

70506-282

03/04/2013

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

Rebecca A. Clemmer  
United Phosphorus, Inc.  
630 Freedom Business Center; Suite 402  
King of Prussia, PA 19406

MAR 4 2013

Subject: Notification; Per PR-Notice 98-10  
Rook 4L  
EPA Reg. No. 70506-282  
Date Submitted: February 23, 2013

Dear Ms. Clemmer:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated February 23, 2013 for the product referenced above. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions regarding this letter, please contact me at (703) 306-0415 or [davis.kable@epa.gov](mailto:davis.kable@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Kable Bo Davis".

Kable Bo Davis  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)

Please read instructions on reverse before completing form

Form Approved, OMB No. 2070-0060, Approval expires 5-31-98



United States Environmental Protection Agency

Washington, DC 20460

Registration Amendment Other OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 70506-282 2. EPA Product Manager Davis 3. Proposed Classification None Restricted 4. Company/Product Name United Phosphorus, Inc/Rook 4L PM # 25 5. Name and Address of Applicant United Phosphorus, Inc. 630 Freedom Business Center, Suite 402 King of Prussia, PA 19406 6. Expedited Review...

Section - II

Amendment - Explain below Resubmission in response to Agency letter dated Notification - Explain below Final printed labels in response to Agency letter dated "Me Too" Application Other - Explain below

NOTIFICATION

MAR - 4 2013

Explanation: Use additional page(s) if necessary. (For Section I and Section II.) Notification of updates to company and emergency contact information; update of warranty. This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46...

Section III

1. Material This Product Will be Packaged in: Child-Resistant Packaging Unit Packaging Water Soluble Packaging 2. Type of Container Metal Plastic Glass Paper Other (Specify) 3. Location of Net Contents Information 4. Size(s) Retail Container 5. Location of label directions 6. Manner in Which Label is Affixed to Product Lithograph Paper glued Stenciled Other

Section IV

1. Contact Person (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.) Name Rebecca A. Clemmer Title Regulatory Manager Telephone No. 610-491-2828 Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. 2. Signature R.A. Clemmer 3. Title Regulatory Manager 4. Typed Name Rebecca A. Clemmer 5. Date Feb. 22, 2013 6. Date Application Received (Stamped)

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# United Phosphorus, Inc.

630 Freedom Business Center  
Suite 402  
King of Prussia, PA 19406  
(610) 491-2828 (phone)  
(610) 491-2810 (fax)

Rebecca A. Clemmer  
Regulatory Manager

Feb. 22, 2013

Bo Kable Davis (PM 25)  
Document Processing Desk (NOTIF)  
Office of Pesticide Programs (H7504P)  
U.S. Environmental Protection Agency  
Ariel Rios Building  
1200 Pennsylvania Ave., N.W.  
Washington, D.C., 20460

Re: Rook 4L (EPA Reg. No. 70506-282)  
Notification of Label Updates

Dear Mr. Davis:

United Phosphorus, Inc. is notifying the Agency that this label is being updated for company and emergency contact information which changed as the result of registration transfer. We have also updated the warranty statement.

Enclosed in support please find: EPA Form 8570-1, and a marked copy of the label.

Please contact me if you have any questions.

Very truly yours,

Rebecca A. Clemmer  
[rebecca.clemmer@uniphos.com](mailto:rebecca.clemmer@uniphos.com)

cc: [illegible]

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# NOTIFICATION

## MAR - 4 2013

Rook 4L label, rev. 2/22/13

### ROOK 4L Herbicide

ACTIVE INGREDIENT:  
 Quinclorac, 3, 7-dichloro-8-quinolinecarboxylic acid:.....40.0%  
 OTHER INGREDIENTS: .....60.0%  
 TOTAL:.....100.0%

Contains 3.8 pounds of quinclorac per gallon.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

| FIRST AID   |  |
|---|--|
| <b>IF SWALLOWED</b>   | <ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have affected person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul> |
| <b>IF ON SKIN OR CLOTHING</b>   | <ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>  |
| <b>IF IN EYES</b>   | <ul style="list-style-type: none"> <li>• Hold eyes open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>   |
| <b>IF INHALED</b>   | <ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>  |
| HOT LINE NUMBER   |  |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. <u>For emergency medical treatment, contact the Rocky Mountain Poison Control Center at 1-866-673-6671. You may also contact 1-888-875-1724 for emergency medical treatment information.</u> |  |
| <b>NOTE TO PHYSICIAN:</b> Probable mucosal damage may contraindicate the use of gastric lavage. Have the product container or label with you when calling a poison control center or doctor or going for treatment.   |  |
| <u>For Chemical Emergency: Spill, leak, fire, exposure or accident, call CHEMTREC 1-800-424-9300.</u>   |  |

Net Contents: \_\_\_ Gallons

Phoenix Environmental Care, LLC  
 282  
 PO Box 370, Valdosta, GA 31601630 Freedom Business Center, Suite 402  
 King of Prussia, PA 19406 • 1-800-438-6071

EPA Reg. No.: 81943-3570506-

EPA Est. No.: \_\_\_\_\_

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**PRECAUTIONARY STATEMENTS**  
Hazards to Humans and Domestic Animals

**CAUTION**

Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation. Avoid contact with skin, clothing, or eyes. Avoid breathing dust or spray mist.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemically resistant to this product are listed below. For more options, refer to category A on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

1. Long-sleeved shirt and long pants,
2. Chemical-resistant gloves, such as butyl rubber >14 mils, or natural rubber > 14 mils, or neoprene rubber > 14 mils, or nitrile rubber > 14 mils,
3. Shoes plus socks.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROLS STATEMENT**

When handlers use closed systems or enclosed cabs 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:

1. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
2. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
3. 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**

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Keep out of lakes, ponds and streams. Do not apply directly to water, areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of rinsate.

**DIRECTIONS FOR USE**

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

For use only by certified commercial applicators or persons under their direct supervision and only for those uses covered by the certified applicator's certification. All applicable directions, restrictions and precautions are to be followed. This labeling must be in the possession of the user at time of application.

DO NOT apply this product by air or through any type of irrigation equipment.

Phoenix Environmental Care, LLC/United Phosphorus, Inc. does not recommend or authorize the use of this product in manufacturing, processing or preparing custom blends with other products for application to turf.



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Rook 4L label, rev. 2/22/13

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 specified 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 12 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, and water, is:

- 1. Coveralls,
- 2. Chemical-resistant gloves made of any water proof material (such as Nitrile, Butyl, Neoprene, and/or Barrier Laminate),
- 3. 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, nurseries, or greenhouses.

Professional applications to residential and nonresidential turf are not within the scope of the Worker Protection Standard.

Do not enter or allow others to enter the treated area until sprays have dried.

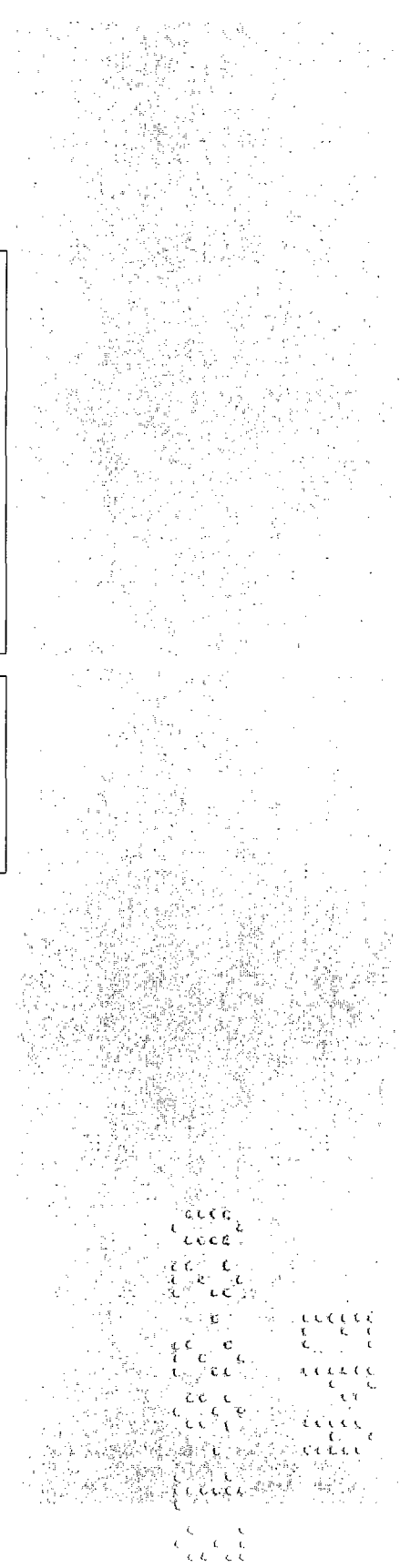
**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Store in cool, dry and well ventilated area. Do not store containers under wet conditions.

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

**CONTAINER DISPOSAL:** Non-refillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. 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 1/4 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.



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**GENERAL INFORMATION**

Rook 4L may be applied postemergence to residential and nonresidential turf grasses (Refer to Table 1) for the control of many broadleaf and grass weeds. Examples of such sites include, but are not limited to: grounds or lawns around residential and commercial establishments, multi-family dwellings, military and other institutions, parks, airports, road-sides, schools, picnic grounds, athletic fields, houses of worship, cemeteries, golf courses and sod farms.

Rook 4L is absorbed by foliage and roots and translocated throughout the plant. The control symptoms exhibited by broadleaf weeds include leaf and stem curl or twisting, and chlorosis. Susceptible grasses demonstrate stunting, chlorosis, and gradual reddening followed by necrosis and death. Refer to Tables 1, 2 and 3 for turf grass tolerance and susceptible weed species.

**APPLICATION INFORMATION**

Apply Rook 4L to actively growing weeds as postemergence broadcast or spot sprays using the rate, turf species and growth stage indicated in Tables 1, 2 and 3. Do not exceed the specified application rate or fail to comply with use restrictions listed in General Restrictions and Limitations.

To achieve consistent weed control, methylated seed oil is recommended. Refer to Tables 2 and 3 for rates.

Adding adjuvants may cause slight leaf burn, but new growth is normal and turf vigor is not reduced. The potential for leaf burn is increased when relative humidity and temperature are high. Additional stress from low mowing heights may also increase the possibility of turf injury. Chelated iron or sprayable soluble nitrogen fertilizer will reduce a slight yellowing that may occur on some turf grass species.

**Spot Applications:**

Postemergence spot applications may be made to susceptible weeds in turf grass that is tolerant to Rook 4L (see Tables 1 and 2). Apply 0.55 fluid ounces of Rook 4L per 1,000 square feet of treated area. Spray coverage should be uniform and complete.

**Mowing Information:**

Do not mow 2 days before or after applying Rook 4L to maximize weed control and minimize potential turf injury. Clippings from the first three mowings should be left on the treated area.

**Irrigation and Rainfall:**

If soil moisture is not sufficient prior to Rook 4L application, irrigation may improve weed control. For best results, do not water or irrigate for 24 hours after application. If rainfall does not occur in 2 to 7 days after application, apply irrigation of at least one-half inch.

**Extended Grass Control:**

To extend grass control Rook 4L can be tank-mixed with Pendulum 3.3 EC, PRE-M 3.3 turf herbicide or Pendulum 60 DG to provide residual control of annual grasses. Consult the respective tank-mix labels for additional weeds controlled.

**Seeding/Overseeding/Sprigging:**

The use of Rook 4L before or after seeding or overseeding a turf area will not significantly interfere with the turf grass seed germination and growth of those grass types identified as tolerant in Table 1. Consult Table 4 for timing of applications concerning any seeding, overseeding or sprigging situation.





**ADDITION OF ADJUVANTS**

Additives in Spray Mix to Achieve Control:

Methylated seed oil is the recommended adjuvant for postmergence applications. Do not include additives when tank mixing with EC (Emulsifiable Concentrate) products as this may cause phytotoxicity. Consult your local ~~Phoenix Environmental Care, LLC~~ UCPL representative or distributor for recommendations for your area. Other additives or adjuvants may be used such as DyneAmic Lesco Spreader Sticker LI-700, Surf King Spreader, Target Pro Spreader or Thoroughbred. However, under some environmental conditions some of these products may cause phototoxicity or less than optimal efficacy.

Methylated Seed Oil Recommended:

The methylated seed oil used as the adjuvant with Rook 4L must meet all the following criteria:

- be nonphytotoxic,
- contain only EPA-exempt ingredients,
- provide good mixing quality in the jar test, and
- be successful in local experience.

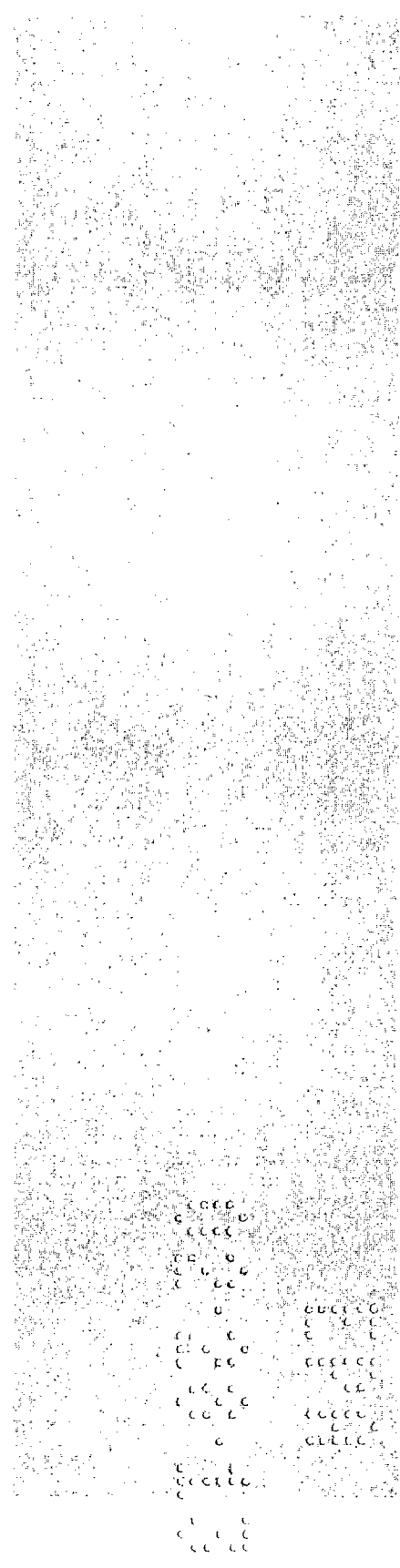
The exact composition of suitable products will vary; however, any Methylated Seed Oil used should contain emulsifiers to provide good mixing

**MIXING INSTRUCTIONS FOR ROOK 4L**

Respective sections of this leaflet define recommended Rook 4L tank-mix treatments. If tank-mixing with products in PVA bags always allow water soluble packets to dissolve before agitating.

Ground Driven Sprayer:

1. Begin with a clean spray tank. Fill tank one-half to three-quarters full with clean water.
2. Rook 4L Alone. When using Rook 4L alone, either premix (1 part product + 2 parts water) or slowly add Rook 4L to the partially filled tank while agitating until completely dispersed. Fill the remainder of the tank with water.
3. Rook 4L tank mixes
  - a. Wettable Powder Formulations
    1. When using ROOK 4L with a wettable powder formulation, add Rook 4L to the partially filled tank while agitating.
    2. When Rook 4L is properly mixed add a slurry of the wettable powder (1 part WP + 2 parts water) slowly into the tank. Fill the remainder of the tank while agitating.
  - b. Flowable Formulations
    1. When using Rook 4L with a flowable formulation, add Rook 4L to the partially-filled tank while agitating.
    2. When Rook 4L is properly mixed, premix one part of the flowable with two parts water and add this diluted mixture slowly into the tank. Fill the remainder of the tank while agitating.
  - c. Emulsifiable Concentrate Formulations
    1. When using Rook 4L with an emulsifiable concentrate formulation, add Rook 4L to the partially-filled tank while agitating.
    2. When Rook 4L is properly mixed, premix one part of the emulsifiable concentrate with two parts water and add this diluted mixture slowly into the tank. Fill the remainder of the tank while agitating.
  - d. Dry Flowable (Water Dispersible Granule) Formulations
    1. When using ROOK 4L with a dry flowable formulation, add Rook 4L to the partially-filled tank while agitating.
    2. When Rook 4L is properly mixed, premix one part of the dry flowable with two parts water and add this diluted mixture slowly into the tank. Fill the



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remainder of the tank while agitating.

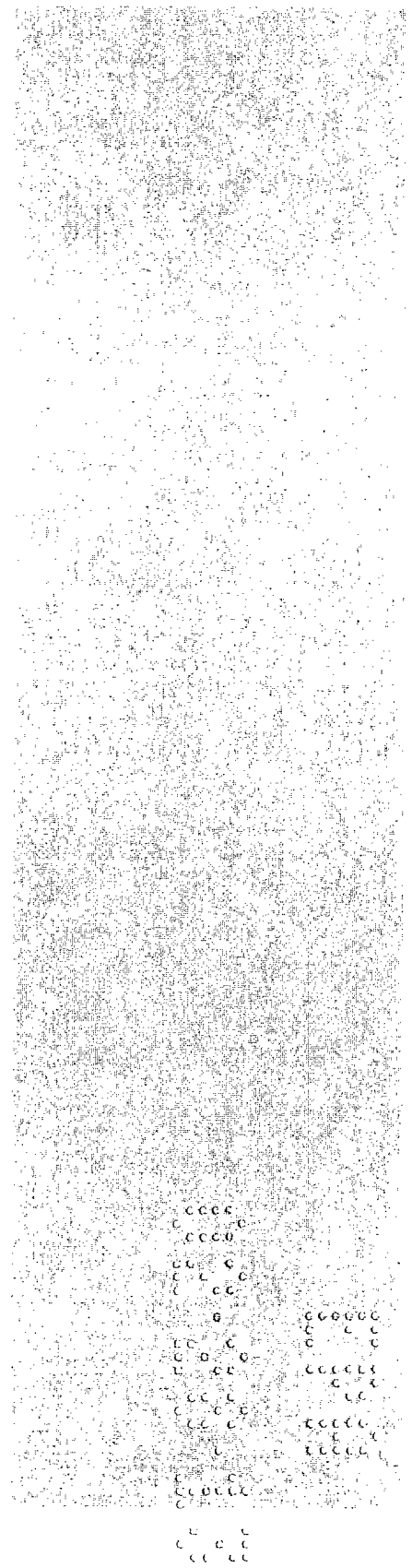
- 4. MAINTAIN CONTINUOUS AGITATION WHILE ADDING HERBICIDES AND UNTIL SPRAYING IS COMPLETED. If the spray mixture is allowed to settle for any period of time, thorough agitation is essential to resuspend the mixture before spraying is resumed. Continue agitation while spraying.

**Backpack Sprayer:**

Begin with a clean spray tank. Fill the spray tank 1/2 full with clean water and add the required amount of Rook 4L to the sprayer. Cap sprayer and agitate to ensure mixing. Uncap sprayer and finish filling tank to desired level. Cap sprayer and agitate once again. During application it is desirable to agitate the mixture on occasion to ensure mixing. If the mixture is allowed to settle for any period of time, thorough agitation is essential to resuspend the mixture before spraying is resumed.

**Liquid Fertilizers:**

Prior to mixing, small quantities should always be tested using a simple jar test. Add the required amount of Rook 4L to half filled tank while agitating then add the fertilizer product. Complete filling spray tank to desired level.



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**SPRAYING INSTRUCTIONS FOR ROOK 4L**

Apply with properly calibrated ground equipment in sufficient water per acre to provide uniform spray distribution (at least 20 gallons of water per acre or at least 0.5 gallon per 1,000 sq. ft.). Use low pressure (e.g. 20-40 psi) sprayers.

Maintain continuous agitation during spraying with good mechanical or bypass agitation. Nozzle screens must be no finer than 50 mesh (100 mesh is finer than 50 mesh). Check sprayer routinely to determine proper calibration. Flat fan, flood or cone nozzles may be used. Nozzles should be arranged to obtain uniform coverage or turf and weeds to be controlled. Boom height, nozzle selection, and pressure should be adjusted to provide uniform coverage and minimize spray drift.

Avoid overlaps that will increase rates above those specified. Avoid application when winds may cause drift.

**Procedure for Cleaning Spray Equipment:**

Clean application equipment thoroughly using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions before and after applying this product.

**COMPATIBILITY TEST FOR MIX COMPONENTS**

Add components in the following sequence using 2 teaspoons for each pound or 1 teaspoon for each pint of specified label rate per acre.

1. Water: For 20 gallons per acre spray volume, use 3.3 cups (800 mL) of water. For other spray volumes, adjust rates accordingly. Use only water from the intended source at the source temperature.
2. Products in PVA bags: Cut an opening in the water-soluble PVA bag just large enough to use a teaspoon for measuring purposes. Use the opened water-soluble PVA bag first when preparing spray solution. Boron containing fertilizers can be incompatible with PVA material. Include PVA material if a boron fertilizer is intended to be used. Cap the jar and invert 10 cycles.
3. Water-dispersible products: (such as Rook 4L) (dry flowables, wettable powders, suspension concentrates, or suspoemulsions). Cap the jar and invert 10 cycles.
4. Water-soluble products: (such as Basagran T/O) - Cap the jar and invert 10 cycles.
5. Emulsifiable concentrates: (methylated seed oil) - Cap the jar and invert 10 cycles.
6. Water-soluble additives: Cap the jar and invert 10 cycles.
7. Let the solution stand for 15 minutes.
8. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface nor thick (clabbered) texture. For WG or WP products, a fine precipitate that is easily re-suspended is normal; large non-dispersible particles (> 300 microns) that precipitate on standing are a sign of tank mix incompatibility. Do not use any spray solution that could clog spray nozzles.

**GENERAL RESTRICTIONS AND LIMITATIONS**

- DO NOT apply more than 3 pints (1.425 lbs a.i.) of Rook 4L per acre (or 1.1 fluid ounces per 1,000 square feet) in one year.
- DO NOT apply to golf course collars or greens
- DO NOT apply to fine fescue unless it is part of a seed blend.
- DO NOT apply to bahia grass, carpet grass, St. Augustine grass, centipede grass, dichondra, or lawns or turf where desirable clovers are present.
- DO NOT apply within 4 weeks after seedling emergence of Kentucky blue grass, creeping bent grass, fine fescue blends and perennial rye grass.
- DO NOT apply to exposed feeder roots of trees or ornamentals. Be particularly careful within the drip line of trees and other ornamental species.
- DO NOT apply into any ornamental bed.
- DO NOT use clippings as mulch or compost around flowers, ornamentals, trees, or in vegetable gardens.
- Apply when wind speed is less than 10 mph as drift may cause damage or death of non-target area vegetation.
- DO NOT apply when conditions favor drift from target area.
- Use a lawn type sprayer with coarse spray as wind drift is less likely.



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- Avoid mist and spray onto vegetables, flowers, ornamentals, shrubs, trees, and other desirable plants, especially plants belonging to the Solanaceae family such as tomatoes, eggplants, and bell peppers.
- DO NOT pour spray solutions near these plants.
- DO NOT apply through any type of irrigation system.
- DO NOT use to formulate or reformulate any other pesticide product which is not registered by EPA.
- For best results, weeds should not be under stress from lack of water, excessive water, low fertility, mowing shock, excessive hot or cold temperatures, or injury from other herbicide applications.

**TURF GRASS TANK-MIXES**

Read and follow the applicable Restrictions and Limitations and Directions For Use on all products involved in tank mixing. The most restrictive labeling applies to any tank mix. To increase spectrum of control of broadleaf weed species a tank mix with 2,4-D, triclopyr, MCPA, MCPP, Three Way, Trimec, or other broadleaf herbicide can be used. For extended residual control apply Rook 4L with Pendulum or PRE-M herbicides. For sedge control applications of Rook 4L with Basagran SG, Basagran T/O, Lescogran, Image 70 DG or MSMA can be made.

Combinations with MSMA will aid in control of certain grassy weeds such as bahia grass or kikulyu grass. Consult tolerant turf grass species on all labels. Separate applications should be made if all target weeds are not at the correct growth state for treatment at the same time.

Physical incompatibility, reduced weed control, or turf injury may result from mixing Rook 4L with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers.

Before tank-mixing, complete a simple jar test to insure compatibility of herbicides or other pesticide and/or additives. Refer to manufacturer's labels for specific use directions, precautions, and limitations before tank mixing with Rook 4L and follow those that are most restrictive.

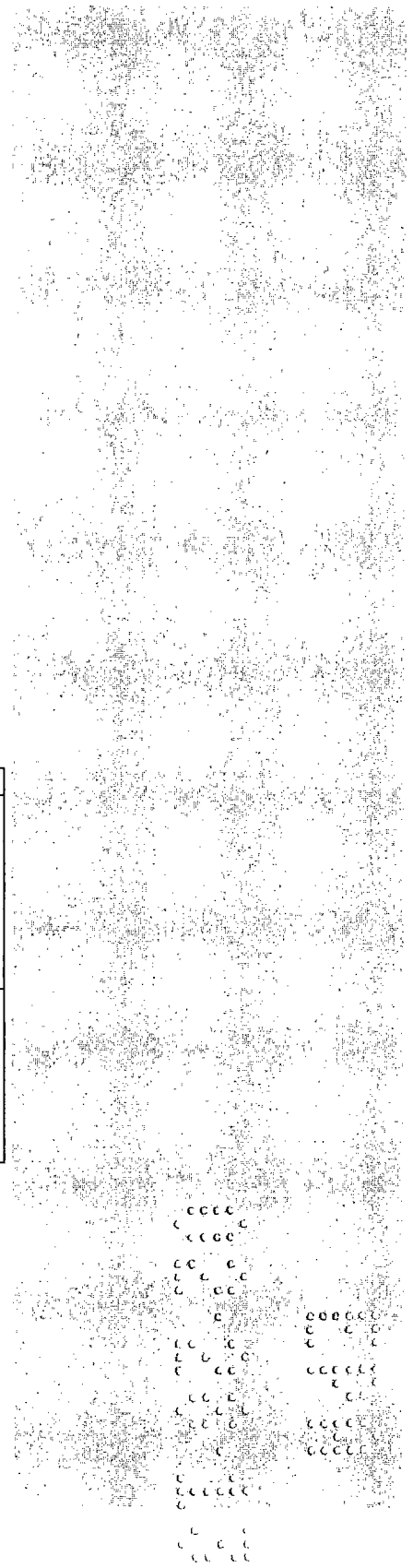
Table 1. Turf Tolerance (Established)

| Highly Tolerant               | Moderately Tolerant                | Susceptible          |
|-------------------------------|------------------------------------|----------------------|
| Bermuda , Common <sup>1</sup> | Bent grass, Creeping <sup>1</sup>  | Bahia grass          |
| Blue grass, Kentucky          | Bermuda grass, Hybrid <sup>1</sup> | Centipede grass      |
| Blue grass, Annual            | Fescue, Fine <sup>2</sup>          | Dichondra            |
| Buffalo grass                 | Fescue, Red                        | St. Augustine grass  |
| Fescue, Tall                  | Fescue, Hard                       | Bent grass, Seaside  |
| Rye grass, Annual             | Fescue, Chewing's                  | Bent grass, Colonial |
| Rye grass, Perennial          | Blue grass, Rough (Poa trivialis)  |                      |
| Zoysia grass                  |                                    |                      |

<sup>1</sup>Yellowing that occurs on these species can be reduced by the addition of chelated iron or sprayable soluble nitrogen fertilizer (See Application Information, Additives).

<sup>2</sup>Apply Rook 4L to fine fescue only when it is part of a blend.

- Do not use on golf course greens and collars.
- Consult Table 4, Seeding/Sprigging Chart for this situation.



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Table 2. ROOK 4L Application to Established Creeping Bent grass

| Turf grass Species  | Application Rate/Timing   | Additive Rate   |
|---|---|---|
| Bent grass, Creeping <sup>1</sup>   | Rook 4L must be applied in 2 - 3 split applications at 0.25 to 0.35 fluid ounces per 1,000 sq. ft. (not to exceed 3 pints of product per acre per season). Sequential application(s) should be timed 21 days apart. | Use methylated seed oil at 0.55 ounces per 1,000 sq. ft. (1.5 pints per acre) |
| <sup>1</sup> Yellowing that occurs on these species can be reduced by the addition of chelated iron or sprayable soluble nitrogen fertilizer (See Application Information, Additives) |   |   |
| <ul style="list-style-type: none"> <li>• Do not use on golf course greens and collars.</li> <li>• Consult Table 4, Seeding/Sprigging Chart for this situation.</li> </ul>             |   |   |

Table 3. Application Rates and Timing for Postemergence Weed Control in Turf

| Weed Species                         |                               | Rook 4L TURF Rate   | Additive Rate   |
|--------------------------------------|-------------------------------|---|---|
| <b>Grasses Controlled</b>            |                               | Broadcast Applications:<br>1.5 pints of product per acre or 0.55 fluid ounces per 1,000 square feet.<br><br>Spot Applications:<br>Apply 0.55 fluid ounces of ROOK 4L per 1,000 square feet of treated area. Refer to foot notes in Tables 2 and 3 for specific turf grass or weed instructions. | Apply:<br>1.5 pints per acre (0.55oz per 1,000 square feet)<br>methylated seed oil. |
| Common Name                          | Scientific Name               |   |   |
| Barnyard grass                       | <i>Echinochloa crusgalli</i>  |   |   |
| Crab grass, Large <sup>1,4</sup>     | <i>Digitaria sanguinalis</i>  |   |   |
| Crab grass, Smooth <sup>1,4</sup>    | <i>Digitaria ischaemum</i>    |   |   |
| Foxtails, Giant <sup>1</sup>         | <i>Setari faberi</i>          |   |   |
| Foxtail, Green <sup>1</sup>          | <i>Setari viridis</i>         |   |   |
| Foxtail, Yellow <sup>1</sup>         | <i>Setari glauca</i>          |   |   |
| Kikuyu grass <sup>2,3</sup>          | <i>Pennisetum</i>             |   |   |
| Signal grass, Broadleaf <sup>1</sup> | <i>clandewtinum</i>           |   |   |
| Torpedo grass <sup>3</sup>           | <i>Brachiaria platyphylla</i> |   |   |
|                                      | <i>Panicum repens</i>         |   |   |
| <b>Broadleaf Weeds Controlled</b>    |                               |   |   |
| Common Name                          | Scientific Name               |   |   |
| Bindweed, Field                      | <i>Convolvulus arvensis</i>   |   |   |
| Medic, Black                         | <i>Medicago lupulina</i>      |   |   |
| Clover, Hop                          | <i>Trifolium aureum</i>       |   |   |
| Clover, Red                          | <i>Pollich</i>                |   |   |
| Clover, White                        | <i>Trifolium pratense</i>     |   |   |
| Dandelion, Common <sup>2</sup>       | <i>Trifolium repens</i>       |   |   |
| Daisy, English <sup>2,5</sup>        | <i>Taraxacom officinale</i>   |   |   |
| Dollarweed                           | <i>Bet/is perenne</i>         |   |   |
| Geranium, Carolina                   | <i>Hydrocotyle umbellata</i>  |   |   |
| Morningglory spp.                    | <i>Geranium carolinium</i>    |   |   |
| Speedwell, Common                    | <i>Ipomea spp</i>             |   |   |
| Speedwell, Slender                   | <i>Veronica officinalis</i>   |   |   |
| Speedwell, Thymeleaf                 | <i>Veronica filiformis</i>    |   |   |
| Violet, Wild                         | <i>Veronica serpyllifolia</i> |   |   |
|                                      | <i>Viola spp.</i>             |   |   |

<sup>1</sup> Under certain conditions applications of Rook 4L made to annual grasses at 2 - 4 tiller may not provide complete control. A sequential application will be required for grass control in these situations. Optimum control is achieved when applications of Rook 4L + methylated seed oil is applied either before second tiller or as weed grasses mature.

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<sup>2</sup> Tank mix partner or sequential application required

<sup>3</sup> Make 3 sequential applications of 0.35 fluid ounces of Rook 4L per 1,000 square feet at 14 – 21 day intervals.

<sup>4</sup> Biotypes of large and smooth crab grass in California have shown varied response to Rook 4L. If control failure occurs following the application of a full or split application rates do not reapply ROOK 4L herbicide, and change to an herbicide with a different mode of action.

<sup>5</sup> NOT FOR USE to control this weed in California.



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Table 4. Seeding/Overseeding/Sprigging Timing Chart<sup>1</sup>

| Variety                     | Before seeding <sup>2</sup> | At Seeding | 7 days after emergence | 14 days after emergence | 28 days after emergence |
|-----------------------------|-----------------------------|------------|------------------------|-------------------------|-------------------------|
| Annual Blue grass           | OK                          | OK         | OK                     | OK                      | OK                      |
| Annual Rye grass            | OK                          | OK         | OK                     | OK                      | OK                      |
| Buffalo grass               | OK                          | OK         | OK                     | OK                      | OK                      |
| Common Bermuda <sup>3</sup> | OK                          | OK         | OK                     | OK                      | OK                      |
| Creeping Bent grass         | OK                          | NO         | NO                     | NO                      | OK                      |
| Fine Fescue On blend)       | OK                          | NO         | NO                     | NO                      | OK                      |
| Hybrid Bermuda <sup>3</sup> | OK                          | OK         | OK                     | OK                      | OK                      |
| Kentucky Blue grass         | OK                          | NO         | NO                     | NO                      | OK                      |
| Perennial Rye grass         | OK                          | OK         | NO                     | NO                      | OK                      |
| Tall Fescue                 | OK                          | OK         | OK                     | OK                      | OK                      |
| Zoysia grass <sup>3</sup>   | OK                          | OK         | OK                     | OK                      | OK                      |

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<sup>1</sup>Note: No adjuvant or additive should be used when Rook 4L applications are made on newly emerged turf seedlings until 28 days after emergence.

<sup>2</sup>Rook 4L can be applied 7 days or greater prior to seeding.

<sup>3</sup>Rook 4L can be used anytime prior to, at or after sprigging.

- Application of Rook 4L should be timed around the seeding operations using the above chart as a reference point.

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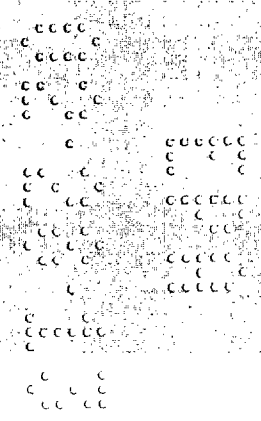
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