite, Pacific mite, Almond mite, Two-spotted mite, Red spider mite	10-20
Apply with mite sprays during season to increase the effectiveness of miticides. Note to user: Certain varieties are sensitive to sulfur sprays under certain conditions. Do not apply unless the varieties are known to be tolerant of sulfur.		

Ornamentals

Asters, carnations	Powdery mildew	3-5
Calendula, cherry laurels, hollyhock, smilax	Leaf spot and Powdery mildew	3-5
Clematis, columbine, ivy (English), laurel, petunia, sage	Leaf spot	3-5
Cosmos, crape myrtle, dahlia, delphinium, gladiolus, ligustrum, sunflowers, sweet peas, violets, zinnias	Powdery mildew	3-5
Roses	Powdery mildew and Black spot	3-5
Apply 3-5 pounds in 100 gallons of water. Ensure complete plant coverage. Begin when disease first appears and repeat at 5-10 day intervals.		

Turf

Turf, all types and applications (including but not limited to golf putting/nonputting greens) with no cutting height restrictions	Suppression of Fusarium Patch in bentgrass, bluegrass, ryegrass, and fescue and Take-all in bentgrass	10-55
Monthly applications September through May. Apply as a preventative measure prior to the outbreak of disease. Use the higher rate when weather conditions indicate a potential for increased disease expression. Higher rates should be used when temperatures are below 80° F, lower rates when temperatures exceed 80° F. Can cause <i>Poa annua</i> decline. Thorough coverage is required. The addition of Sylgard® 309 adjuvant will aid in coverage.		

Nutrient Use

Kumulus® DF contains sulfur, which is an essential nutrient for plant growth. Therefore, when applied as directed, **Kumulus DF** can be considered a necessary component of the total plant nutrient profile. Local agricultural authorities may be a reliable source for additional information pertaining to this use.

BASF recommends **Kumulus DF** on the following crops as a micronutrient supplement: alfalfa, almonds, cherries, plums, prunes, pecans, apples, (except sensitive varieties such as Ontario or Cox orange), pears (except D'anjou), asparagus, avocados, beans, peas, broccoli, Brussels sprouts, cabbage, cauliflower, collards, kale, pecans, peppers, potatoes, mint, mustard greens, rutabagas, turnips, blackberries,

boysenberries, dewberries, loganberries, raspberries, blueberries, gooseberries, currants, huckleberries, carrots, onions, garlic, citrus, corn, small grains, sorghum, soybeans, cotton, seed alfalfa, grapes, mangoes, melons, peaches, nectarines, peanuts, pistachios, strawberries, sugar beets, table beets, tomatoes, and walnuts (except sensitive varieties).

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Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. All such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. In no case shall BASF or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product. BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

Kumulus is a registered trademark of BASF AG.

Sylgard is a registered trademark Dow Corning Corporation.

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1. The first step is to identify the key components of the system. This involves understanding the hardware, software, and data involved. For example, in a web application, this might include the server, the database, and the user interface.