3/16/2010

UNITED STAIRS TO HER NORM	U.S. ENVIRONMENTAL PROTECTION AGENCY	EPA Reg. Number:	Date of Issuance:
	Office of Pesticide Programs	0017 000	
	Registration Division (7505P) 1200 Pennsylvania Ave., N.W.	2217-932	MAR 1 6 2010
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NOT	ICE OF PESTICIDE:		
	X Registration	Term of Issuance:	
	Reregistration	Conditional	
	(under FIFRA, as amended)	Name of Pesticide Proc	1
		Atrinal Nurs	ery a
	-	Greenhouse	
Name and Address of Registran			
PBI/Gordon Corp	oration		
P.O. Box 014090			
Kansas City, MO			
ALMANGE CITY, ITO			
Note: Changes in labeling dif	fering in substance from that accepted in connection	on with this registration must be	submitted to and accepted
by the Registration Division p	frior to use of the label in commerce. In any corres		
registration number			
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On the basis of inform		loove named deslicide is	nereby registered
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A. Change the EPA registration number to 2217-932

B. On page 3, add "protective eyewear" to the PPE requirements within the Agricultural Use Requirements box.

C. On page 7, within the Storage and Disposal box, move the sentence "Triple rinse [or pressure rinse] container (or equivalent) promptly after emptying" so it appears after the sentence "Do not reuse or refill this container".

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label stamped "Accepted with Comments" is enclosed for your records. If you have any questions, please contact Shaunta Hill at 703, 3437-8961 or by email at hill.shaunta@epa.gov.

Shaja B. Jøyner Product Manager (20) Fungicide Branch Registration Division (7504P)

ATRINAL® NURSERY AND GREENHOUSE

EPA Reg. No. 2217-XXX

For reducing or breaking apical dominance in plant shoots and enhances lateral branching in Greenhouse, Lath and Shadehouse, Nurseries (field and containerized) and/or farms for deciduous, evergreen (broadleaf and needle) and conifer trees including, but not limited to Christmas tree farms and conifer farms.

ACTIVE INGREDIENT: Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-	
hexulofuranosonic acid)	 18.5%
INERT INGREDIENTS:	81.5%
TOTAL	100.0%

THIS PRODUCT CONTAINS:

1.67 lb dikegulac-sodium per gallon or 200 grams active ingredient per liter. (1.55 lb dikegulac acid equivalent per gallon or 17.1%)

KEEP OUT OF REACH OF CHILDREN

CAUTION

STOP! READ THE ENTIRE LABEL FIRST. OBSERVE ALL PRECAUTIONS AND FOLLOW DIRECTIONS CAREFULLY.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION: Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing.

Personal Protective Equipment (PPE)

Mixers, loaders, applicators, and other handlers must wear: long-sleeved shirt, long pants, shoes and socks.

User Safety Requirements

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.

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



In EPA Letter Dated: MAR 1 6 2010 Under the Federal Execticide, Fungicide, and Rodenticide Act, as exampled, for the pesticide registered under EPA Reg. No. 2017-932

ACCEPTED with COMMENTS

1 of 8

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User Safety Recommendations

- Users should wash hands thoroughly with soap and water before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Users should remove clothing/ PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should 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.

First Aid	
If in eyes:	 Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If inhaled:	 Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for treatment advice.
lf on skin or on clothing:	 Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 - 20 minutes. Call a poison control center or doctor for treatment advice.
If swallowed	 Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
	ct container or label with you when calling a poison control center or doctor or going for may also contact 1-877-800-5556 for emergency medical treatment advice.

Environmental Hazards

For terrestrial uses: Do not apply directly to water, or to areas where water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

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.
- Do not apply through any type of irrigation system.
- Do not use on food or fodder crops.

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 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 4 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 soil or water, is:

- · coveralls,
- · chemical-resistant gloves made of any waterproof materials and
- shoes plus socks

Atrinal N&G is a systemic plant growth regulator applied as a foliar spray that reduces or breaks apical dominance and enhances lateral branching. Atrinal N&G is absorbed through the leaves and translocated to the shoot tips. Pinching effect is limited to sprayed branches. Atrinal N&G will chemically pinch unpruned shoots and will also increase branching of trimmed shoots. Atrinal N&G produces full, well branched plants with more abundant bloom. Atrinal N&G reduces the need for mechanical pinching and pruning. Atrinal N&G can increase lateral shoot development for use in vegetative cutting propagation.

Mixing Instructions

Clean spray equipment before use. Rinse spray equipment with with water after use and dispose of rinsate in an approved manner. Fill the spray tank with half the required amount of water. Use the DILUTION TABLE (Table 1) to determine the amount of Atrinal N&G needed for the required concentration. Measure accurately the desired volume of product and add it to the tank.

Fill the tank with the remaining amount of required water. Agitate the mixture of Atrinal N&G to assure uniform distribution of during application.

Spray Concentration	Dilution		
PPM AtrinalDesired*	fl.oz. Atrinal N&G per gallon	mL (cc) Atrinal N&G per gallor	
400	1/4	7.3	
532	1/3	9.8	
800	1/2	14.7	
1064	2/3	19.6	
1200	3/4	22.1	
1600	1	29.5	
2132	1 1/3	39.4	
2400	1 1/2	44.3	
3200	2	59.1	
4000	2.5	73.9	
4800	3	88.7	
6400	4	118.2	

Application Techniques

Best response is obtained on lush growth or under good growing conditions. Avoid treating plants under cool weather conditions or extremely hot summer temperatures. Plants must be well rooted and actively growing. Do not treat wilted or dormant plants. Plants must be healthy and not under stress from drought, nutritional deficiency or disease. Avoid treating plants under conditions favoring root disease, such as standing water in poorly drained soil. Atrinal N&G should be applied on shorter, more tender new shoots than usually considered appropriate for hand pinching. For optimal results, remove any flower buds or flowers present, and trim all long shoots. Atrinal N&G is best absorbed by soft, fully developed leaves. If plants have been heavily pruned at least two pairs of expanded leaves should remain on each shoot.

For best results use Atrinal N&G on rooted cuttings or young liners. One application is usually sufficient to get good frame branching. Subsequent pinching of older plants can be done with Atrinal N&G to further improve branching.

In frost susceptible regions, the final treatment should be made sufficiently early in the season so that the new growth will harden off before frost. Overdosing with Atrinal N&G may result in marked chlorosis, necrotic terminal shoots and delayed regrowth. Under-dosing or applications made late in the crop cycle may result in little or no pinching effect.

[AFTER TREATING PLANTS WITH ATRINAL N&G:

- Allow sufficient time for the chemical pinching response. There is no visible effect for the first 7 to 10 days. Trimming or hand pinching after applying Atrinal N&G may interfere with the action of the product.
- One (1) to two (2) weeks after treatment, the terminal growth and young leaves will often show distinct yellowing or chlorosis. This is normal and indicates Atrinal N&G is working. This effect is transient and cannot be stopped by giving additional nutrients.
- Atrinal N&G treated plants will not grow for some weeks and thus will require less fertilizer and water than hand pinched plants, until the axillary buds break and new growth begins. Do not over fertilize and overwater during this period.
- If growing conditions favor disease, make preventive fungicide applications.
- Give the plants enough space and light for new shoots to develop after axillary buds have broken.
- Cuttings taken from Atrinal N&G treated plants root and grow normally.]

Spray Drift Management

Non-target terrestrial plants can be adversely affected when exposure to this product. Avoid spray drift to non-target terrestrial plants during application.

- Do not apply when wind velocity exceeds 15 mph, or when wind gusts approach 15 mph.
- Do not apply this product if the wind direction does not favor on-target deposition.
- Use only spray equipment with medium or coarser spray nozzles according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators must use a coarser droplet size.

Spray Application

Use rates of Atrinal N&G vary with different species (Tables 2 to 4). Where a dosage range is given use a concentration in the lower part of the indicated range. For tender, sensitive varieties use a concentration in the lower part of the indicated range. For vigorous, rank-growing varieties or if temporary retardation of growth is desired use a concentration in the higher part of the indicated range.

Sprays should be applied either to un-pinched shoots when they reach 1 to 3 inches long or to trimmed plants within 3 days after cutting back new growth. For annuals and other nursery plants produced during a short growing season use one application. For perennials and other nursery plants produced during a long growing season under favorable conditions, two applications may be required to break apical dominance. The interval between applications can range from two weeks for less responsive plants

(such as hollies, photinia, osmanthus, and glossy abelia) to 8 weeks for more responsive plants (such as azalea). Spray entire plant until wet. Thorough coverage of foliage is the key to good results. Use a spray volume of 2 quarts per 100 sq.ft. of area. Large plants may require higher spray volumes.

The spray solution should be used the same day it is prepared. Do not mix Atrinal N&G with fertilizers or other pesticides. A surfactant is incorporated in the product. No additional wetting agent is needed for foliar applications. Plant foliage should be dry when spray is applied. On very hot, sunny days, spray preferably early in the morning or late in the afternoon. After spray has dried, re-spraying may overdose previously treated plants. Be careful to avoid overlapping treatment of plants. Effectiveness may be reduced if treated plants are subject to rainfall or overhead irrigation within 6 hours after spraying. Trimming after applying Atrinal N&G may interfere with the action of the product.

Application rates (spray concentrations) for Greenhouse, Lath and Shadehouse, Nurseries (field and containerized) and/or farms for deciduous, evergreen (broadleaf and needle) and conifer trees including, but not limited to Christmas tree farms and conifer farms.

Rate determination for plants varies greatly from genera, species and varieties. It is impossible to determine the optimum rate for all crops grown. The user should conduct trials on a small number of plants, adjusting the rate of Atrinal N&G to achieve the desired level of control. For plants not listed in Tables 2,3, and 4 it is recommended the user trial Atrinal N&G on a small number of plants at 800 PPM and adjust up or down to achieve the desired level of control. User assumes all risk for species not listed on label.

Plant	Rate Range PPM Atrinal*	fl.oz. Atrinal N&G per gallon	mL (cc) Atrinal N&G per gallon
Aeschynanthus spp Lipstick vine	532 to 1064	1/3 to 2/3	9.8 to 19.6
<i>Begonia</i> - Elatior hybrids <i>Begonia x cheimantha</i> Treat unpinched plants with 2 to 3 inch (5 to 8 cm) long shoots 8 to 10 weeks before finishing for sale. Rooted	800 to 1600	1/2 to 1	14.7 to 29.5
leaf cuttings can also be treated.			
Cissus spp Grape ivy, Tree bine	800 to 1600	1/2 to 1	14.7 to 29.5
Coleus spp.	800	1/2	14.7
Fuchsia hybrids - Fuchsia, lady's-eardrops Treated rooted cuttings with 2 to 3 pairs of leaves or as soon as branching becomes desirable, but not later than 10 to 12 weeks before finishing for sale.	800 to 2400	1/2 to 1 1/2	14.7 to 44.3
Ivy, English - Hedera helix	1600	1	29.5
Ivy, Geranium, hanging geranium - Pelargonium peltatum	1600	1	29.5
Kalanchoe hybrids To induce lateral branching, more compact growth with a greater number of inflorescences, treat 2 days after pinching the main shoot.	1064 to 2400	2/3 to 1 1/2	19.6 to 44.3
Lantana camara - large leaf lantana	800 to 1600	1/2 to 1	14.7 to 29.5
Lantana sp. 'Son' series - trailing and weeping lantana	800 to 1600	1/2 to 1	14.7 to 29.5
Pachystachys lutea - Shrimp plant Treat 1 day after mechanical pinching.	800 to 1600	1/2 to 1	14.7 to 29.5
Petunia hyb. Trailing 'opera'	800	1/2	14.7
Schefflera arboricola	3200	2	59.1
Verbena hybrids Treat unpinched seedlings, or plants from cuttings 1 day after manual pinching.	532 to 1064	1/3 to 2/3	9.8 to 19.6
Verbena spp.	800 to 1600	1/2 to 1	14.7 to 29.5

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Plant	Rate Range PPM Atrinal*	fl.oz. Atrinal N&G per gallon	mL (cc) Atrinal N&G per gallon
Abelia x grandiflora, glossy abelia	800	1/2	14.7
Acacia famesiana - Sweet acacia	1600	1	29.5
American arborvitae, northern white cedar – Thuja pocidentalis	400	1/4	7.3
Azaleas (Rhododendron hybrids) Start treating rooted cuttings. Greenhouse azaleas may be treated several times during the first year of growth. For the final pinch treat no later than early July to avoid delayed bud development and subsequent bloom	3200 to 6400	2 to 4	59.1 to 118.2
Bottlebrush, crimson - Callistemon lanceolatus	1600 to 3200	1 to 2	29.5 to 59.1
Bougainvillea - Bougainvillea spp.	1600	1	29.5
Buddleia spp Butterfly bush	532 to1600	1/3 to 1	9.8 to 29.5
Cherry-laurel - Prunus laurocerasus	1600 to 3200	1 to 2	29.5 to 59.1
Clerodendrum spp Glory-bower, Kashmir bouquet, tube flower	1064 to 2132	2/3 to 1 1/3	19.6 to 29.4
Cleyera japonica	3200	2	59.1
Cotoneaster spp.	800 to 1600	1/2 to 1	14.7 to 29.5
Eugenia myrtifolia	1600 to 2400	1 to 1 1/2	29.5 to 44.3
Euonymus spp burning bush, climbing spindle tree	800 to1600	1/2 to 1	14.7 to 29.5
Fatshedera lizei - Aralia ivy, botanical wonder, tree ivy	1200 to1600	3/4 to 1	22.1 to 29.5
Forsythia spp.	1600 to 3200	1 to 2	29.5 to 59.1
Gardenia jasminoides - Cape jasmine	2400 to 4800	1 1/2 to 3	44.3 to 88.7
Gelsemium sempervirens - Evening trumpet flower	1600 to 3200	1 to 2	29.5 to 59.1
Holly, inkberry, winterberry - <i>llex spp</i> To induce branching treat vegetative growth in early spring. To prevent berry set on Japanese holly, llex crenata, use 2/3 to 1.5 fluid ounces of Atrinal N&G per gallon at any time from prebloom, tight bud stage through midbloom.	1064 to 4000	2/3 to 2.5	19.6 to 73.9
Ligustrum spp Privet	800 to1600	1/2 to 1	14.7 to 29.5
Oleander - Nerium oleander, rose-bay oleander	1600 to 2400	1 to 1 1/2	29.5 to 44.3
Osmanthus spp devil-weed, Aerican olive, fragrant olive, sweet osmanthus	1600 to 3200	1 to 2	29.5 to 59.1
Photinia fraseri After mechanical pinching or trimming apply two treatments at a 10 to 14 day interval to induce lateral bud break.	3200 to 6400	2 to 4	59.1 to 118.2
Pittosporum tobira - Australian laurel, house blooming mock-orange, Japanese pittosporum	1600 to 3200	1 to 2	29.5 to 59.1
Pyracantha coccinea - Indian hawthorn	3200 to 4800	2 to 3	59.1 to 88.7
Raphiolepis indica Apply a single treatment or two treatments at a 10 to 14 day interval to induce lateral bud break.	2400 to 4000	1 1/2 to 2.5	44.3 to 73.9
Vibumum spp.	2400 to 3200	1 1/2 to 2	44.3 to 59.1
Xylosma spp.	2400 to 3200	1 1/2 to 2	44.3 to 59.1

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Table 4. Trees			
Plant	Rate Range PPM Atrinal*	fl.oz. Atrinal N&G per gallon	mL (cc) Atrinal N&G per gailon
Crape myrtle - <i>Lagerstroemia indica</i> For miniature crape myrtle varieties, use 1 fluid ounce of Atrinal N&G per gallon.	1600 to 3200	1 to 2	29.5 to 59.1
Elaeagnus spp.	1600 to 2400	1 to 1 1/2	29.5 to 44.3
Fraxinus Pennsylvanica- Green Ash	400 to 800	1/4 to 1/2	7.3 to 14.7
Juniperus spp. – Juniper	3200 to 6400	2 to 4	59.1 to 118.2
Quercus rubra – Red Oak	400 to 800	1/4 to 1/2	7.3 to 14.7
* PPM Dikegulac-sodium			·

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in original container in a locked storage area. Keep from freezing.

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

[Plastic Containers – Nonrefillable with capacities less than 5 gallons]

CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning If burned, stay out of smoke.

Triple rinse [or pressure 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 ¼ 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.

[OR

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.]

LIMITED WARRANTY AND DISCLAIMER

IMPORTANT: Read this LIMITED WARRANTY AND DISCLAIMER before buying or using this product. By opening and using this product, buyer and all users agree to accept the terms of this LIMITED WARRANTY AND DISCLAIMER in their entirety and without exception. If the terms are not acceptable, return this product unopened immediately to the point of purchase, and the purchase price will be refunded in full.

It is impossible to eliminate all risks inherently associated with use of this product. Damage to the treated article, ineffectiveness, or other unintended consequences can result from use of the product under abnormal conditions such as weather, presence of other materials, or the manner of use or application, etc. Such factors and conditions are beyond the control of the manufacturer, and **BY PURCHASING AND USING THIS PRODUCT THE BUYER AND ALL USERS OF THIS PRODUCT AGREE TO ACCEPT**

ALL SUCH RISKS. Buyer and all users further agree to assume all risks of loss or damage from the use of the product in any manner that is not explicitly set forth in or that is inconsistent with label instructions, warnings and cautions.

The manufacturer warrants only that this product conforms to the chemical description given on the label, and that the product is reasonably suited for the labeled use when applied according to the Directions for Use, subject to the inherent risks described below. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE MANUFACTURER NEITHER MAKES NOR INTENDS ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXPRESSLY DISCLAIMED.

THE EXCLUSIVE REMEDY OF BUYER AND ALL USERS OF THIS PRODUCT, AND THE EXCLUSIVE LIABILITY OF THE MANUFACTURER, FOR ANY AND ALL LOSSES, DAMAGES, OR INJURIES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER OR NOT BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE, SHALL BE LIMITED, AT THE MANUFACTURER'S OPTION, TO REPLACEMENT OF OR THE REPAYMENT OF THE PURCHASE PRICE FOR THE QUANTITY OF PRODUCT WITH RESPECT TO WHICH DAMAGES ARE CLAIMED. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO CASE SHALL THE MANUFACTURER BE LIABLE FOR INCIDENTIAL, CONSEQUENTIAL, OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. The Manufacturer must be promptly notified in writing of any claims, whether based in contract, tort, negligence, strict liability, or otherwise, to be eligible to receive either remedy stated above.

The terms of this LIMITED WARRANTY AND DISCLAIMER cannot be varied by any written or verbal statements or agreements at the point of sale or elsewhere. No employee or agent of the manufacturer or seller is authorized to vary or exceed the terms of this Limited Warranty and Disclaimer in any manner.

APPENDIX

1. Statements which may appear on different label components depending on packaging configuration.

- · See next panel for additional Precautionary Statements and First Aid
- Net Contents:
- EPA Est. No. _____

2. Advertising claims that may be presented on container labeling, advertisements, brochures, and other marketing/sales promotional materials:

DOCUMENT CONTROL INFORMATION

- 1. Unique Label Identifier: 002217-00XXX.20090904.new-proposed-AtrinalNG.doc
- 2. Reason for Issue: New Registration