



<input type="checkbox"/>	Registration
<input checked="" type="checkbox"/>	Amendment
<input type="checkbox"/>	Other

Registration  
Amendment  
Other

OPP Identifier Number  
229121

**Application for Pesticide - Section I**

1. Company/Product Number 19713-321	2. EPA Product Manager Cynthia Giles-Parker	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Drexel KOP Hydroxide 50	PM# 22	
5. Name and Address of Applicant (Include ZIP Code) Drexel Chemical Company P.O. Box 13327, 1700 Channel Ave. Memphis, TN 38113-0327 <input checked="" type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

**Section - II**

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Adding WSP to an existing Non-WSP Registration

**Section - III**

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
* Certification must be submitted	If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Litograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Barbara Brown	Title Registration Specialist	Telephone No. (Include Area Code) (901) 774-4370
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature <i>Barbara Brown</i>	3. Title Registration Specialist	
4. Typed Name Barbara Brown	5. Date June 29, 1995	

DREXEL  
KOP-HYDROXIDE 50  
Agricultural Fungicide-Bactericide

ACTIVE INGREDIENT:  
Copper Hydroxide.....77.0%  
INERT INGREDIENTS: .....23.0%  
TOTAL: .....100.0%  
\*(Metallic copper equivalent 50%)

KEEP OUT OF REACH OF CHILDREN  
DANGER/PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Drink promptly a large quantity of milk, egg white, gelatin solution, or if these are not available, large quantities of water. Avoid alcohol.

IF IN EYES: Hold eyelids open and flush with water for 15 minutes. Get medical attention.

IF INHALED: Remove victim to fresh air. If not breathing, apply artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate use of gastric lavage.

EPA Reg. No. 19713-321  
EPA Est. No. 19713-GA-1

Manufactured By:  
Drexel Chemical Company  
P.O. BOX 9306, MEMPHIS, TN 38109-0306

JANUARY 30, 1995

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**DANGER.** Corrosive. Causes irreversible eye damage. Do not get in eyes. Causes skin irritation. Harmful if swallowed, absorbed through the skin, or inhaled. May cause skin sensitization reactions in certain individuals. Avoid contact with the skin, eyes, or clothing. Avoid breathing dust.

**PERSONAL PROTECTIVE EQUIPMENT**

Applicators and other handlers must wear:

Long-sleeved shirt and long pants

Waterproof gloves

Shoes plus socks

Protective eyewear

Dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C)

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish and aquatic organisms. For terrestrial uses, 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 washwaters.

Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent sites. Do not allow rinsate from cleaning of equipment or disposed material to enter surface or ground water.

**DIRECTIONS FOR USE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

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 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.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 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

#### DIRECTIONS FOR USE OF WATER SOLUBLE BAGS

Packets containing KOP-Hydroxide 50 are water soluble. Do not allow packet to become wet prior to adding to the spray tank. Do not handle packets with wet hands. To prepare the spray mixture, drop the required number of unopened packets into spray tank while filling with the appropriate amount of water. Operate the agitator while mixing. Depending on the water temperature and the degree of agitation, the packets should be completely dissolved in approximately 5 minutes from the time they are added to the water. Use the specified dosage of KOP-Hydroxide 50 in the amount of water necessary to give complete coverage. Determine the total amount to be added to the spray tank based on the rates in the CROP section.

#### GENERAL INFORMATION

Use KOP-Hydroxide 50 according to the Directions For Use. KOP-Hydroxide 50 can be applied from aircraft and ground spraying equipment. Depending upon equipment used and the specific crop, the volume applied per acre differs. Refer to the general Recommended Volume Table.

**BEST AVAILABLE COPY**

Minimum Recommended Spray Volume in Gallons per Acre (GPA)  
to be used when applying KOP-Hydroxide 50

	Aerial	Dilute	Ground Concentrate
Vegetables	3	20	—
Field Crops	3	20	—
Vines	5	150	50
Tree	10	400	50
Citrus	10	800	100
			(50 Florida)

#### GENERAL CHEMIGATION INSTRUCTIONS

Apply this product only through one or more of the following types of systems: sprinkler 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 nonuniform distribution of treated water.

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

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable about 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.

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes, or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to the following requirements:  
Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any location affording maximum visibility to the sensitive areas.

The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters at least 2½ inches tall, and all letters and the symbol shall be in a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

#### CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

Public water system means a system for the provision to the public 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.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

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

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The pesticide injection pipeline must contain a functional, normally closed, solenoid operated 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.

When mixing, fill nurse tank half full of water. Add KOP-Hydroxide 50 slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. Stickers, spreaders, insecticides, nutrients, etc., should be added last. If compatibility is in question, use the compatibility jar test before mixing a whole tank. Because of the wide variety of possible combinations which can be encountered, observe all cautions and limitations on the labels of all products used in the mixture.

KOP-Hydroxide 50 should be added through a traveling irrigation system continuously or at the last 30 minutes of solid set or hand moved irrigation systems. Agitation is recommended.

#### SPRINKLER CHEMIGATION

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is not a water pump, 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.

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

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-operated 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 functional 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.

When mixing, fill nurse tank half full of water. Add KOP-Hydroxide 50 slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. Stickers, spreaders, insecticides, nutrients, etc., should be added last. If compatibility is in question use the compatibility jar test before mixing a whole tank. Because of the wide variety of possible combinations which can be encountered, observe all cautions and limitations on the labels of all products used in the mixture. KOP-Hydroxide 50 should be added through a traveling irrigation system continuously or at the last 30 minutes of solid set or hand moved irrigation systems. Agitation is recommended.

#### CROP CLASSIFICATION

**CITRUS:** Grapefruit, Lemon, Lime, Orange, Tangelo, and Tangerine.

**FIELD CROPS:** Alfalfa, Barley, Cantaloupes, Honeydew, Muskmelon, Peanut, Potato, Strawberry Sugar Beet, Watermelon, and Wheat.

**TREE CROPS:** Almond, Apple, Apricot, Avocado, Banana, Cacao, Cherry, Coffee, Filberts, Live Oak, Mango, Nectarine, Olive, Peach, Pear, Plum, Prune, Sycamore, and Walnut.

**VEGETABLES:** Beans, Broccoli, Brussels Sprout, Cabbage, Carrot, Cauliflower, Celery, Cucumber, Eggplant, Onion, Peas, Peppers, Pumpkin, Squash and Tomato.

**VINES:** Blackberry, Cranberry, Currants, Gooseberry, Grape, and Hops.

KOP-Hydroxide 50 may be applied as an aerial, ground dilute or ground concentrate spray unless specifically directed otherwise by crop.



When selecting a use rate for KOP-Hydroxide 50, do not apply less than the label recommended minimum amount. Under heavy disease pressure or when conditions favor such, use the higher rate and shorter spray intervals specified for each crop. In addition, use the higher rates for large mature tree crops.

The per acre use rate of KOP-Hydroxide 50 is applicable for both dilute and concentrate spraying. Consult the KOP-Hydroxide 50 label for specific rates and timing of application by crop.

Complete spray coverage is essential to assure optimum performance from KOP-Hydroxide 50. When treating on a concentrate basis or by aerial application, unless you had specific previous experience, it is advisable to test for compatibility and crop tolerance prior to full scale commercial utilization.

While volume is important in obtaining full spray coverage, often factors such as foliage density, environmental conditions and sprayer calibration, have a greater impact. Always be sure that sprayers are calibrated to manufacturer's specifications and environmental conditions are within those recommended by state and local regulatory authorities.

When mixing, fill spray tank one-half full with water. Add KOP-Hydroxide 50 slowly to tank while hydraulic or mechanical agitation is operating and continue filling with water. Spreaders, stickers, spray and crop oil (cleared for application to growing crops) should be added last. If compatibility is in question, use the compatibility jar test before mixing a whole tank.

NOTE: KOP-Hydroxide 50 SHOULD NOT BE APPLIED IN A SPRAY SOLUTION HAVING A pH LESS THAN 6.5 OR GREATER THAN 9.0 AS PHYTOTOXICITY MAY OCCUR.

Environmental conditions such as extended periods of wet weather, acid rain, etc., which alter the pH of the leaf surface may affect the performance of KOP-Hydroxide 50, resulting in possible phytotoxicity or loss of effectiveness.

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The materials used in the construction of application equipment should be identified before it is used to apply KOP-Hydroxide 50. Agricultural chemicals such as KOP-Hydroxide 50 often react with soft metals such as aluminum and some synthetic materials such as plastics. After completing the application of KOP-Hydroxide 50 with equipment containing these materials, and before over-night storage, thoroughly flush the mixing and application system with clean water.

The recommendations of State Agricultural Extension Services should be closely followed as to timing, frequency, and number of sprays per season.

#### APPLICATION FOR FROST INJURY PROTECTION

##### BACTERIAL ICE NUCLEATION INHIBITOR:

Application of KOP-Hydroxide 50 made to all crops listed on this label at rates and stages of growth indicated on this label, at least 24 hours prior to anticipated frost conditions, will afford control of ice nucleating bacteria (*Pseudomonas syringae*, *Erwinia herbicola*, and *Pseudomonas fluorescens*) and may therefore provide some protection against light frost. Not recommended for those geographical areas where weather conditions favor severe frost.

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CITRUS			
Disease	Rate/Acre	Number of Water Soluble Packets	Instructions
Melanose, Scab, Pink Pitting	4 - 12 lbs	1 - 3 packets per acre	Apply as pre-bloom and post-bloom sprays.
Greasy Spot	2 - 6 lbs.	2 - 6 packets per 4 acres	Use higher rates when conditions favor disease
Brown Rot (CA only)	4 - 8 lbs.	1 - 2 packets per acre	Begin application in fall and continue as needed. Apply to skirts of trees to a height of at least 4 feet. Apply also to bare ground one foot beyond skirt. Use higher rates when conditions favor disease. Note: In California, in areas subject to copper injury, add 1/3 to 1 pound of high quality lime.
Disease	Rate	Number of Water Soluble Packets	Instructions
Phytophthora	1 lb.	1 packet per 4 acres	Mix with 1 gallon of water and paint trunks of trees from the soil surface to the lowest scaffold limbs. Apply in May prior to summer rains and/or in the fall prior to wrapping trees for freeze protection. Treatment serves for protection up to one year, but does not cure existing infections.

FIELD CROPS				
Crop	Disease	Rate/Acre	Number of Water Soluble Packets	Instructions
Alfalfa	Cercospora & Leptosphaerulina Leaf Spots	2 lbs.	1 packet per 2 acres	Apply 10-14 days before each harvest or earlier if disease threatens. Note: Spray injury may occur with sensitive varieties such as Lahontan.
Cantaloupes, Honeydews, Muskmelons	Downy Mildew	2 lbs.	1 packet per 2 acres	Begin application when conditions are favorable for disease development and repeat at 5-7 day intervals as needed depending on disease severity.
Peanut	Cercospora Leaf Spot	1.5-3 lbs	3 - 6 packets per 8 acres	Begin spraying at 35-40 days after planting or when disease symptoms first appear and repeat at 10-14 day intervals as needed. Reduce sprays to 7 day intervals during humid weather. Use higher rates when weather conditions favor drift. KOP-Hydrozole 50 may be blended with talc and/or sulfur to make a 3 to 10% dust. KOP-Hydrozole 50 may be blended by dealers and should be applied at rates equivalent to the above.
Potatoes	Early & Late Blight (Light Infestation)	1-1.5 lbs.	2 - 3 packets per 8 acres	Apply at 7-10 day intervals starting when plants are 8 inches high until 2 weeks before harvest.
Potatoes	Early & Late Blight (Heavy Infestation)	1 - 4 lbs	1 - 4 packets per 4 acres	Apply at 7-10 day intervals starting when plants are 8 inches high until 2 weeks before harvest.
Strawberries	Leaf Spot & Leaf Blight	2-3 lbs	2 - 3 packets per 4 acres	Begin application when plants are established and continue on a weekly schedule throughout the season. Note: Discontinue application if signs of crop injury appear.
Sugar Beets	Cercospora Leaf Spot	2-5 lbs	2 - 5 packets per 4 acres	Begin application when conditions first favor disease development and repeat at 10-14 day intervals as needed. Use the higher rate when disease is severe. Addition of Sun-Ac 820 or a suitable agricultural oil is recommended.
Watermelon	Anthrachnose	2 lbs	1 packet per 2 acres	Apply as soon as plants become established in the field and repeat at weekly intervals as needed depending upon disease severity.

FIELD CROPS				
Crop	Disease	Rate/Acre	Number of Water Soluble Packets	Instructions
Watermelon (continued)	Downy Mildew	1.5-3 lbs.	3 - 6 packets per 8 acres	Apply as soon as plants become established in the field and repeat at weekly intervals as needed depending upon disease severity. Use higher rates when conditions favor disease.
Wheat and Barley	Septoria Leaf Blotch & Helminthosporium Spot Blotch	1.5-2 lbs	3 - 4 packets per 8 acres	Make first application at early heading and follow with a second spray 10 days later. Use the higher rates when conditions favor disease.

TREE CROPS				
Crop	Disease	Rate/Acre	Number of Water Soluble Packets	Use Instructions
Almonds	Coryneum Blight, Blossom Brown Rot	8-12 lbs.	2 - 3 packets per acre	Dormant application. Apply before foliage buds begin to swell. Use higher rates when rainfall is heavy and disease pressure is high.
		6-8 lbs.	3 - 4 packets per 2 acres	Early bloom (popcorn) application. Apply before full bloom. Use higher rates when rainfall is heavy and disease pressure is high. Note: To avoid plant injury, do not use above rate after full bloom.
	Bacterial Blast (Pseudomonas)	12-16 lbs	3 - 4 packets per acre	Apply at dormant to early pink bud. Note: Injury may occur from post-bloom sprays, especially on Neplus varieties.
		1 lb	1 packet per 4 acres	For control in sprinkler irrigated orchards or where disease is severe, apply at 2 week post-bloom intervals or just before sprinkling. Note: Injury may occur from post-bloom sprays, especially on Neplus varieties.
Apple (Except California)	Anthracnose, European Canker, Pseudomonas	12-16 lbs	3 - 4 packets per acre	Apply before fall rains. Use higher rates under severe disease conditions. Note: Use on yellow varieties may cause discoloration. To avoid, pick before spraying.
	Fireblight	8-16 lbs	2 - 4 packets per acre	Make application between silver tip and green tip. Apply as a full cover spray. Note: Crop injury may occur from late application; discontinue use when green tip reaches 1/2 inch.
Apricots	Coryneum Blight (Shot Hole), Blossom Brown Rot	8-12 lbs	2 - 3 packets per acre	Apply at popcorn to full bloom, and use higher rates when conditions favor disease. Note: Applications applied after bloom will result in crop injury.
Crop	Disease	Rate	Number of Water Soluble Packets	Use Instructions
Apples (Except California)	Crown or collar Rot	4 lbs	1 packet per acre	Mix in 100 gallons of water. Apply 4 gallons of suspension as a trench on the lower trunk area of each tree. Apply either in early spring or in late fall after harvest. Note: Do not use if soil pH is below 5.5 since copper toxicity may result.

TREE CROPS				
Crop	Disease	Rate/Acre	Number of Water Soluble packets	Use Instructions
Avocados	Scab	8-12 lbs	2-3 packets per acre	Apply when bloom buds begin to swell and continue application at monthly intervals for 5 to 6 applications. Use higher rate when conditions favor disease.
Bananas	Sigatoka	2 lbs	1 packet per 2 acres	Apply by air in 3 gallons of water combining 1/2 gallon of a suitable agricultural spray oil. Apply on a 14-day schedule throughout the wet season. Apply at 21-day intervals during dry periods.
	Black Pitting	4 lbs	1 packet per acre	Mix in 100 gallons of water (4 lbs per acre) or (1 packet per acre) directly to the fruit stem and include the basal portion of the leaf crown. Apply during the first and second weeks after fruit emergence.
Cacao	Black Pod	2-4.5 lbs	4-9 packets per 8 acres	Begin applications at the start of the rainy season and continue while infection conditions persist. Sprays should be made as often as 14 to 21 days in high rainfall areas at varying rates depending on disease severity.
Cacao	Black Pod	8 lbs	2 packets per acre	For drier areas where 2 to 4 applications are recommended during critical infection periods and at long intervals, use according to disease incidence and planting density.
Cherry	Dead Bud (Pseudomonas syringae) and Coryneum Blight	8-12 lbs	2-3 packets per acre	Make first application in fall before heavy rains and a second at late dormant. In orchards where the disease is severe, a spray should also be applied shortly after harvest. Add 1 pint of superior-type oil per 100 gallons of water as a dilute spray.
	Brown Rot Blossom Blight	8-12 lbs	2-3 packets per acre	Apply a full cover spray at popcorn stage and a second application at full bloom.

TREE CROPS				
Crop	Disease	Rate/A	Number of Water Soluble Packets	Use Instructions
Coffee	Coffee Berry Disease (Colletotrichum coffeanum)	6-8 lbs	3-4 packets per 2 acres	Apply first spray after flowering and before onset of long rains and then at 21-28 day intervals until picking. Use higher rates when rainfall is heavy and disease pressure is high.
	Bacterial Blight (pseudomonas syringae)	6-8 lbs	3-4 packets per 2 acres	Begin spray program before the onset of the long rains and continue throughout the rainy season at 14 to 21 day intervals. The critical time of spraying to control this disease is just before, during and after flower(s) especially when coinciding with wet weather. Use higher rates when rainfall is heavy and disease pressure is high.
	Leaf Rust (Hemileia vastatrix)	2-4 lbs	1-2 packets per 2 acres	Apply before the onset of rain and then at 21-day intervals while rains continue. Use higher rates when rainfall is heavy and disease pressure is high.
	Wet Spot (Corticium coffeanum) and Pink Disease (Corticium coffeanum)	4 lbs	1 packet per 2 acres	Use concentrate in dilute spray. Begin treatment at the start of wet season and continue at monthly intervals for three applications.
Guava	Guava Blight	8-12 lbs	2-3 packets per 2 acres	Apply at the onset of rains. In cases of heavy rainfall apply a second spray when 50% of the leaves have dropped. Add 1 pint of superior-type oil per 100 gallons of water.
Mango	Mango Blight	4 lbs	2 packets per acre	Apply monthly after fruit set until harvest.
Pineapple	Pineapple Blight	8-12 lbs	2-3 packets per acre	Make first application in late fall or early spring. A second application in early spring should be made if disease is severe. Apply the high rate for heavy disease pressure or when conditions favor the disease.

TREE CROPS

Crop	Disease	Rate/A	Number of Water Soluble Packets	Use Instructions
Peaches Nectarines	Leaf Curl Coryneum Blight (Shot-hole)	8-16 lbs	2 - 4 packets per acre	Apply at leaf fall. Use the highest rate when rainfall is very heavy and disease pressure is high. May be used with agricultural spray oil.
	Brown Rot & Blossom blight	8-12 lbs	2 - 3 packets per acre	Full cover spray at pink bud. Application at this time affords some control of Leaf Curl and Coryneum Blight.
	Bacterial Spot	1 lb	1 packet per 4 acres	Post bloom application applied at first and second cover sprays.
		8 lbs.	2 packets per acre	Apply as a dormant spray. Note: Do not spray three weeks prior to harvest. Use only recommended rates. Spotting of leaves and defoliation may occur from use in cover sprays.
Pears	Fire Blight	1 lb	1 packet per 4 acres	Apply at 5 day intervals throughout the bloom period.
	Pseudomonas Blight	12-16 lbs	3 - 4 packets per acre	Apply before fall rains and again during dormancy before spring growth starts. Use the higher rates when disease pressure is high or when conditions favor the development of such. Note: Excessive dosages may cause fruit russet.
Plums & Prunes	Coryneum Blight (Shot Hole)	8-16 lbs	2 - 4 packets per acre	Apply as a dormant spray. Use the higher rate when rainfall is heavy and/or disease pressure is high.
	Brown Rot and Blossom Blight	8-12 lbs	2 - 3 packets per acre	Apply full cover application at pink, red or early white stage. Use the higher rate when disease pressure is heavy or conditions favor the development of such.
Walnut	Walnut Blight	8-12.5 lbs	2 - 3 packets per acre	Apply first application spray at early prebloom prior to when catkins are partially expanded. Make additional application during bloom and early nutlet stage or as needed if frequent rainfall occurs.

**TREE CROPS**

Crop	Disease	Rate/A	Number of Water Soluble Packets	Use Instructions
Live Oak	Ball Moss	6 lbs	3 packets per 2 acres	Apply in the spring when ball moss is actively growing using 1.5 gallons of spray per ft. of tree height. Make sure to wet ball moss tufts thoroughly. A second application may be required after 12 months. Note: KOP-Hydroxide 50 may be injurious to ornamentals grown under Live Oaks.
Sycamore	Anthracoze	2-3 lbs	2-3 packets per 4 acres	Apply as a full spray. Apply in 100 gallons of water or sufficient volume for thorough coverage. Make first application at bud crack and second application at 7-10 days later at 10% expansion.

**VEGETABLES**

Beans	Bacterial Blight (Halo & Common)	1-3 lbs	1-3 packets per 4 acres	Use the higher rate for more severe disease. For protective sprays, make first application when plants are six inches high, repeat on a 7-14 day schedule depending upon local conditions.
Broccoli, Brussels Sprouts, Cabbage, Cauliflower	Black Rot (Xanthomonas) & Black Leaf Spot (Alternaria)	2 lbs	1 packet per 2 acres	Apply at 7 to 10 day intervals. For control of diseases of these crops, begin application after transplants are set in the field, or shortly after emergence of field seeded crops or when conditions favor disease development.
	Downy Mildew (Cabbage Only)	0.5 lb	1-2 packets per 8 acres	Use higher rates when conditions favor disease. Note: Reddening of older leaves may occur on Broccoli and a flecking of wrapper leaves may occur on Cabbage.
Carrots	Cercospora Leaf Spot	2 lbs	1 packet per 2 acres	Begin application when disease first threatens and repeat at 7-14 day intervals as needed depending on disease.
Celery	Cercospora Early Blight, Septoria, Late Blight & Bacterial Blight	2 lbs	1 packet per 2 acres	Begin application as plants are first established in the field, repeating at 5-7 day intervals depending on disease severity and environmental conditions.

**VEGETABLES**

Crop	Disease	Rate/A	Number of Water Soluble Packets	Use Instructions
Cucumber	Angular Leaf Spot and Downy Mildew	1.5-2 lbs	3-4 packets per 8 acres	Apply weekly when plants begin to vine.
Eggplant (Except California)	Alternaria Blight, Anthracnose, Phomopsis	2 lbs	1 packet per 2 acres	Begin application prior to development of disease symptoms. Repeat sprays 7-10 day intervals or as needed depending on disease severity.
Onion	Purple Blotch & Downy Mildew	2 lbs	1 packet per 2 acres	Begin when plants are 4-6 inches high and repeat at 7-10 day intervals as needed depending upon disease pressure.
Peas	Powdery Mildew	1.5-3 lbs	3-6 packets per 8 acres	Begin application when disease symptoms first appear and repeat at weekly intervals as needed. Use higher rate for more severe disease.
Peppers	Bacterial Spot	2-3 lbs	2-3 packets per 4 acres	Begin application when conditions first favor disease development and repeat at 5-10 day intervals as needed depending on disease severity. Use higher rates for severe disease.
Pumpkin & Squash	Powdery Mildew	1.5-3 lbs	3-8 packets per 8 acres	Begin application when plants are three weeks old or when disease symptoms first appear and repeat at 7 day intervals as needed to maintain control. Use the higher rates if disease is heavy or conditions favor such.
Tomatoes	Early and Late Blight	2-3 lbs	2-3 packets per 4 acres	Begin when disease first threatens and repeat at 7-10 day intervals or as needed depending on disease severity. Use higher rate for severe disease.
	Bacterial Speck	2 lbs	1 packet per 2 acres	Begin application when disease first threatens and repeat at 10-30 day intervals or as needed depending on severity.
	Bacterial Spot, Anthracnose, Gray Leaf Mold & Septoria Leaf Spot	2-4 lbs	1-2 packets per 2 acres	Begin application when disease first threatens and repeat at 7-10 day intervals. Note: May be combined with no more than 1.5 qt/A of Manzil Flowable and no more than 2 lb/A of Maneb 80W. Do not apply within 5 days of harvest.

VINES				
Crop	Disease	Rate/A	Number of Water Soluble Packets	Use Instructions
Blackberries	Leaf and Cane Spot	4 lbs	1 packet per acre	Apply delayed dormant spray after training in the spring. Make fall application after harvest. Add 1 quart of crop oil per acre.
Cherry	Fruit Rot	8 lbs	2 packets per acre	Make first application in late bloom. One or two additional applications at 10-14 day intervals may be required depending on disease severity.
Currants, Gooseberry	Leaf Spot	10 lbs	5 packets per 2 acres	Make three applications starting after harvest followed by application before bloom, and after petal fall.
Grapes	Black Rot, Powdery Mildew & Downy Mildew	2 lbs	1 packet per 2 acres	Begin application at bud break with subsequent application throughout the season depending upon disease severity.
	Note: Foliage injury may occur on copper sensitive varieties such as Concord, Delaware, Niagara, and Rosette. Either test for sensitivity or add 1-3 lbs. of hydrated lime/lb of KOP-Hydroxide 50.			
Hops	Downy Mildew	2 lbs	1 packet per 2 acres	Make crown treatment after pruning, but before training. After training, additional treatments are needed at about 10 day intervals.
	Note: Discontinue use 2 weeks before harvest.			
Raspberries (Except California)	Leaf and Cane Spot	4 lbs	1 packet per acre	Apply delayed dormant spray after training in the spring. Make fall application after harvest. Add 1 quart of crop oil per acre.

ORNAMENTALS	
For control of disease on ornamentals in Greenhouses, Fields and Nurseries - Apply as a thorough coverage spray using 1 lb KOP-Hydroxide 50 per 100 gallons of water. Begin application at first sign of disease and repeat at 7 to 14 day intervals as needed, use shorter interval during periods of frequent rains or when severe disease conditions persists. One level teaspoon of KOP-Hydroxide 50 per gallon of water is equivalent to one pound per 100 gallons. KOP-Hydroxide 50 may be used as a maintenance spray. KOP-Hydroxide 50 may be used alone or in combination with other fungicides such as dithiocarbamates.	
Crop	Disease
Aralia	Xanthomonas & Cercospora Leafspots, Alternaria
Azalea*	Cercospora Leafspot, Botrytis Blight, Phytophthora Dieback, Powdery Mildew
Begonia Bulbs (Easter Lily, Tulip, Gladiolus)	Xanthomonas Leafspot, Anthracnose, Botrytis Blight
Carnation*	Alternaria Blight, Pseudomonas Leafspot, Botrytis Blight
Chrysanthemum*	Septoria Leafspot, Botrytis Blight
Cotoneaster	Botrytis Blight
Euonymus	Botrytis Blight, Anthracnose
Ivy*	Xanthomonas Leafspot
Pachysandra	Volvetia Leaf Blight
Periwinkle	Phomopsis Stem Blight
Pyracantha	Fret-ight, Scab
Rose*	Powdery Mildew, Black Spot
Yucca (Adam's Needle)	Cercospora and Septoria Leafspot
*Discoloration of foliage and/or blooms have been noted on some varieties. To prevent residues on commercial plants, do not spray just before selling season.	
NOTE: Phytotoxicity may depend on varietal differences. If unfamiliar with the use of KOP-Hydroxide 50, apply the recommended rate to a few plants and observe after 7 to 10 days for symptoms of phytotoxicity.	

space



**STORAGE AND DISPOSAL**

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

Store in a cool, dry place.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** 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.

**WATER SOLUBLE PACKETS:** Carefully open outer bag. Never open the water soluble pouch. After partial use of outer bag, fold and roll back bags, clamp and close tightly.

**CONTAINER DISPOSAL:** When each water soluble packet has been placed into application equipment, dispose of empty outer bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**WARRANTY-CONDITION OF SALE**

OUR RECOMMENDATIONS FOR USE of this product are based upon tests believed reliable. Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically recommended, and other influencing factors in the use of this product are beyond the control of the Seller. Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith.

In no case shall Drexel or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with directions given herewith. The foregoing is a condition of sale by Drexel Chemical Company and is accepted as such by the Buyer.

**LABEL FOR WATER SOLUBLE PACKET**  
**DREXEL COP-HYDROXIDE 50**  
**Agricultural Fungicide-Bactericide**

**ACTIVE INGREDIENT:**

Copper Hydroxide\*.....77.0%  
**INERT INGREDIENTS:** .....23.0%  
**TOTAL:** .....100.0%

\*(Metallic copper equivalent 50%)

**KEEP OUT OF REACH OF CHILDREN**  
**DANGER/PELIGRO**

**READ ENTIRE EPA-APPROVED LABEL ON OUTER BAG**

Si usted no entiende la etiqueta, busque a alguien para  
aue se la explique a usted en detalle. (If you do not  
understand this label, find someone to explain it to you  
in detail.)

EPA REG. NO.: 19713-321      NET CONTENTS: 1 - 4 Lb. Packet  
EPA EST. NO.: 19713-GA-1