

04/23/2004

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U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (H7505C)
401 "M" St., S.W.
Washington, D.C. 20460

EPA Reg. Number:
53883-149 ✓

Date of Issuance:
APR 23 2004

NOTICE OF PESTICIDE:

Registration
Reregistration

(under FIFRA, as amended)

Term of Issuance:
Conditional

Name of Pesticide Product:
Metolachlor T&O
Herbicide

Name and Address of Registrant (include ZIP Code):

Control Solutions, Inc.
5903 Genoa-Red Bluff
Pasadena, TX 77507-1041

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is registered in accordance with FIFRA sec. 3(c) (7) (A) provided that you:

- 1. Add the phrase "EPA Registration No. 53883-149" to the label before you release the product for shipment.

COMMENTS CONTINUED ON PAGE 2 OF THIS NOTICE OF REGISTRATION

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 under the enclosed stamped copy of the label constitutes acceptance of these conditions.

Enclosure

Joanne I. Miller
Product Manager (23)
Herbicide Branch
Registration Division (7505C)

Signature of Approving Official:

/s/

Date:

APR 23 2004

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Comments Continued:

2. On the front panel on page 1, delete the claim "{optional marketing language}.
3. Correct the typographic error in spelling the word "give" in the the "If Swallowed" statements on page 1.
4. Submit and/or cite all data required for the registration of this product when the Agency requires all registrants of similar products to submit data; and submit acceptable responses required for reregistration of this product under FIFRA, section 4.
5. Submit one (1) copy of the final printed labeling before you release this product for shipment.

A stamped copy of the label is enclosed for your records.

METOLACHLOR T&O
Herbicide

For weed control in nurseries, turf, and landscape plantings {optional marketing language}

Active Ingredient:

S-Metolachlor (CAS No. 87392-12-9)	83.7%
Other Ingredients:	<u>16.3 %</u>
Total:	100.0 %

This product contains 7.62 lbs. active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN
CAUTION
Not For Homeowner Use

First Aid	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the Poison Control Center 800-222-1222.	
IF IN EYES:	<ul style="list-style-type: none"> • 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 ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Do not give any liquid to the person. • 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.
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 by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
In the event of a major spill call 1-800-424-9300 (CHEMTREC)	

NET CONTENT: _____

ACCEPTED
with COMMENTS
in EPA Letter Dated
APR 23 2004

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

53883-249

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

(See additional precautionary statements and directions for use inside booklet.)

CAUTION

Causes moderate eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing. This product may cause skin sensitization reactions in some people.

Personal Protective Equipment

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

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves, such as barrier laminate or viton.
- Shoes plus socks.

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

Engineering Control Statements

Mixers and loaders supporting aerial applications are required to use closed systems. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)]. When using the closed system, the mixers' and loaders' PPE requirements may be reduced or modified as specified in the WPS.

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

User Safety Recommendations

Users should:

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

Environmental Hazards

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

Ground Water Advisory

This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

Surface Water Advisory

S-Metolachlor can contaminate surface water through ground spray drift. Under some conditions,

S-Metolachlor may also have a high potential for runoff into surface water (primarily via dissolution in runoff water) for several months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain to surface water.

Mixing/Loading Instructions

Care must be taken when using this product to prevent back-siphoning into wells, spills, or improper disposal of excess pesticide, spray mixtures, or rinsates.

Check-valves or antisiphoning devices must be used on all mixing and/or irrigation equipment.

This product may not be mixed or loaded within 50 ft. of perennial or intermittent streams and rivers, natural or impounded lakes and reservoirs. This product may not be mixed/loaded or used within 50 ft. of all wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 ft. of any well are prohibited, unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rain water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading sites.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours.

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

- Coveralls.
- Chemical-resistant gloves, such as barrier laminate or viton.
- 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, 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, CROP INJURY, AND/OR ILLEGAL RESIDUES.

Note: Not for sale, use, or distribution in Nassau County or Suffolk County, New York.

GENERAL INFORMATION

METOLACHLOR T&O herbicide controls many annual grasses, certain annual broadleaf weeds, and yellow nutsedge.

METOLACHLOR T&O may be used on commercial and residential warm-season turfgrasses and other noncrop land, including, but not limited to the following: airports, roadsides, golf courses, sports fields, public recreational areas, ornamental gardens, cemeteries, other landscaped areas, etc. METOLACHLOR T&O may also be used in and around container and field-grown ornamentals, nonbearing nursery stock, and on sod farms.

DO NOT USE IN GREENHOUSES OR OTHER ENCLOSED STRUCTURES.

Do not apply under conditions which favor runoff or wind erosion of soil containing this product to nontarget areas.

To prevent off-site movement due to runoff or wind erosion:

1. Avoid treating powdery dry or light sand soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
2. Do not apply to impervious substrates such as paved or highly compacted surfaces.
3. Do not use tailwater from the first flood or furrow irrigation of treated fields to treat nontarget crop unless at least 1/2 inch of rainfall as occurred between application and the first irrigation.

NOTICE TO USER: Plant tolerances to METOLACHLOR T&O herbicide have been found to be acceptable in the specific genera and species listed on this label. Because of the large number of species and varieties of plants, it is impossible to test each for tolerance to METOLACHLOR T&O. Neither the manufacturer nor the seller has determined whether or not METOLACHLOR T&O can be used safely on plants not specified on this label. Therefore, the professional user should determine if METOLACHLOR T&O can be used safely by testing the recommended rates on a particular group of similar unlabeled ornamental plants in a small area before widespread use or by checking with the local weed specialist for guidance. Likewise, if the professional user plans to apply METOLACHLOR T&O for control of weed species not listed on this label, METOLACHLOR T&O should be tested on a small-scale basis before widespread use or the local weed specialist contacted for guidance.

APPLICATION PROCEDURES

Ground Application: Apply METOLACHLOR T&O alone or in tank mixtures by ground equipment in a minimum of 10 gals. of spray mixture per acre, unless otherwise specified.

Use sprayers that provide accurate and uniform application. For METOLACHLOR T&O tank mixtures with wettable powder or dry flowable formulations, screens and strainers should be no finer than 50-mesh. Rinse sprayer thoroughly with clean water immediately after use.

Calculate the amount of herbicide needed for band treatment by the following formula:

Band width in inches		broadcast rate		amount needed
Row width in inches	X	per acre	=	per acre of field

Aerial Application (Sod Farms Only): Apply METOLACHLOR T&O in water alone or in tank mixtures with AAtrex®, Princep®, or other herbicides registered for use on sod farms in a minimum total volume of 2 gals./A by aircraft. See **Turfgrass** section for listing of applicable warm-season grasses. Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. In order to assure that spray will be controllable within the target area when used according to label directions, make applications at a maximum height of 10 ft., using low-drift nozzles at a maximum pressure of 40 psi, and restrict application to periods when wind speed does not exceed 10 mph. To assure that spray will not adversely affect adjacent sensitive nontarget plants, apply METOLACHLOR T&O or METOLACHLOR T&O mixtures at a minimum upwind distance of 400 ft. from sensitive plants.

Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

SPRAY EQUIPMENT

Aerial Drift Management

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

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses, or to applications using dry formulations.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downward 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** section below.

Aerial Drift Reduction Advisory Information

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift

management strategy is to apply the largest 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 the recommended practice. Significant deflection from 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.

Boom Length

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height

Applications should not be made at a height greater than 10 ft. above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment

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

Wind

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 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

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud 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.

Sensitive Areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential bodies of water, known habitat for threatened or endangered species, nontarget crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Overhead or Microjet Irrigation Application: METOLACHLOR T&O alone or in tank mixture with other herbicides which are registered for overhead or microjet application may be applied in irrigation water at rates recommended on this label. Apply this product only through an overhead or microjet irrigation system. Do not apply this product through any other type of irrigation system. Crop injury or lack of effectiveness can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension specialists, equipment manufacturers, or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the pesticide label-prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Operation Instructions

1. The system must contain a functional check-valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. Prepare a mixture with a minimum of 1 part water to 1 part herbicide(s) and inject this mixture into the overhead or microjet system. Injecting a larger volume of a more dilute mixture per hour will usually provide more accurate calibration of metering equipment. Maintain sufficient agitation to keep the herbicide in suspension.
9. Meter into irrigation water during entire period of water application.

10. Apply in 1/2 - 1 inch of water. Use the lower water volume (1/2 inch) on coarse-textured soils and the higher volume (1 inch) on fine-textured soils. More than 1 inch of water at application may reduce weed control by moving the herbicide below the effective zone in the soil.

Precaution for overhead or microjet applications: Where sprinkler distribution patterns do not overlap sufficiently, unacceptable weed control may result. Where sprinkler distribution patterns overlap excessively, injury to desirable plants may result.

Dry Bulk Granular Fertilizers

Many dry bulk granular fertilizers may be impregnated or coated with METOLACHLOR T&O alone or with selected METOLACHLOR T&O tank mixtures which are registered and not prohibited from use on dry bulk granular fertilizers.

When applying METOLACHLOR T&O or METOLACHLOR T&O mixtures with dry bulk granular fertilizers, follow all directions for use and precautions on the respective product labels regarding target crops, rates per acre, soil texture, application methods (including timing of application), and rotational crops.

All individual state regulations relating to dry bulk granular fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company selling the herbicide/fertilizer mixture.

Prepare the granular herbicide/fertilizer mixtures by using any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender. Nozzles used to spray METOLACHLOR T&O or METOLACHLOR T&O tank mixtures onto the fertilizer must be placed to provide uniform spray coverage.

If the herbicide/fertilizer mixture is too wet, use a highly absorptive material, such as Agsorb[®] granules, Microcel E (Johns-Manville Products Corporation), diatomaceous earth, or finely powdered clay, to obtain a dry free-flowing mixture. Add the absorptive material separately and uniformly to the herbicide/fertilizer mixture and blend to form a suitable free-flowing mixture. Generally, less than 2% by weight of absorptive material will be needed.

Calculate amounts of METOLACHLOR T&O and other herbicides needed by the following formula:

2,000					
Lbs. of	X	Pts./A of liquid	=	Pts. of liquid or	
fertilizer per acre		or flowable product		flowable product per	
				ton of fertilizer	
2,000					
Lbs. of	X	Lbs./A of dry	=	Lbs. of dry product	
fertilizer per acre		product		per ton of fertilizer	

Precautions: To avoid potential for explosion, (1) Do not impregnate METOLACHLOR T&O or METOLACHLOR T&O mixtures on ammonium nitrate, potassium nitrate, or sodium nitrate, either alone or in blends with other fertilizers. (2) Do not combine mixtures of METOLACHLOR T&O plus any other herbicide with single superphosphate (0-20-0) or treble superphosphate (0-46-0). (3) Do not use METOLACHLOR T&O or METOLACHLOR T&O mixtures on straight limestone, since absorption will not be achieved. Fertilizer blends containing limestone can be impregnated.

Application

Apply 100-800 lbs. of the herbicide/fertilizer mixture per acre. For best results, apply the mixture uniformly to the soil with properly calibrated equipment immediately after blending. Uniform application of the herbicide/fertilizer mixture is essential to prevent possible crop injury. Nonuniform application may also result in unsatisfactory weed control. In areas where conventional tillage is

practiced, a shallow incorporation of the mixture into the soil may improve weed control. On fine- or medium-textured soils in areas where soil incorporation is not planned, i.e., reduced tillage situations or in some conventional tillage situations, make applications approximately 30 days before planting to allow moisture to move the herbicide/fertilizer mixture into the soil. On coarse-textured soils, make applications approximately 14 days prior to planting.

Precaution: To avoid potential injury of ornamental plants, do not use the herbicide/fertilizer mixture on container-grown plants and where planting beds are being formed.

MIXING PROCEDURES

METOLACHLOR T&O Alone: Mix METOLACHLOR T&O with water or fluid fertilizer and apply as a spray. Fill the spray tank 1/2 - 3/4 full with water or fluid fertilizer, start agitation, add the proper amount of METOLACHLOR T&O, then add the rest of the water or fluid fertilizer. Agitate continuously during mixing and application to maintain a uniform spray mixture.

Tank Mixtures: Fill the spray tank 1/4 full with water or fluid fertilizer and start agitation. (1) Add all products packaged in water-soluble bags first and at the same time. These products **must be mixed in clean water only** (preslurry in water when fertilizer is the main carrier). (2) Continue agitation. Then add water-dispersible granules (WG formulations). Allow the granules to disperse. (3) Add any wet-table powder (WP) formulations to the tank as agitation continues. (4) Add spray adjuvants and spray markers, if needed. Use additives approved for application to turf and ornamentals. Check additive label before use. (5) Add flowable liquids (L) or suspension concentrates (SC). (6) Add METOLACHLOR T&O to the spray tank last. Continue to fill the sprayer with the rest of the water or fluid fertilizer. Maintain agitation in the spray tank until all of the solution has been applied.

When tank mixing METOLACHLOR T&O solutions, allow each product to fully disperse before adding other products. Check compatibility of the mixture using the test described below before mixing in the spray tank.

Note: Before using METOLACHLOR T&O in a tank mix with fluid fertilizer or other registered pesticides, determine the tolerance of the plant species by applying the combination to a limited area during a period of active growth. **Do not use fluid fertilizers as a carrier for applications to container-grown ornamentals.**

Compatibility Test: Check compatibility with herbicide(s) each time before use. Be especially careful when using complete suspension or fluid fertilizers, as serious compatibility problems are more likely to occur. Commercial application equipment may improve compatibility in some instances. The following test assumes a spray volume of 25 gals./A. For other spray volumes, make appropriate changes in the ingredients. Check compatibility using this procedure.

1. Add 1 pt. of water or fertilizer to each of 2 one-qt. jars with tight lids.
2. To **one** of the jars, add 1/4 tsp. or 1.1 milliliters of a compatibility agent approved for this use, such as Compex[®] or Unite[®] (1/4 tsp. is equivalent to 2 pts./100 gals. spray). Shake or stir gently to mix.
3. To both jars, add the appropriate amount of herbicide(s). If more than one herbicide is used, add them separately with dry herbicides first, flowables next, and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix. The appropriate amount of herbicides for this test follows:

Dry herbicides: For each pound to be applied per acre, add 1.5 level teaspoons to each jar.

Liquid herbicides: For each pint to be applied per acre, add 0.5 teaspoon or 2.5 milliliters to each jar.

After adding all ingredients, put lids on and tighten, and invert each jar 10 times to mix. Let the mixtures stand 15 minutes and then look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if the compatibility agent is needed in the spray mixture by comparing the 2 jars. If either mixture separates, but can be readily remixed, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (a) slurry the dry herbicide(s) in water before addition, or (b) add 1/2 of the compatibility agent to the water or fertilizer and the other 1/2 to the emulsifiable concentrate or flowable herbicide before the addition to the mixture. If incompatibility is still observed, do not use the mixture.

4. After conducting the compatibility test, any pesticide wastes should be disposed of according to the instructions given in the **Storage and Disposal** section of this label.

CROP USE DIRECTIONS

Nurseries and Landscape Plantings

Apply METOLACHLOR T&O at rates indicated below to control many annual grasses, certain broadleaf weeds, and yellow nutsedge (see following list). Calibrate applicator equipment before use according to the manufacturer's directions.

Weeds Controlled	Weeds Partially Controlled*
Annual bluegrass Barnyardgrass (watergrass) Crabgrass Crowfootgrass Fall panicum Foxtail millet Giant foxtail Goosegrass Green foxtail Prairie cupgrass Red rice Signalgrass (<i>Brachiaria</i>) Southwestern cupgrass Witchgrass Yellow foxtail Yellow nutsedge Black nightshade Carpetweed Florida pusley Galinsoga Pigweed	Common purslane Groundsel Hairy nightshade Sandbur Seedling Johnsongrass Shattercane Volunteer sorghum

*Control of these weeds can be erratic due partially to variable weather conditions

Application

Apply METOLACHLOR T&O in sufficient carrier to obtain thorough coverage. For liquid carriers, use a minimum of 10 gals./A. Apply before grass, broadleaf weeds, or yellow nutsedge emerge, or after existing weeds or nutsedge plants have been removed. A second application may be needed to provide longer weed control not to exceed a total of 4.2 pts./A (46 ml/1,000 sq. ft.) per year or crop cycle, whichever is less.

Suggested Rates of METOLACHLOR T&O

Soil Texture	Pts./A*	ml/1,000 sq. ft.
COARSE	1.3 - 2.0	14 - 21
MEDIUM	1.3 - 2.0	14 - 21
FINE	2.0 - 2.6	21 - 28

*Use higher rates for a given soil texture on high organic matter soils and where yellow nutsedge and/or a heavy infestation of weeds is expected. Use the lower rates on soils with low organic matter content and where light infestations of weeds are expected. In peat and muck soils and soils highly enriched with organic matter (i.e., sawdust) and/or synthetic mixes, the activity of METOLACHLOR T&O may be reduced.

If banded applications are used, refer to the **General Information** section of this label to calculate the amount of METOLACHLOR T&O needed.

Precautions: (1) To avoid plant injury, do not apply METOLACHLOR T&O to seedbeds, cutting beds, or unrooted cuttings before transplanting or to plants until the soil has firmly settled around roots. (2) When METOLACHLOR T&O is applied broadcast over-the-top of plant foliage, follow with sufficient overhead irrigation to wash METOLACHLOR T&O from the foliage to reduce the chance of injury.

METOLACHLOR T&O has been found to be safe on the following plants:

Container-Grown Plants

Scientific Name	Common Name/Variety
<i>Abelia grandiflora</i>	Glossy Abelia
<i>Acer rubrum</i>	Red Maple
<i>Ajuga reptans</i>	Ajuga
<i>Aucuba japonica variegata</i>	Variegated Aucuba
<i>Betula nigra</i>	River Birch
<i>Buxus</i> spp.	Boxwood
<i>Carex</i> spp.	Carex
<i>Cornus</i> spp.	Dogwood
<i>Cotoneaster</i> spp.	Cotoneaster
<i>Euonymus fortunei</i>	Euonymus
<i>Euonymus kiautschovicus</i>	Manhattan Euonymus
<i>Forsythia</i> spp.	Forsythia
<i>Gardenia jasminoides</i>	Gardenia
<i>Hedera helix</i>	English Ivy
<i>Hosta lancifolia</i>	Variegated Hosta
<i>Ilex attenuata</i>	Savannah Holly
<i>Ilex cornuta</i>	Dwarf Burford Holly
<i>Ilex crenata</i>	Japanese Holly
<i>Juniperus chinensis</i>	Chinese Juniper
<i>Juniperus horizontalis</i>	Juniper
<i>Juniperus sabina</i>	Hick's Juniper/Foemina
<i>Juniperus virginiana</i>	Eastern Red Cedar
<i>Kalmia</i> spp.	Mountain Laurel
<i>Leucothoe fontanesiana</i>	Leucothoe
<i>Ligustrum japonicum</i>	Ligustrum or Privet
<i>Liriope muscara</i>	Liriope
<i>Liriope spicata</i>	Green Liriope
<i>Myrica cerifera</i>	Wax Myrtle
<i>Ophiopogon japonicus</i>	Mondo Grass
<i>Pachysandra terminalis</i>	Japanese Pachysandra
<i>Pinus strobus</i>	White Pine

Scientific Name	Common Name/Variety
<i>Pinus thunbergii</i>	Japanese Black Pine
<i>Pittosporum tobira</i>	Pittosporum
<i>Quercus phellos</i>	Willow Oak
<i>Rhododendron catawbiense</i>	Catawba Azalea
<i>Rhododendron indica</i>	Formosa/Indica Azalea
<i>Rhododendron obtusum</i>	Kurume Azalea
<i>Taxus cuspidata</i>	Yew
<i>Thuja occidentalis</i>	Globe Arborvitae
<i>Tsuga canadensis</i>	Hemlock
<i>Viburnum</i> spp.	Viburnum
<i>Yucca</i> spp.	Yucca

Field- and Liner*-Grown Plants and Plants in Landscape Plantings

*Plants transplanted normally in rows in a nursery or similar area for further growth before transplanting to final growing location (place of establishment).

Scientific Name	Common Name/Variety
<i>Abelia</i> spp.	Glossy Abelia
<i>Abies</i> spp.	Fir
<i>Acer</i> spp.	Maple
<i>Achillea</i> spp.	Yarrow
<i>Agapanthus africanus</i>	African Lily
<i>Ageratum</i> spp.	Blue Ageratum
<i>Ajuga reptans</i>	Ajuga
<i>Allium</i> spp.	Allium
<i>Allyssum</i> spp.	Allyssum
<i>Antirrhinum majus</i>	Snapdragon
<i>Aquilegia</i> spp.	Columbine
<i>Artemesia stoleriana</i>	Dusty Miller
<i>Asclepias</i> spp.	Milkweed
<i>Aster</i> spp.	Aster
<i>Aucuba</i> spp.	Aucuba
<i>Berberis</i> spp.	Barberry
<i>Betula</i> spp.	Birch
<i>Bougainvillea</i> spp.	Bougainvillea
<i>Buxus</i> spp.	Boxwood
<i>Camellia</i> spp.	Camellia
<i>Campanula carpatica</i>	Bellflower
<i>Canna indica</i>	Canna Lily
<i>Carex</i> spp.	Carex
<i>Chrysanthemum</i> spp.	Chrysanthemum, Daisy
<i>Citrus</i> spp.**	Citrus**
<i>Coreopsis</i> spp.	Coreopsis
<i>Cornus</i> spp.	Dogwood
<i>Cortaderia selloana</i>	Pampas Grass
<i>Cotoneaster</i> spp.	Cotoneaster
<i>Crocus</i> spp.	Crocus
<i>Cryophytum crystallium</i>	Ice Plant
<i>Cytisus racemosus</i>	Sweet Broom
<i>Daucus carota</i>	Queen Anne's Lace
<i>Delphinium</i> spp.	Delphinium
<i>Dianthus barbatus</i>	Sweet William

Scientific Name	Common Name/Variety
<i>Eleagnus</i> spp.	Eleagnus
<i>Endymion</i> spp.	Endymion
<i>Escallonia fradesii</i>	Escallonia
<i>Euonymus</i> spp.	Euonymus
<i>Ficus</i> spp.	Fig
<i>Forsythia</i> spp.	Forsythia
<i>Fraxinus</i> spp.	Ash
<i>Gaillardia</i> spp.	Gaillardia
<i>Gardenia jasminoides</i>	Gardenia
<i>Gazania splendoens</i>	Gazania Gold Rush
<i>Gelsemium sempervirens</i>	Carolina Jessamine
<i>Geranium</i> spp.	Geranium
<i>Geum</i> spp.	Geum
<i>Gingko biloba</i>	Gingko
<i>Gladiolus x hortulanus</i>	Gladiolus
<i>Gleditsia triacanthos</i>	Honey Locust
<i>Hedera</i> spp.	English Ivy
<i>Hemerocallis</i> spp.	Daylily
<i>Hibiscus</i> spp.	Hibiscus
<i>Hosta lancifolia</i>	Hosta
<i>Hyacinthus</i> spp.	Hyacinth
<i>Hydrangea</i> spp.	Hydrangea
<i>Hypericum</i> spp.	St. John's Wort
<i>Ilex</i> spp.	Holly
<i>Illicium</i> spp.	Spicebush
<i>Impatiens</i> spp.	Impatiens
<i>Iris</i> spp.	Iris
<i>Jasmine</i> spp.	Jasmine
<i>Juniperus</i> spp.	Juniper
<i>Kalmia</i> spp.	Kalmia
<i>Lagerstroemia</i> spp.	Crepe Myrtle
<i>Leucothoe</i> spp.	Leucothoe
<i>Ligustrum</i> spp.	Privet
<i>Lilium</i> spp.	Lily
<i>Liquidambar</i> spp.	Sweetgum
<i>Liriodendron tulipifera</i>	Tulip Tree
<i>Liriope</i> spp.	Liriope
<i>Lonicera</i> spp.	Honeysuckle
<i>Lupinus</i> spp.	Lupines
<i>Lythrum</i> spp.	Loosestrife
<i>Magnolia</i> spp.	Magnolia
<i>Malus</i> spp.**	Crabapple, Apple**
<i>Mesembryanthemum crystallinum</i>	Ice Plant
<i>Morea</i> spp.	Fortnight Lily
<i>Muscari armeniacum</i>	Muscari
<i>Myrica</i> spp.	Wax Myrtle
<i>Nandina domestica</i>	Bamboo
<i>Narcissus</i> spp.	Narcissus
<i>Nerium oleander</i>	Oleander
<i>Oenothera</i> spp.	Primrose
<i>Ophiopogon japonicus</i>	Mondo Grass
<i>Ornithogalum umbellatum</i>	Star of Bethlehem
<i>Osmanthus</i> spp.	Osmanthus
<i>Pachysandra</i> spp.	Pachysandra
<i>Pelargonium x hortorum</i>	Geranium

Scientific Name	Common Name/Variety
<i>Petunia</i> spp.	Petunia
<i>Phlox</i> spp.	Phlox
<i>Photinia</i> spp.	Photinia
<i>Physocarpus</i> spp.	Ninebark
<i>Physostegia</i> spp.	Physostegia
<i>Picea</i> spp.	Spruce
<i>Pieris japonica</i>	Japanese Andromeda
<i>Pinus</i> spp.	Pine
<i>Pittosporum</i> spp.	Pittosporum
<i>Podocarpus</i> spp.	Podocarpus
<i>Populus</i> spp.	Poplar
<i>Potentilla</i> spp.	Potentilla (Cinquefoil)
<i>Prunus</i> spp.**	Cherry**
<i>Pseudotsuga menziesii</i>	Douglas Fir
<i>Pyracantha</i> spp.	Firethorn
<i>Pyrus</i> spp.**	Pear**
<i>Quercus</i> spp.	Oak
<i>Raphiolepis</i> spp.	Indian Hawthorne
<i>Rhododendron</i> spp.	Rhododendron/Azalea
<i>Robinia</i> spp.	Locust
<i>Rosa</i> spp.	Rose
<i>Rumohra adiantiformis</i>	Leatherleaf Fern
<i>Salix</i> spp.	Willow
<i>Scilla</i> spp.	Scilla
<i>Sedum</i> spp.	Stone Crop
<i>Senecio doronicum</i>	Leopard's-bane
<i>Spiraea</i> spp.	Spiraea
<i>Stachys</i> spp.	Stachys
<i>Statice sinnata</i>	Annual Statice
<i>Symphoricarpos</i> spp.	Snowberry
<i>Syringa</i> spp.	Lilac
<i>Tagetes</i> spp.	Marigold
<i>Taxodium distichum</i>	Bald Cypress
<i>Taxus</i> spp.	Yew
<i>Ternstroemia gymanathera</i>	Cleyera
<i>Thuja</i> spp.	Arborvitae
<i>Tsuga</i> spp.	Hemlock
<i>Tulipa</i> spp.	Tulip
<i>Veronica</i> spp.	Veronica
<i>Viburnum</i> spp.	Viburnum
<i>Vinca</i> spp.	Periwinkle
<i>Viola x Wittrockiana</i>	Pansy
<i>Washingtonia robusta</i>	Mexican Fan Palm
<i>Weigela</i> spp.	Weigela
<i>Wisteria senensis</i>	Wisteria
<i>Yucca</i> spp.	Yucca
<i>Zinnia</i> spp.	Zinnia

**Do not apply to trees or plants that will bear harvestable fruit within 12 months, or illegal residues may result.

METOLACHLOR T&O may be applied in tank mixtures with Barricade®, Factor®, Goal®, Princep, Ronstar®, Roundup®, or other compatible herbicides registered for use on ornamentals. Refer to the respective product labels for weeds controlled and for plants on which they are registered for use. When applying METOLACHLOR T&O in tank mixtures, observe the more restrictive directions for use, precautions, and limitations on this label or the respective tank mix product

label.

Turfgrass

Warm Season Grasses (Bermudagrass, Centipedegrass, St. Augustinegrass, Bahiagrass, and Zoysiagrass) including Commercial St. Augustinegrass Sod Production.

Do not use METOLACHLOR T&O on turfgrasses in New York State.

Apply METOLACHLOR T&O **before weeds emerge**. Since soil moisture is necessary to activate METOLACHLOR T&O, irrigate with 1/2 inch of water if rainfall does not occur within 7 days after treatment (See following Precautions).

Weeds Controlled

Scientific Name	Common Name	Rate of METOLACHLOR T&O*
Cyperus compressus	Annual sedge	
Cyperus esculentus	Yellow nutsedge	
Digitaria ischaemum	Smooth crabgrass	2.6 pts./A (see Notes)
Digitaria sanguinalis	Large crabgrass	
Leptochloa fascicularis	Bearded sprangletop	
Leptochloa uninervia	Mexican sprangletop	1.3 - 2.6 pts./A (see Notes)
Poa annua	Annual bluegrass	

*1.0 pt./A = 11 ml/1,000 sq. ft.
 1.3 pts./A = 14 ml/1,000 sq. ft.
 2.6 pts./A = 28 ml/1,000 sq. ft.

Notes: (1) Split rate of applications can be made at rates not less than 1 pt./A. (2) Do not apply more than once every 6 weeks. (3) For commercial sod production, do not apply more than 4.2 pts./A per year to the same area used for sod production. (4) For other turf uses, do not apply more than 2.6 pts./A per year.

Precautions for all uses on turf: Delayed spring green-up, temporary slowing of growth and yellowing may occur following application. To avoid turf injury, (1) Application of a nitrogen-containing fertilizer at or soon after applying METOLACHLOR T&O will minimize delay in spring green-up and any temporary yellowing; (2) use only on turfgrass not under stress from infestations of insects, nematodes, or diseases; (3) do not use on golf greens, tees, or aprons; (4) do not seed or overseed with desirable turfgrass 4 months before or after treatment, and (5) do not apply this product to newly seeded grasses until they have overwintered and have a well-developed rhizome system. (6) Before using METOLACHLOR T&O in the tank mix with fluid fertilizer or other registered pesticides, determine the tolerance of the turf species by applying the combination to a limited area during a period of active growth. (7) In turfgrass areas which have heavy thatch, the weed control of METOLACHLOR T&O may be reduced.

Note: To avoid possible illegal residues, do not graze or feed turf clippings to animals.

STORAGE AND DISPOSAL

Pesticide Disposal (1 Gal. and 30 Gal.)

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Wastes resulting from the use of this product are toxic. Improper disposal of unused pesticide, spray mixture, or rinsate is a violation of federal law. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state, or local procedures. For guidance in proper disposal methods, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office.

Container Disposal (1 Gal.)

Do not reuse empty container. Triple rinse (or equivalent), puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. Keep out of smoke from burning containers.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

Container Disposal (30 Gal.)

Refer to label container for disposal instructions.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

**CONDITIONS OF SALE
AND LIMITATION OF WARRANTY AND LIABILITY**

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of CONTROL SOLUTIONS, INC. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold CONTROL SOLUTIONS, INC. and Seller harmless for any claims relating to such factors.

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(EPA submit 03-05-04)