

241-360

09/21/2009

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

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

September 21, 2009

Dr. Jeffrey H. Birk
BASF
26 Davis Drive
Research Triangle Park, NC 27709

Dr. Birk:

RE: ADMINISTRATIVE LETTER OF JUNE 19, 2009; PENDIMETHALIN; PRE-M® 3.3 EC TURF HERBICIDE, EPA REG. NO. 241-360

Your requested change in the Tox Signal Word from "DANGER" to "CAUTION", and other label changes to your PRE-M 3.3 EC Turf Herbicide, EPA Reg. No. 241-360 are approved with the following comments:

1. On page 2 of label, under "NON-WPS USES", "Mixers and loaders must wear:", and "WPS USES", add the bullet "Protective eyewear, such as safety glasses".
2. On page 5, left column above "Controlling droplet size:", add the following language required in the Pendimethalin RED – "The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. 1. The distance of the outer most nozzles on the boom must not exceed $\frac{3}{4}$ the length of the wingspan or rotor. 2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed. The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information presented below."
3. On page 6, in the first paragraph under "Noncropland", add "not adjacent to cropland" after "fence rows".
4. On page 11, remove the first paragraph, including the liability waiver, starting with "PRE-M® 3.3 EC turf herbicide may be used on plant species not listed on this label." Accept for legitimate research purposes following appropriate FIFRA regulations, it is false and misleading to say that it is permissible for homeowners and other users to experiment with the efficacy of end-use pesticides.
5. On page 13, after "General Turf Information", add a separate paragraph with the heading "Restrictions", and move the five bullets now under "General Turf Information" under "Restrictions". Also move "DO NOT exceed a maximum of 7.2 pts/A per application for use on commercial or other nonresidential turfgrass." under "Restrictions", and add "DO

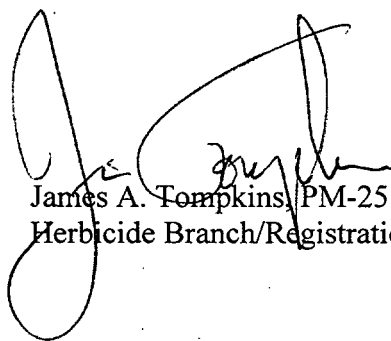
NOT exceed a maximum of 4.8 pts/A per application for use on residential turf grass (defined as schools, parks, playgrounds, and other recreational areas), and sod farms." Move the "DO NOT use on bentgrass, etc." statement under "Restrictions".

6. On page 15, make the letter size for the table references 1 and 2 the same size as the comments in the table, and in reference 2, remove "and" before "playgrounds", add a coma before "playgrounds", and "and other recreational areas" after "playgrounds".
7. Add the batch number to labels on non-refillable pesticide product containers.

The amended label supersedes all previously accepted labels. A stamped copy of the revised accepted label with comments is enclosed for your records. Please submit one copy of your final printed labeling before you release the product for shipment.

Please contact Phil Errico at 703-305-6663/ Errico.Philip@epa.gov for any further assistance in this matter.

Regards,



James A. Tompkins, PM-25

Herbicide Branch/Registration Division 7505P

3/19

PRE-M[®] 3.3 EC Turf Herbicide

ACCEPTED
with COMMENTS
In EPA Letter Dated

SEP 21 2009

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

241-360

An emulsifiable concentrate for preemergence weed control in noncropland areas, production and established landscape ornamentals, Christmas tree plantations, nonbearing fruit and nut crops and vineyards, and lawns and other turf areas

Active ingredient:

pendimethalin: N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine 37.4%

Other Ingredients*: 62.6%

Total: 100.0%

1 gallon contains 3.3 lbs pendimethalin.

*Contains petroleum distillates.

EPA Reg. No. 241-360

EPA Est. No.

KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCIÓN

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

See inside for complete **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).

Net Contents:

BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709



The Chemical Company

4/19

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after first 5 minutes; then continue rinsing eyes. • Call a poison control center or doctor for treatment advice.
If swallowed	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor. • DO NOT induce vomiting unless told to do so by a poison control center or doctor. • DO NOT GIVE ANY LIQUID TO THE PERSON. • DO NOT give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • 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 further treatment advice.
<p>NOTE TO PHYSICIAN: Contains petroleum distillate. Vomiting may cause aspiration pneumonia. Because of increased chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent, vomiting should be induced only under professional supervision.</p>	
HOTLINE NUMBER	
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-800-832-HELP (4357) for emergency medical treatment information.</p>	

Precautionary Statements

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Causes moderate eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with eyes, skin or clothing.

Personal Protective Equipment (PPE)

NON-WPS USES

In general, agricultural plant uses are covered. Applicators and other handlers (except mixers/loaders) who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR Part 170) must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as nitrile rubber (≥ 14 mils)
- Shoes plus socks

Mixers and loaders must wear:

- Long-sleeved shirt and long pants, or coveralls
- Chemical-resistant gloves, such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks
- Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them.

WPS USES

Some materials that are chemically resistant to this product are listed below. If you want more options, follow the instructions for **Category F** on an EPA chemical-resistance category selection chart.

In general, agricultural plant uses are covered. Applicators and other handlers who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR part 170) must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks

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

Engineering Controls

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This product is toxic to fish. **DO NOT** apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate.

Endangered Species Protection

If endangered plant species occur in proximity to the application site, the following mitigation measures are required:

If applied by ground, leave an untreated buffer zone of 200 feet. The product must be applied using a low boom (20 inches above the ground) and ASAE fine to medium/coarse nozzles.

To determine if your county has an endangered plant species, consult the website <http://www.epa.gov/oppfead1/endanger/bulletins.htm>.

Endangered Species Bulletins may also be obtained from extension offices or state pesticide agencies. If the bulletin is not available for your specific area, check with the appropriate local state agency to determine if known populations of endangered plant species occur in the area to be treated.

Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in the possession of the user at time of herbicide application.

DO NOT apply this product through any type of irrigation system.

BASF does not recommend or authorize the use of this product in manufacturing, processing or preparing custom blends with other products for application to turf or ornamentals.

DO NOT apply this product in a way that will contact any person or pet, either directly or through drift. Keep people and pets out of the area during application. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard. **DO NOT** enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **24 hours**.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves, such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks

NONAGRICULTURAL 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, forests, nurseries, or greenhouses.

DO NOT enter or allow others to enter the treated area until sprays have dried.

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL OR CROP INJURY.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

Pesticide Storage

DO NOT STORE BELOW 40°F. Extended storage at temperatures below 40°F can result in the formation of crystals on the bottom of the container. If crystallization does occur, store the container on its side at room temperature (70°F) and rock occasionally until crystals redissolve.

(continued)

STORAGE AND DISPOSAL *(continued)*

Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity \leq 5 gallons) 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.

Pressure rinse as follows: Empty the remaining contents into application equipment or 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.

Observe all cautions and limitations in this label and the labels of products used in combination with **PRE-M® 3.3 EC turf herbicide**. The use of **PRE-M 3.3 EC** not consistent with this label can result in injury to crops, animals, or persons. Keep containers closed to avoid spills and contamination.

General Information

Use **PRE-M 3.3 EC** on plants intended for aesthetic purposes in landscaped grounds or being grown in fields, containers, or beds in production. **PRE-M 3.3 EC** can be used for preemergence weed control in interior plantscapes, or on ornamental gardens or parks, or on golf courses or lawns and landscape plantings.

Use **PRE-M 3.3 EC** for preemergence control of grasses and certain broadleaf weed species as they germinate on noncropland areas, in ornamentals, Christmas tree plantings, nonbearing fruit and nut trees, unimproved turf, and other vegetation control.

PRE-M 3.3 EC will not control established weeds. Therefore, areas to be treated should be free of established weeds at the time of treatment, or **PRE-M 3.3 EC** may be used in conjunction with herbicides registered for postemergence use in noncropland areas. Consult the labels of those herbicides for suggested treatments, rates to be used and precautions or restrictions for use in noncropland areas.

Mixing Instructions

Aerial and Ground-driven Sprayer

1. Fill tank 1/2 to 3/4 full with clean water.
2. Add **PRE-M 3.3 EC** to the partially filled tank while agitating; then fill the remainder of the tank with water.
3. **MAINTAIN CONTINUOUS AGITATION WHILE ADDING PRE-M 3.3 EC 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.

Use **PRE-M 3.3 EC** in tank mixtures with other registered herbicides; follow directions on the labels of those products that recommend tank mixing.

Backpack Sprayer

1. Begin with a clean spray tank. Fill the spray tank 1/2 full with clean water.
2. Add the required amount of **PRE-M 3.3 EC** to the sprayer. Cap sprayer and agitate to ensure mixing.
3. Uncap sprayer and finish filling tank to desired level.
4. Cap sprayer and agitate once again. During application it is desirable to agitate the mixture on occasion to ensure mixing. If the spray mixture is allowed to settle for any period of time, thorough agitation is essential before spraying is resumed.

Liquid Fertilizer

1. Prior to mixing, test small quantities using a simple jar test.
2. Add the required amount of **PRE-M 3.3 EC** to the half-filled spray tank while agitating; then add the fertilizer product.
3. Complete filling spray tank to desired level.

Dry Bulk Fertilizer

PRE-M 3.3 EC may be impregnated on dry bulk fertilizers. When applied as directed, **PRE-M 3.3 EC**/dry bulk fertilizer mixtures provide weed control equal to that provided by the same rates of **PRE-M 3.3 EC** applied in water.

Spraying Instructions

Ground Application

Uniformly apply with properly calibrated ground equipment in sufficient water per acre to uniformly treat the area with a spray pressure of 25 to 50 psi. Suggested spray volumes are 20 to 200 gpa for professional turfgrass, landscape and ornamental applications, and 10 to 200 gpa for all other noncrop applications such as roadsides, utility rights-of-way, or soft-residual bareground applications. Maintain continuous agitation during spraying with good mechanical or bypass agitation. Avoid overlaps that will increase rates above those recommended. Avoid application when winds may cause drift.

Avoid unintentional contact of spray solution with driveways, stone, wood, or other porous surfaces. Rinse immediately with water to avoid staining. Avoid mechanically scrubbing until surface area is thoroughly rinsed. Treated turfgrass should be dry before entering to avoid staining onto nontreated surfaces.

Aerial Application

Uniformly apply in 5 or more gallons of water per acre. Exercise caution to minimize drift. **DO NOT** apply during periods of gusty winds or when wind conditions favor drifting. Spray drift can cause injury to sensitive crops. Use a flagman or an automatic mechanical flagging unit on the aircraft to avoid overlapping and possible crop injury.

MANAGING OFF-TARGET MOVEMENT

The following information is provided as general guidance for managing off-target movement. Specific use recommendations for **PRE-M® 3.3 EC turf herbicide** may differ depending on the application technique used and the vegetation management objective.

Spray Drift

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-related and weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

It is the responsibility of the applicator to avoid spray drift onto nontarget areas.

Spray drift from applying this product may result in damage to sensitive plants adjacent to the treatment area. Only apply this product when the potential for drift to these and other adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, or nontarget crops) is minimal.

DO NOT apply when the following conditions exist that increase the likelihood of spray drift from intended targets: high or gusty winds, high temperatures, low humidity, temperature inversions.

To minimize spray drift, the applicator should be familiar with and take into account the following drift reduction advisory information. Additional information may be available from state enforcement agencies or the Cooperative Extension on the application of this product.

The best drift management strategy and most effective way to reduce drift potential is to apply large droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (see **Wind; Temperature and Humidity; and Temperature Inversions**).

Controlling droplet size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - **DO NOT** exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid-stream nozzles oriented straight back produce the largest droplets and the lowest drift. **DO NOT** use nozzles producing a mist droplet spray.

Application Height

Making applications at the lowest possible height (aircraft, ground-driven spray boom) that is safe and practical reduces exposure of droplets to evaporation and wind.

Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the application equipment (e.g. aircraft, ground) upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller droplets, etc.).

Wind

Drift potential is lowest between wind speeds of 3 to 10 mph. However, many factors including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 3 mph due to variable wind direction and high inversion potential.

NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud that can move in unpredictable directions due to the light, variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light-to-no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Wind Erosion

Avoid treating powdery, dry, or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.

Production and Established Landscape Ornamentals

PRE-M 3.3 EC can be used in and around field, liner or container nurseries; established ornamentals or gardens; or in general, for grounds maintenance; or parks; around military or other institutions, or commercial establishments; or cemeteries and other similar areas.

Use **PRE-M 3.3 EC** on the following established ornamentals and ground covers planted in noncropland areas such as highway rights-of-way, utility substations, mulch beds, parking areas, statuary or monuments, or similar areas.

Evaluate treated plants for 1 to 2 months prior to applying on a large number of plants. **TO THE EXTENT ALLOWED BY LAW, BASF INTENDS THAT THE USER ASSUMES RESPONSIBILITY FOR ANY CROP DAMAGE OR OTHER LIABILITY.**

Noncropland

Use **PRE-M® 3.3 EC turf herbicide** for preemergence control of most annual grasses and certain broadleaf weeds as they germinate on noncropland areas such as railroad, utility, highway, and pipeline rights-of-way; highway guardrails, delineators, and sign posts; utility substations; petroleum tank farms; pumping installations; fence rows; storage areas; windbreaks and shelterbelts and other similar areas.

For postemergence control of weeds, tank mix combinations of **PRE-M 3.3 EC** plus **Arsenal® herbicide** are recommended. **DO NOT** tank mix with **Arsenal** in California. Determine rates for the tank mix compounds from the product labels of both **PRE-M 3.3 EC** and **Arsenal** prior to use. See **Application Rates** table in **Weed Control in Noncropland Areas (except Lawn and Turfgrass)** for **PRE-M 3.3 EC** rates.

Production and Established Ornamental Instructions and Restrictions¹

Site	Application Instructions and Restrictions
Newly transplanted field-grown nursery stock	<ul style="list-style-type: none"> • DO NOT make over-the-top applications at time of field transplanting. Use shielded sprayer until plantings have been established for one (1) year or more in the field. • DO NOT APPLY until transplants have been watered and soil has been thoroughly packed and settled around transplants. Care must be taken to ensure there are no cracks in the soil where PRE-M® 3.3 EC turf herbicide could come into contact with the roots. • DO NOT APPLY during bud swell, bud break or at time of first flush of new growth. • Direct sprays away from grafted or budded tissue on transplants at all times.
Newly transplanted container-grown nursery stock	<ul style="list-style-type: none"> • DO NOT APPLY until transplants have been watered and soil has been thoroughly packed and settled around transplants. Care must be taken to ensure there are no cracks in the soil where PRE-M 3.3 EC could come into contact with the roots. • For container-grown ornamentals, delay first application of the product to bare root liners for two (2) to four (4) weeks after transplanting. • DO NOT APPLY during bud swell, bud break or at time of first flush of new growth. • Direct sprays away from grafted or budded tissue on transplants at all times.
Established container, field-grown nursery stock	<ul style="list-style-type: none"> • DO NOT APPLY during bud swell, bud break or at time of first flush of new growth. • Apply as a directed or over-the-top spray. • If newly budded or grafted rootstock, make an application using a shielded sprayer. • Care must be taken to ensure there are no cracks in the soil where PRE-M 3.3 EC could come into contact with the roots.
Landscape plantings	<ul style="list-style-type: none"> • DO NOT APPLY to newly transplanted ornamentals until plants have been watered and soil has been thoroughly packed and settled around roots. • Apply as a directed or over-the-top spray. • Use the lowest labeled rate when making applications to annuals. Repeat applications can be made for extended landscape weed control.
Bareground for container placement	<ul style="list-style-type: none"> • Apply to soil (including mulch, gravel, wood chips, or other permeable base) and water in; replace containerized ornamentals onto pad.
Greenhouses, shadehouses or other enclosed structures	<p>DO NOT APPLY in greenhouses, shadehouses or other enclosed structures.</p>
<p>¹ Plant only those desirable plant species listed on this label into soil treated the previous season with PRE-M 3.3 EC or injury may occur.</p>	

Ornamental Tank Mixes

Emerged weeds in ornamentals can be controlled using tank mixes containing **Roundup Pro® herbicide**, **Finale® herbicide**, **Ornamec® herbicide**, **Gallery® herbicide**, **Princep® herbicide**, and other similar products. **DO NOT** apply sprays containing **Roundup Pro** or **Finale** over the top of ornamental plants.

Before tank mixing, use a simple jar test to ensure compatibility of herbicides.

Refer to manufacturer's labels for specific use directions, precautions, and limitations before tank mixing with **PRE-M 3.3 EC** and follow those that are most restrictive.

Tolerant Production and Established Ornamentals

PRE-M® 3.3 EC turf herbicide sprays are safe around and over the top of the listed established plants. However, not all varieties or strains of the listed plants have been tested. Unintentional consequences such as crop injury may result because of certain environmental or growing conditions, manner of use or application. Therefore, before treating a large number of plants, spray a few plants and observe for plant damage prior to full-scale application. Refer to **Weed Control in Noncropland Areas (except Lawn and Turfgrass)** table for rates.

Common Name	Scientific Name
TREES	
Alder, European black	<i>Alnus glutinosa</i>
Apple	<i>Malus</i> spp.
Arborvitae, American	<i>Thuja occidentalis</i>
Arbutus	<i>Arbutus</i> spp.
Ash, red	<i>Fraxinus pennsylvanica</i>
Ash, white	<i>Fraxinus americana</i>
Aspen, bigtooth	<i>Populus grandidentata</i> 'Aspen'
Aspen, quaking	<i>Populus tremuloides</i>
Basswood	<i>Tilia</i> spp.
Birch, European weeping	<i>Betula pendula</i>
Birch, river	<i>Betula nigra</i>
Buckeye, red	<i>Aesculus pavia</i>
Cedar, white	<i>Thuja occidentalis</i>
Chamaecyparis, boulevard	<i>Chamaecyparis pisifera</i>
Cherry, black	<i>Prunus serotina</i>
Cherry, choke	<i>Prunus virginiana</i>
Cherry, Kwanzan	<i>Prunus serrulata</i>
Cherry, Nanking	<i>Prunus tomentosa</i>
Cottonwood	<i>Populus deltoides</i>
Crabapple	<i>Malus</i> spp.
Crape myrtle	<i>Lagerstroemia indica</i>
Cryptomeria, Japanese cedar	<i>Cryptomeria japonica</i>
Cypress, bald	<i>Taxodium distichum</i>
Cypress, Leyland	<i>Cupressocyparis leylandii</i>
Dogwood, flowering	<i>Cornus florida</i>
Dogwood, Korean	<i>Cornus kousa</i>
Dogwood, shrub	<i>Cornus</i> spp.
Dogwood, silky	<i>Cornus amomum</i>
Elm	<i>Ulmus japonica</i>
Fir, balsam	<i>Abies balsamae</i>
Fir, Douglas	<i>Pseudotsuga menziesii</i>
Fir, Fraser	<i>Abies fraseri</i>
Fir, white	<i>Abies concolor</i>
Franklinia	<i>Franklinia</i> spp.
Ginkgo	<i>Ginkgo biloba</i>
Gum, black	<i>Nyssa sylvatica</i>
Gum, sour	<i>Nyssa sylvatica</i>
Haw, black	<i>Viburnum prunifolium</i>
Hawthorn	<i>Crataegus</i> spp.

Common Name	Scientific Name
TREES (continued)	
Hemlock, Canada	<i>Tsuga canadensis</i>
Hemlock, Eastern	<i>Tsuga canadensis</i>
Holly, American	<i>Ilex opaca</i>
Honeylocust	<i>Gleditsia triacanthos</i>
Lilac, common	<i>Syringa vulgaris</i>
Lilac, Japanese tree	<i>Syringa reticulata</i>
Linden	<i>Tilia</i> spp.
Magnolia, saucer	<i>Magnolia soulangiana</i>
Magnolia, Southern	<i>Magnolia grandiflora</i>
Magnolia, star	<i>Magnolia stellata</i>
Maidenhair tree	<i>Ginkgo biloba</i>
Maple, Norway	<i>Acer platanoides</i>
Maple, Japanese	<i>Acer palmatum</i>
Maple, red	<i>Acer rubrum</i>
Maple, sugar	<i>Acer saccharum</i>
Nannyberry, rusty	<i>Viburnum rufidulum</i>
Oak, chinquapin	<i>Quercus muehlenbergii</i>
Oak, live	<i>Quercus virginiana</i>
Oak, pin	<i>Quercus palustris</i>
Oak, red	<i>Quercus rubra</i>
Oak, swamp chestnut	<i>Quercus michauxii</i>
Oak, water	<i>Quercus nigra</i>
Oak, white	<i>Quercus alba</i>
Oak, willow	<i>Quercus phellos</i>
Olive	<i>Olea europaea</i>
Palm, date	<i>Phoenix</i> spp.
Palm, fan	<i>Washingtonia</i> spp.
Palm, pindo	<i>Butia</i> spp.
Palm, Washington	<i>Washingtonia</i> spp.
Peach	<i>Prunus persica</i>
Pear, Bradford	<i>Pyrus calleryana</i> 'Bradford'
Pecan	<i>Carya illinoensis</i>
Pine, Austrian	<i>Pinus nigra</i>
Pine, Italian stone	<i>Pinus pinea</i>
Pine, loblolly	<i>Pinus taeda</i>
Pine, Monterey	<i>Pinus radiata</i>
Pine, red	<i>Pinus resinosa</i>
Pine, Scotch	<i>Pinus sylvestris</i>
Pine, slash	<i>Pinus elliotii</i>
Pine, Virginia	<i>Pinus virginiana</i>
Pine, white	<i>Pinus strobus</i>

Tolerant Production and Established Ornamentals (continued)

Common Name	Scientific Name
TREES (continued)	
Plum, purple leaf	<i>Prunus cerasifera</i>
Poplar, black	<i>Populus nigra</i>
Redcedar, Eastern	<i>Juniperus virginiana</i>
Redcedar, Western	<i>Thuja plicata</i>
Red ironbark	<i>Eucalyptus sideroxylon</i> 'Rosea'
Redwood, dawn	<i>Metasequoia glyptostroboides</i>
Sequoia, giant	<i>Sequoiadendron giganteum</i>
Serviceberry	<i>Amelanchier laevis</i>
Sourwood	<i>Oxydendrum arboreum</i>
Spruce, Colorado blue	<i>Picea pungens</i>
Spruce, dwarf Alberta	<i>Picea glauca</i> 'Albertiana'
Spruce, Norway	<i>Picea abies</i>
Spruce, white	<i>Picea glauca</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Sycamore	<i>Platanus occidentalis</i>
Trachycarpus	<i>Trachycarpus</i> spp.
Tulip tree	<i>Liriodendron tulipifera</i>
Walnut, black	<i>Juglans nigra</i>
Willow, weeping	<i>Salix babylonica</i>
Yellowwood	<i>Cladrastis lutea</i>
SHRUBS	
Abelia, glossy	<i>Abelia grandiflora</i>
Aucuba, gold	<i>Aucuba japonica</i>
Azalea	<i>Rhododendron</i> spp.
Bamboo, heavenly	<i>Nandina domestica</i>
Barberry	<i>Berberis gladwynensis</i>
Barberry, Japanese	<i>Berberis thunbergii</i>
Blue indigo bush	<i>Dalea gregii</i>
Bottlebrush, lemon	<i>Callistemon citrinus</i>
Boxwood, common	<i>Buxus sempervirens</i>
Boxwood, Japanese	<i>Buxus microphylla</i>
Camellia	<i>Camellia japonica</i>
Cape jasmine	<i>Gardenia jasminoides</i>
Cordyline	<i>Cordyline</i> spp.
Correa	<i>Correa</i> spp.
Cotoneaster	<i>Cotoneaster apiculatus</i>
Cotoneaster, bearberry	<i>Cotoneaster dammeri</i>
Cotoneaster, rock	<i>Cotoneaster horizontalis</i>
Cypress, Italian	<i>Cupressus sempervirens</i>
Cypress, Leyland	<i>Cupressocyparis leylandii</i>
Deutzia, slender	<i>Deutzia gracilis</i>
Dogwood, red twig	<i>Cornus sericea</i>

Common Name	Scientific Name
SHRUBS (continued)	
Elaeagnus	<i>Elaeagnus ebbingei</i>
Escallonia	<i>Escallonia fradesii</i>
Euonymus	<i>Euonymus fortunei</i>
Euonymus, golden	<i>Euonymus japonica</i>
Euonymus, winged	<i>Euonymus alata</i>
Firethorn	<i>Pyracantha coccinea</i>
Forsythia, border	<i>Forsythia intermedia</i>
Fragrant olive	<i>Osmanthus fragrans</i>
Fuchsia, California	<i>Zauschneria californica</i>
Gardenia	<i>Gardenia jasminoides</i>
Hawthorne, Indian	<i>Raphiolepis indica</i>
Hibiscus	<i>Hibiscus syriacus</i>
Holly, Chinese	<i>Ilex cornuta</i>
Holly, Fosters	<i>Ilex attenuata</i> 'Fosteri'
Holly, Japanese	<i>Ilex crenata</i>
Holly, Savannah	<i>Ilex attenuata</i>
Holly, yaupon	<i>Ilex vomitoria</i>
Honeysuckle, bush	<i>Diervilla lonicera</i>
Juniper	<i>Juniperus</i> spp.
Juniper, Chinese	<i>Juniperus chinensis</i> v. 'Pfitzerana'
Juniper, shore	<i>Juniperus conferta</i>
Juniper, trailing	<i>Juniperus horizontalis</i>
Laurel, cherry	<i>Prunus laurocerasus</i>
Laurel, mountain	<i>Kalmia latifolia</i>
Laurel, Otto Luyken	<i>Prunus laurocerasus</i>
Laurel, Schipka	<i>Prunus schipkanensis</i>
Laurustinus	<i>Viburnum tinus</i>
Lavender, English	<i>Lavandula angustifolia</i>
Leucothoe	<i>Leucothoe fontanesiana</i>
Leucothoe, coast	<i>Leucothoe axillaris</i>
Lilac, cut-leaf	<i>Syringa laciniata</i>
Lily-of-the-Nile	<i>Agapanthus africanus</i>
Mahonia	<i>Mahonia aquifolium</i>
Mock orange	<i>Pittosporum tobira</i>
Myrtle, compact	<i>Myrtus communis</i>
Myrtle, wax	<i>Myrica cerifera</i>
Nandina	<i>Nandina domestica</i>
Oleander	<i>Nerium oleander</i>
Oregon grape	<i>Mahonia aquifolium</i>
Osmanthus	<i>Osmanthus fragrans</i>
Palm, European fan	<i>Chamaerops humilis</i>
Palm, Mediterranean fan	<i>Chamaerops</i> spp.
Phlox, prickly	<i>Leptodactylon californicum</i>
Photinia, fraser	<i>Photinia x fraseri</i>
Pieris, Japanese	<i>Pieris japonica</i>

Tolerant Production and Established Ornamentals (continued)

Common Name	Scientific Name
SHRUBS (continued)	
Pine, mugo	<i>Pinus mugo</i>
Plum, Natal	<i>Carissa grandiflora</i>
Privet, California	<i>Ligustrum ovalifolium</i>
Privet, glossy	<i>Ligustrum lucidum</i>
Privet, variegated	<i>Ligustrum sinensis</i>
Privet, waxleaf	<i>Ligustrum japonicum</i>
Pyracantha	<i>Pyracantha coccinea</i>
Quince, flowering	<i>Chaenomeles japonica</i>
Ranger, Texas	<i>Leucophyllum frutescens</i>
Redroot	<i>Ceanothus</i> spp.
Rhododendron	<i>Rhododendron</i> spp.
Robira	<i>Pittosporum tobiri</i>
Spice plant	<i>Illicium parviflorum</i>
Spiraea	<i>Spiraea x vanhouttei</i>
Spiraea, Anthony Waterer	<i>Spiraea x bumalda</i>
Spiraea, Japanese	<i>Spiraea japonica</i>
Sweet bay	<i>Laurus nobilis</i>
Trumpet bush	<i>Tecoma stans</i>
Verbena, lemon	<i>Aloysia triphylla</i>
Viburnum	<i>Viburnum suspensum</i>
Vitex	<i>Vitex</i> spp.
Weigela	<i>Weigela florida</i>
Wild lilac	<i>Ceanothus</i> spp.
Xylosma	<i>Xylosma congestum</i>
Yellowbells	<i>Tecoma stans</i>
Yew*	<i>Taxus media</i>
Yew, Japanese*	<i>Taxus cuspidata</i>
Yew, Southern	<i>Podocarpus macrophyllus</i>
Yucca, Adam's	<i>Yucca filamentosa</i>
Yucca, weeping	<i>Yucca pendula</i>
* Applications should not be made during spring growth or injury to the terminals may occur.	

Common Name	Scientific Name
GROUND COVERS	
Ajuga	<i>Ajuga reptans</i>
Capeweed	<i>Arctotheca calendula</i>
Cinquefoil, spring	<i>Potentilla verna</i>
Daisy, trailing African	<i>Osteospermum fruticosum</i>
Gazania	<i>Gazania splendens</i>
Iceplant, large leaf	<i>Carpobrotus edulis</i>
Ivy, English	<i>Hedera helix</i>
Ivy, geranium	<i>Pelargonium peltatum</i>
Jasmine, Asiatic	<i>Trachelospermum asiaticum</i>
Jasmine, primrose	<i>Jasminum mesnyi</i>
Mondograss	<i>Ophiopogon japonica</i>
Myoporum	<i>Myoporum parvifolium</i>
Pachysandra	<i>Pachysandra terminalis</i>
Potentilla	<i>Potentilla fruticosa</i>
Rose-Of-Sharon	<i>Hypericum calycinum</i>
Wintercreeper	<i>Euonymus fortunei</i>
PERENNIALS	
Bleeding heart	<i>Dicentra spectabilis</i>
Calla lily	<i>Zantedeschia aethiopica</i>
Canna, common garden	<i>Canna generalis</i> 'Lucifer'
Chincherinchee	<i>Ornithogalum thyrsoides</i>
Crinum lily	<i>Crinum</i> spp.
Fern, asparagus	<i>Asparagus officinalis</i>
Fern, leatherleaf	<i>Rumohra adiantiformis</i>
Freesia	<i>Freesia x hybrida</i>
Heather, dwarf	<i>Calluna vulgaris</i>
Hosta	<i>Hosta</i> spp.
Lily	<i>Lillium</i> spp.
Liriope, creeping	<i>Liriope spicata</i>
Liriope, variegated	<i>Liriope muscari</i>
Montbretia	<i>Crocasmia crocosmiiflora</i>
Orchid, peacock	<i>Acidanthera bicolor</i>
Peony, Chinese	<i>Paeonia lactiflora</i>
Wisteria	<i>Wisteria</i> spp.
Zephyr lily	<i>Zephyranthes</i> spp.
ORNAMENTAL GRASS	
Beach grass	<i>Ammophila breviflora</i>
Fescue, blue	<i>Festuca ovina</i>
Fescue, sheep	<i>Festuca ovina</i>
Fountain grass	<i>Pennisetum setaceum</i>
Pampas grass	<i>Cortaderia selloana</i>
Reed canary grass	<i>Phalaris arundinacea</i>
Reed, giant	<i>Arundo</i> spp.
Ribbon grass	<i>Phalaris arundinacea</i>
Tufted hair grass	<i>Deschampsia caespitosa</i>

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PRE-M® 3.3 EC turf herbicide may be used on plant species not listed on this label. Determine the suitability for such uses by treating a small number of such plants at the specified rate. Evaluate treated plants 1 to 2 months following treatment for possible injury. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF INTENDS THAT THE USER ASSUMES RESPONSIBILITY FOR ANY CROP DAMAGE OR OTHER LIABILITY.**

DO NOT treat plants grown for food or feed.

DO NOT use treated plants for food or feed.

Christmas Tree Plantations

Use **PRE-M 3.3 EC** for preemergence control of the weed species listed on this label as they germinate in areas planted with the following Christmas trees.

Common Name	Scientific Name
*Austrian pine	<i>Pinus nigra</i>
*Balsam fir	<i>Abies balsamae</i>
Colorado blue spruce	<i>Picea pungens</i>
Douglas fir	<i>Pseudotsuga menziesii</i>
*Scotch pine	<i>Pinus sylvestris</i>
*Virginia pine	<i>Pinus virginiana</i>
White fir	<i>Abies concolor</i>
*White spruce	<i>Picea glauca</i>
* DO NOT use in California.	

PRE-M 3.3 EC can be applied directly over the top of established Christmas trees. **DELAY** applying **PRE-M 3.3 EC** to seedbeds, transplant beds, or bare root liners until plants have become well rooted.

PRE-M 3.3 EC will not control established weeds. Therefore, areas to be treated should be free of established weeds at the time of treatment, or **PRE-M 3.3 EC** may be used in conjunction with herbicides registered for postemergence use in Christmas trees. Consult the labels of those herbicides for suggested treatments, use rates, and precautions or restrictions for use in Christmas trees.

Nonbearing Fruit and Nut Crops and Vineyards

PRE-M 3.3 EC may be applied for preemergence control of most annual grasses and certain broadleaf weeds on the following nonbearing crops. Refer to **Application Rates** table for rates.

Almond	Citrus	Olive	Pistachio
Apple	Fig	Peach	Plum
Apricot	Grape	Pear	Prune
Cherry	Nectarine	Pecan	Walnut, English

Apply the spray directly to the ground below the trees or vines. Care must be taken that soil or planting mixes have settled firmly following transplanting and that there are no cracks that would allow direct contact of **PRE-M 3.3 EC** and roots. Directed sprays where soil and media surfaces are uniformly covered will result in best weed control and plant tolerance. For newly transplanted and one-year-old grapevines, apply only when they are dormant. **DO NOT APPLY** if buds have started to swell. **PRE-M 3.3 EC** may be used where the roots of a fruit, vine, nut, or ornamental plant encroach into a treatable area.

Noncropland Areas (except Lawn and Turfgrass)

For preemergence control of weed species listed in **Weed Control in Noncropland Areas (except Lawn and Turfgrass)** table, apply **PRE-M 3.3 EC** at the following rates.

Application Rates

Length of Control (months)	PRE-M 3.3 EC (qts/A)	Required to Treat 1000 sq ft (fl ozs)
Short-term 2 to 4	2.4	1.8
Long-term 6 to 8	4.8	3.6

The efficacy of **PRE-M 3.3 EC** will be improved if the application is followed by 1/2 inch of rainfall or its equivalent in sprinkler irrigation. If **PRE-M 3.3 EC** is not activated by rainfall or irrigation within 30 days, erratic weed control may result.

PRE-M 3.3 EC will not control established weeds.

The following grass and broadleaf weeds are controlled by preemergence treatments of **PRE-M 3.3 EC** at the specified rates.

**Weed Control in Noncropland Areas
(except Lawn and Turfgrass*)**

Common Name	Scientific Name
GRASS	
Barnyardgrass	<i>Echinochloa crus-galli</i>
Bluegrass, annual	<i>Poa annua</i>
Crabgrass	<i>Digitaria</i> spp.
Crowfootgrass	<i>Dactyloctenium aegyptium</i>
Foxtail, giant	<i>Setaria faberi</i>
Foxtail, green	<i>Setaria viridis</i>
Foxtail, yellow	<i>Setaria lutescens</i>
Goosegrass	<i>Eleusine indica</i>
Itchgrass	<i>Rottboellia exaltata</i>
Johnsongrass (from seed)	<i>Sorghum halepense</i>
Junglerice	<i>Echinochloa colonum</i>
Lovegrass	<i>Eragrostis</i> spp.
Panicum, browntop	<i>Panicum fasciculatum</i>
Panicum, fall	<i>Panicum dichotomiflorum</i>
Panicum, Texas	<i>Panicum texanum</i>
Sandbur, field	<i>Cenchrus incertus</i>
Signalgrass	<i>Brachiaria platyphylla</i>
Sprangletop, Mexican	<i>Leptochloa uninervis</i>
Sprangletop, red	<i>Leptochloa filiformis</i>
Witchgrass	<i>Panicum capillare</i>
Woolly cupgrass	<i>Eriochloa villosa</i>

**Weed Control in Noncropland Areas
(except Lawn and Turfgrass*) (continued)**

Common Name	Scientific Name
BROADLEAF WEEDS	
Burweed, lawn	<i>Soliva ptersoperma</i>
Carpetweed	<i>Mollugo verticillata</i>
Chickweed, common	<i>Stellaria media</i>
Chickweed, mouseear	<i>Cerastium vulgatum</i>
Clover, hop	<i>Trifolium procumbens</i>
Cudweed	<i>Gnaphalium</i> spp.
Evening primrose	<i>Oenothera biennis</i>
Fiddleneck	<i>Amsinckia intermedia</i>
Filaree	<i>Erodium</i> spp.
Henbit	<i>Lamium amplexicaule</i>
Knotweed (prostrate)	<i>Polygonum aviculare</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters	<i>Chenopodium album</i>
Pigweed	<i>Amaranthus</i> spp.
Puncturevine	<i>Tribulus terrestris</i>
Purslane	<i>Portulaca oleracea</i>
Pusley, Florida	<i>Richardia scabra</i>
Rocket, London	<i>Sisymbrium irio</i>
Shepherd's-purse	<i>Capsella bursa-pastoris</i>
Smartweed, Pennsylvania	<i>Polygonum pensylvanicum</i>
Speedwell, corn	<i>Veronica arvensis</i>
Spurge, annual	<i>Euphorbia</i> spp.
Spurge, prostrate/spotted	<i>Chamaesyce masculata</i>
Woodsorrel, yellow	<i>Oxalis stricta</i>
Velvetleaf (Buttonweed)	<i>Abutilon theophrasti</i>

*Refer to **Weed Control in Turfgrass** table for lawn and turf weeds controlled.

Lawns and Turfgrass

PRE-M® 3.3 EC turf herbicide provides preemergence control of most annual grasses and certain broadleaf weeds as they germinate in any turfgrass site (lawns, sod, turf areas). Examples of such sites include but are not limited to: grounds or lawns around residential and commercial establishments; multifamily dwellings; military and other institutions; parks, airports, roadsides, schools, picnic grounds, athletic fields or jogging paths; areas around houses of worship or cemeteries; golf courses; prairiegrass areas; and sod farms.

Turfgrass Types

PRE-M 3.3 EC should only be applied to well-established lawns and turf.

PRE-M 3.3 EC can be used on the following turfgrasses: Bahiagrass, Bermudagrass, centipedegrass, fine fescue, Kentucky bluegrass, perennial ryegrass, St. Augustinegrass, tall fescue, zoysiagrass.

General Turf Information

- Use only on well-established turfgrass with a dense and uniform stand.
- **DO NOT** use on greens or injury may occur.
- **PRE-M® 3.3 EC turf herbicide** treatments will not control established weeds.
- Applications must be made prior to germination of weeds.
- Allow at least 2 months between applications except where indicated in **PRE-M® 3.3 EC turf herbicide Weed Control Rates in Turfgrass**.

Mixing and Application Instructions

Add **PRE-M 3.3 EC** slowly to partially filled tank (1/2 to 3/4 full) of water while agitating; then fill the remainder of the tank with water. **MAINTAIN CONTINUOUS AGITATION WHILE ADDING PRE-M 3.3 EC 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 as needed.

Apply with properly calibrated equipment in sufficient water per acre to provide uniform spray distribution. Low pressure (25 to 50 psi) sprayers are recommended. Avoid application when winds may cause drift.

Compatibility

PRE-M 3.3 EC is compatible with most commonly used herbicides. When **PRE-M 3.3 EC** is used in tank mixture with another herbicide, refer to each label for rates, methods of application, proper timing, weeds controlled, limitations, and precautions. **Always** use in accordance with the more restrictive label limitations and precautions. When tank mixing, first add **PRE-M 3.3 EC** to the partially filled tank and mix thoroughly; then add combination products to the mixture. **DO NOT** apply tank mix combinations unless previous experience indicates the mixture is effective and will not result in application problems or plant injury. **DO NOT** mix **PRE-M 3.3 EC** directly with liquid fertilizer. Premix one part of **PRE-M 3.3 EC** with two parts water and add this diluted mixture slowly into the tank while agitating.

Turfgrass Precautions

- **DO NOT** use on bentgrass, *Poa annua* (putting greens and tees), or on dichondra where these are desired species.
- This product may cause yellowing and thinning of cool season grasses in winter-overseeded turf.
- Delay seeding by 3 months and sprigging by 5 months after application. Prior to seeding or sprigging, disturb or work the soil surface to dilute any remaining chemical residue.

- On newly planted areas, wait until the grass has been mowed at least 4 times and has filled in before applying product.
- On turf that has been severely thinned due to winter damage, excessive soil moisture, low temperature (below 40°F), scalping, insects, disease, etc., wait until turf has filled in and rooting of stolons is complete before applying.
- This product may stain; avoid contact with areas such as sidewalks, driveways, etc. If contact with the spray mixture occurs, promptly rinse with water.
- **PRE-M 3.3 EC** treatments are most effective in controlling weeds when adequate rainfall or overhead irrigation is received within 7 days after irrigation.

Weed Control in Turfgrass

When applied as directed in turfgrass, **PRE-M 3.3 EC** will control the following weed species on turf.

Common Name	Scientific Name
GRASSES	
Annual bluegrass	<i>Poa annua</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Crabgrass	<i>Digitaria</i> spp.
Fall panicum	<i>Panicum dichotomiflorum</i>
Foxtail	<i>Setaria</i> spp.
Goosegrass	<i>Eleusine indica</i>
BROADLEAF WEEDS	
Common chickweed	<i>Stellaria media</i>
Cudweed	<i>Gnaphalium</i> spp.
Evening primrose	<i>Oenothera biennis</i>
Henbit	<i>Lamium amplexicaule</i>
Hop clover	<i>Trifolium procumbens</i>
Knotweed	<i>Polygonum aviculare</i>
Mouseear chickweed	<i>Cerastium vulgatum</i>
Oxalis	<i>Oxalis</i> spp.
Spurge, prostrate/spotted	<i>Chamaesyce masculata</i>
Purslane	<i>Portulaca oleracea</i>

DO NOT exceed a maximum of 7.2 pts/A per application for use on commercial or other nonresidential turfgrass.

The efficacy of **PRE-M 3.3 EC** will be improved if the application is followed by 1/2 inch of rainfall or its equivalent in sprinkler irrigation. If **PRE-M 3.3 EC** is not activated by rainfall or irrigation within 30 days, erratic weed control may result.

To prevent establishment of weeds along the edges of lawns, it may be necessary to overlap the spray three to six inches onto sidewalks or driveways, etc. to ensure effective application rates in these especially vulnerable sites. Where temporary discoloration of pavement is to be avoided, rinse immediately to avoid staining.

Kp/a

Industrial (Unimproved) Turfgrass

Industrial or unimproved turf areas often have an additional spectrum of weeds to control than those found in managed turf. **PRE-M® 3.3 EC turf herbicide** will control these additional annual grasses and broadleaf weeds that might germinate in established grasses in rights-of-way, roadsides, construction sites, parks, substations, lots, or similar areas:

Crowfootgrass, itchgrass, Johnsongrass (from seed), junglerice, lovegrass, browntop panicum, Texas panicum, field sandbur, signalgrass, Mexican sprangletop, red sprangletop, witchgrass, woolly cupgrass, carpetweed, fiddleneck, filaree, kochia, lambsquarters, pigweed, puncturevine, Florida pusley, London rocket, shepherd's-purse, Pennsylvania smartweed, annual spurge, and velvetleaf.

Apply before weeds germinate. A postemergence herbicide such as 2,4-D, MSMA, or similar products may be tank mixed to control established weeds. Apply according to label instructions for the respective products and follow the most restrictive instructions.

Total Vegetation Control

PRE-M 3.3 EC may be tank mixed with **Arsenal® herbicide**, **Plateau® herbicide**, **Roundup Pro® herbicide**, **Karmex® herbicide**, **Finale® herbicide**, **Oust® herbicide**, diuron, or other products to provide bareground, or total vegetation control. **PRE-M 3.3 EC** can be used to provide greater plant selectivity in areas where such action may be desired. Such sites might have roots of landscape vegetation, ornamentals, or desirable trees encroaching into the treated zone. Refer to tank mix partner labels regarding effects on desirable plants.

DO NOT tank mix with **Arsenal** in California.

Applications may be made to existing weeds controlled by the partner herbicide. Recommended rates should be determined from the product labels prior to use. Follow the most restrictive label instructions.

Kochia

Combinations of **PRE-M 3.3 EC** with **Arsenal** or diuron are recommended if control has been a problem for other herbicides. For rates, refer to **PRE-M® 3.3 EC turf herbicide Weed Control Rates in Turfgrass**.

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PRE-M® 3.3 EC turf herbicide Weed Control Rates in Turfgrass¹

Turfgrass	Weed	Product per 1000 sq ft (fl ozs)	Product per acre (pts)	Comments
COOL SEASON GRASS				
Bluegrass, Kentucky Fescue, fine Fescue, tall Ryegrass, perennial	Barnyardgrass Crabgrass Evening primrose Fall panicum Foxtail Hop clover Knotweed Oxalis <i>Poa annua</i> Prostrate spurge Purslane	1.3 to 1.8	3.6 to 4.8	Apply a repeat application of 2.5 to 3.6 pts/A (1 to 1.3 fl ozs/1000 sq ft) after 5 to 8 weeks for extended control or where heavy weed infestations are expected.
	Goosegrass	Residential² Turf Use Only: 1.3 to 1.8	3.6 to 4.8	Apply a repeat application of 3.6 pts/A (1.3 fl ozs/1000 sq ft) if the lower rate was used initially or for extended goosegrass control.
	Goosegrass	Commercial or Other Nonresidential² Turf Use: 1.3 to 2.6	3.6 to 7.2	Apply a repeat application of 3.6 pts/A (1.3 fl ozs/1000 sq ft) if the lower rate was used initially or for extended goosegrass control.
	Chickweed Corn speedwell Cudweed Henbit Lawn burweed <i>Poa annua</i>	1.3 to 1.8	3.6 to 4.8	Apply in late summer or early fall prior to weed germination.
<p>¹ DO NOT exceed a maximum of 4.8 pts/A or 1.8 fl ozs/1000 sq ft per application for use on residential turfgrass.</p> <p>² Residential is defined as turf in any residential situation as well as schools, parks and playgrounds.</p>				

PRE-M® 3.3 EC turf herbicide Weed Control Rates in Turfgrass¹ (continued)

Turfgrass	Weed	Product per 1000 sq ft (fl ozs)	Product per acre (pts)	Comments
WARM SEASON GRASS				
Bahiagrass Bermudagrass Buffalograss Centipedegrass Fescue, tall <i>Paspalum</i> , seashore St. Augustinegrass Zoysiagrass	Barnyardgrass Crabgrass Evening primrose Fall panicum Foxtail Hop clover Knotweed Oxalis <i>Poa annua</i> Prostrate spurge Purslane	Residential² Turf Use Only: 1.3 to 1.8 Initial application prior to weed germination in spring	3.6 to 4.8	Apply a repeat application of 2.5 to 3.6 pts/A (1 to 1.3 fl ozs/1000 sq ft) after 5 to 8 weeks if necessary.
	Goosegrass	1.3 Apply prior to weed germination in spring. Make a second application 6 to 8 weeks later.	3.6	An additional application of 3.6 pts/A (1.3 fl ozs/1000 sq ft) may be made for extended goosegrass control 8 weeks after the second application.
	Chickweed Corn speedwell Cudweed Henbit Lawn burweed <i>Poa annua</i>	1.3 to 1.8	2.6 to 4.8	Apply in late summer or early fall prior to weed germination.
¹ DO NOT exceed a maximum of 4.8 pts/A or 1.8 fl ozs/1000 sq ft per application for use on residential turfgrass. ² Residential is defined as turf in any residential situation as well as schools, parks and playgrounds.				

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