



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

NOV - 3 2004

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Mr. Dan Campbell  
Syngenta crop Protection, Inc.  
P. O. Box 18300  
Greensboro, NC 27419

Dear Mr. Campbell:

Subject: Mesotrione/Aceto chlor 3.5 CS (Add Yellow Poplar and Other Changes)  
EPA Registration No. 100-1142  
Application Dated August 20, 2004

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act as amended is acceptable, provided you release the product for shipment.

1. At the beginning of the list of Personal Protective Equipment (PPE) within the Precautionary Statements, add the statements "Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

2. Incorporate the following bulk container language into your Storage and Disposal section.

When the container is empty, replace the cap and seal all openings that have been opened during use, and return the container to the point of purchase, or to an alternate location designated by the registrant at the time of purchase of this product. If not returned to the point of purchase or to a designated location, triple rinse or pressure rinse the empty container and offer for recycling if available.

## Instructions for Users and Refillers

The container must only be refilled with this pesticide product. **Do not Reuse the Container for Any other Purpose.** Do not transport if this container is damaged or leaking if the container is damaged, leaking, or obsolete, or to obtain information about recycling refillable containers, contact **(insert company name)** at **(insert phone number)**. Cleaning is not necessary prior to refilling with the same product. Clean container before final disposal. Disposal of this container must be in compliance with state and local regulations.

Instructions for Refillers

Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. If the container can not be refilled, triple rinse or pressure rinse the empty container and offer for recycling if available.

Submit two (2) copies of your final printed labeling incorporating the above changes before you release the product for shipment. Amended labeling supercedes all previously accepted ones. A stamped copy of labeling is enclosed for your records.

Sincerely,

*James A. Tompkins*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505C)

**RESTRICTED USE PESTICIDE  
Due to Oncogenicity**

For retail sale to and use only by Certified Applicators, or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.

This product is a restricted use herbicide due to oncogenicity concerns.

**Mesotrione/Aceto chlor 3.5 CS  
Selective Herbicide**

A Preemergence Herbicide for Control of Annual Grass and Broadleaf Weeds in Field Corn, Production Seed Corn, and Silage Corn

**Active Ingredients:**

Aceto chlor: 2-chloro-2'-methyl-6'-ethyl-N-ethoxymethylacetanilide .....	35.0%
Mesotrione: 2-[4-(methysulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione .....	3.1%
<b>Other Ingredients:</b>	<b>61.9%</b>
<b>Total:</b>	<b>100.0%</b>

Contains 3.29 pounds aceto chlor and 0.29 pounds mesotrione active ingredient per gallon.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

See additional precautionary statements and directions for use inside booklet

EPA Reg. No. 100-1142

EPA Est.

SCP 1142 MAS

\_\_\_\_ gallons  
Net Contents

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated:**

**NOV - 3 2004**

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.  
100-1142

<b>FIRST AID</b>	
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p>	
<p><b>HOT LINE NUMBER</b>            For 24 Hour Medical Emergency Assistance (Human or Animal)            or Chemical Emergency Assistance (Spill, Leak, Fire or Accident),            Call  <b>1-800-888-8372</b></p>	

---

## **PRECAUTIONARY STATEMENTS**

---

### **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

#### **CAUTION**

Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing.

## Personal Protective Equipment

### Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical resistant gloves. – Category A (e.g., barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC) or viton)
- Shoes plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

Acetochlor is toxic to fish. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Acetochlor demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the groundwater is shallow may result in groundwater contamination.

Groundwater contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

## Surface Water Advisory

Acetochlor has properties that may result in surface water contamination via dissolved

runoff and runoff erosion. Practices should be followed to minimize the potential for dissolved runoff and/or runoff erosion.

This product may contaminate water through drift of spray in the wind. This product has high potential for runoff several weeks after application. Poorly drained soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

### **Physical and Chemical Hazards**

Do not use or store near heat or open flame.

---

**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 SYNGENTA CROP PROTECTION, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and Buyer and User assume the risk of any such use. SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall SYNGENTA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

## **DIRECTIONS FOR USE**

### **Restricted Use Pesticide**

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 12 hours.** Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

- coveralls over long-sleeved shirt and long pants,
- socks and chemical resistant footwear, and
- chemical-resistant gloves – Category A (e.g. barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC) or viton).

---

**STORAGE AND DISPOSAL**

---

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

**Pesticide Storage**

Keep container tightly closed when not in use. Do not store near seeds, fertilizers, or food stuffs. Keep away from heat and flame. Can be stored at temperatures as low as minus 30°F.

**Pesticide Disposal**

Opening dumping is prohibited. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Rinse spray equipment. Pesticide wastes are acutely hazardous. 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**

Do not reuse empty container. Triple rinse (or equivalent) then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**For Bulk and Mini-Bulk Containers****Container Disposal**

Reseal container and offer for reconditioning, or triple rinse (or equivalent) and offer for recycling or reconditioning, or clean in accordance with manufacturer's instructions.

**Container Precautions**

Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices.

**For Mini-Bulk Containers**

REFILL ONLY WITH Mesotrione/Aceto chlor 3.5 CS selective herbicide. The contents of this container cannot be completely removed by cleaning. Refilling with materials other than Mesotrione/Aceto chlor 3.5 CS will result in contamination and may weaken container.

After filling and before transporting, check for leaks.

Do not refill or transport damaged or leaking container.

Circulation before dispensing is required.

**CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!**

---

### **USE RESTRICTIONS**

---

- Do not apply to the following soils if groundwater depth is 30 ft. or less: sand with less than 3% organic matter, loamy sand with less than 2% organic matter, or sandy loam with less than 1% organic matter.
- This product may not be mixed/loaded or used within 50 ft. of any wells, including abandoned wells, drainage wells, or sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas.
- 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 washwater, and rainwater 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 site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.
- Do not apply this product through any type of irrigation system.
- Do not use flood irrigation to apply or incorporate this product.
- Product must be used in a manner which will prevent back siphoning in wells, spills or improper disposal of excess pesticide, spray mixtures or rinsates.

- Do not apply under conditions which favor runoff or wind erosion of soil containing this product to non-target areas. To prevent off-site movement due to runoff or 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.
  - Do not apply to impervious substrates such as paved or highly compacted surfaces or frozen or snow covered soils.
  - Do not use tailwater from the first flood or furrow irrigation of treated fields to treat non-target crops unless at least ½ inch of rainfall has occurred between application and the first irrigation.
- Do not apply this product using aerial application equipment.
- Do not apply when wind conditions favor drift to non-target sites. To minimize spray drift to non-target areas:
  - Use low-pressure application equipment capable of producing a large droplet spray.
  - Do not use nozzles that produce a fine droplet spray.
  - Minimize drift by using sufficient spray volume to ensure adequate coverage with large droplet size sprays.
  - Keep ground-driven spray boom as low as possible above the target surface.
  - Make application when the wind velocity favors on-target product deposition (approximately 3-10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid application when gusts approach 15 mph.
- Low humidity and high temperatures increase the likelihood of spray drift to sensitive areas. Avoid spraying during conditions of low humidity and/or high temperatures. Do not apply during inversion conditions.

---

#### **GENERAL USE PRECAUTIONS**

---

Read all label directions before using.

- This product is intended only for preemergence use in corn.
- Do not use Mesotrione/Aceto chlor 3.5 CS on any crop other than field corn, production seed corn, silage corn, or yellow popcorn.
- Mesotrione/Aceto chlor 3.5 CS should not be used on sweet corn, white popcorn, ornamental (Indian) corn, or corn seed stock such as Breeders, Foundation, or Increase.

- Do not apply Mesotrione/Aceto chlor 3.5 CS postemergence.
- Do not contaminate irrigation water used for crops other than corn or water used for domestic purposes.
- Do not apply Mesotrione/Aceto chlor 3.5 CS before pre-irrigation in irrigated areas.
- Avoid drift onto adjacent crops
- Do not allow Mesotrione/Aceto chlor 3.5 CS to contaminate feed or food.
- Mesotrione/Aceto chlor 3.5 CS should not be stored near seeds, fertilizers, or foodstuffs.
- All containers of Mesotrione/Aceto chlor 3.5 CS should be kept tightly closed when not in use.
- Applied according to directions and under normal growing conditions, Mesotrione/Aceto chlor 3.5 CS will not harm the treated crop. During germination and early stages of growth, extended periods of unusually cold and wet or hot and dry weather, insect or plant disease attack, carryover pesticide residues, the use of certain soil applied systemic insecticides, improperly placed fertilizers or soil insecticides may create abnormal conditions that weaken crop seedlings. Mesotrione/Aceto chlor 3.5 CS used under these abnormal conditions could result in crop injury.
- Do not tank mix Mesotrione/Aceto chlor 3.5 CS with atrazine or atrazine containing products.
- Do not apply other mesotrione containing products (e.g., Callisto®, Camix®, Lexar™, or Lumax®) to ground that has been treated with Mesotrione/Aceto chlor 3.5 CS in the same season.

---

## **GENERAL INFORMATION**

---

For use only on field corn, production seed corn, silage corn, and yellow popcorn. Corn in this label refers to three types only: field corn, production seed corn, silage corn, and yellow popcorn.

Mesotrione/Aceto chlor 3.5 CS is a unique combination of the herbicides aceto chlor and mesotrione plus the corn safener dichlormid. While the aceto chlor and mesotrione provides weed control, the dichlormid safens corn against aceto chlor injury. Aceto chlor CS/Mesotrione 3.5 CS may be applied to the surface or incorporated into the top 1-2 inch layer of soil. Aceto chlor CS/ Mesotrione 3.5CS will not control grasses which are

emerged at the time of application. It is recommended for control alone, or in tank mix combinations as indicated, for the weeds listed in the Table 4.

Mesotrione/Aceto chlor 3.5 CS controls weeds by interfering with normal germination and seedling development. Mesotrione/Aceto chlor 3.5 CS does not control established or germinated weeds present at application.

### **Resistance Management**

Naturally occurring biotypes of certain broadleaf weed species with resistance to triazines or ALS herbicides are known to exist. However, no known resistance to this herbicide exists and there are no known instances of cross resistance between this herbicide and other classes of herbicides. If biotypes of weeds resistant to triazines or ALS inhibitors are present in the field, this herbicide should control them if they are listed in Table 4.

To help reduce the risk of resistance development to this herbicide product, do not use other mesotrione containing herbicides (e.g., Callisto, Camix, Lexar, or Lumax) in the same season, on the same field, where Mesotrione/Aceto chlor 3.5 CS has been applied.

### **Integrated Pest (Weed) Management**

Mesotrione/Aceto chlor 3.5 CS should be integrated into an overall weed and pest management strategy whenever the use of a herbicide is required. Practices known to reduce weed development (tillage, crop competition) and herbicide use (weed scouting, proper application timing, banding) should be followed wherever possible. Consult local agricultural and weed authorities for additional IPM strategies established for your area.

### **Soil Texture and Organic Matter**

The soils are grouped into three classes: coarse, medium, and fine. Once the soil type has been determined, the texture group can be found in Table 1.

**Table 1. Soil Texture Groupings for Mesotrione/Aceto chlor 3.5 CS Use Rate Selection**

Coarse	Medium	Fine
Sand	Loam	Silty Clay Loam
Loamy Sand	Silt	Sandy Clay Loam
Sandy Loam	Silt Loam	Silty Clay
		Sandy Clay
		Clay Loam
		Clay

The soil texture and organic matter of the field on which the application is to be made must be determined prior to application. The use rate of Mesotrione/Aceto chlor 3.5 CS is determined by a combination of these two factors.

#### Use Rates in Conventional Tillage Systems

The soil texture and organic matter level of the field on which Mesotrione/Aceto chlor 3.5 CS is to be applied should be determined prior to selecting the rate from Table 2.

**Table 2. Mesotrione/Aceto chlor 3.5 CS Use Rates by Soil Texture and Organic Matter Content in Conventional Tillage Systems. Rates are in Quarts per Acre.**

Soil Texture	Soil Organic Matter Content	
	Less than 3%	3% or Greater
Coarse	2.0-2.25 qts.	2.25-2.75 qts.
Medium	2.0-2.75 qts.	2.5-3 qts.
Fine	2.5-3.3 qts.	2.5-3.3 qts.

These rates are for application within 14 days prior to planting.

**Organic Matter:** If the organic matter content of the soil is at the lower end of the range, use the lower rates in the rate range given in Table 2. If the organic matter content is at the upper end of the range, use the higher rates given in the rate range.

**Weed Infestation:** If the weed infestation is light, use a rate at the lower end of the rate range for the soil texture and organic matter content. If the weed infestation is heavier, use the higher rates in the rate range for the soil.

#### Use Rates For Reduced and No-Till Systems

Mesotrione/Aceto chlor 3.5 CS may be used in reduced and no-till systems. The highest levels of control will be obtained when applications are made as close to planting as possible. It is recommended that a burndown herbicide such as Gramoxone® Max,

Touchdown®, Roundup®, or 2,4-D be tank mixed with Mesotrione/Aceto chlor 3.5 CS in reduced or no-till systems if weeds are present at application.

**Table 3.<sup>1</sup> Mesotrione/Aceto chlor 3.5 CS Use Rates by Soil Texture and Application Timing in Reduced and No-Till Systems. Rates are in Quarts per Acre.**

Soil Texture	Time of Application Relative to Planting		
	10-14 Days Before Planting	Less than 10 Days Before or After Planting	At or After Planting But Before Emergence
Coarse	Do not apply more than 14 days before planting in coarse textured soils	2.0-2.5 qts.	2.0-2.5 qts.
Medium	2.5 qts.	2.5 qts.	2.5 qts.
Fine	2.5-3.3 qts.	2.5-3.3 qts.	2.5-3.3 qts.

<sup>1</sup>Rates are for single applications. Mesotrione/Aceto chlor 3.5 CS may be split-applied. If the rate is split, apply 60% of the recommended rate up to 14 days before planting. The remaining 40% should be applied at or after planting.

#### **Weeds Controlled**

Mesotrione/Aceto chlor 3.5 CS applied as directed in this label will control or suppress the weeds listed in Table 4. Additional weeds may be controlled with tank mixes. See the **Mesotrione/Aceto chlor 3.5 CS Tank Mix Combinations** section for recommended tank mix combinations. Always consult the tank mix product labels for specific rates and use directions. Always follow the most restrictive label when tank mixing Mesotrione/Aceto chlor 3.5 CS with another product. You may tank mix Mesotrione/Aceto chlor 3.5 CS with any other registered corn product (excluding atrazine) as long as compatibility is verified and it is not prohibited by the other product label.

**Table 4. Weeds Controlled or Partially Controlled by Mesotrione/Aceto chlor 3.5 CS at Recommended Use Rates**

Common Name	Weed Type <sup>1</sup>	Scientific Name	C = Control PC = Partial Control
Black nightshade	B	<i>Solanum nigrum</i>	C
Carpetweed	B	<i>Mollugo verticillata</i>	C
Cocklebur, common	B	<i>Xanthium strumarium</i>	PC
Ragweed, common	B	<i>Ambrosia artemisiifolia</i>	C
Ragweed, giant	B	<i>Ambrosia trifida</i>	PC
Florida pusley	B	<i>Richardia scabra</i>	C
Galinsoga	B	<i>Galinsoga parviflora</i>	C
Hairy nightshade	B	<i>Solanum sarachoides</i>	C
Kochia	B	<i>Kochia scoparia</i>	PC
Jimsonweed	B	<i>Datura stramonium</i>	C
Lambsquarters, common	B	<i>Chenopodium album</i>	C
Morningglory, ivyleaf/ entireleaf	B	<i>Ipomoea hederacea</i>	PC
Palmer amaranth	B	<i>Amaranthus palmeri</i>	C
Prickly sida	B	<i>Sida spinosa</i>	C
Purslane, common	B	<i>Portulaca oleracea</i>	C
Redroot pigweed	B	<i>Amaranthus retroflexus</i>	C
Smartweed, Pennsylvania	B	<i>Polygonum pensylvanicum</i>	C
Smartweed, ladysthumb	B	<i>Polygonum persicaria</i>	C
Waterhemp, common	B	<i>Amaranthus tuberculatus</i>	C
Waterhemp, tall	B	<i>Amaranthus rudis</i>	C
Velvetleaf	B	<i>Abutilon theophrasti</i>	C
Barnyardgrass	G	<i>Echinochloa crus-galli</i>	C
Broadleaf signalgrass	G	<i>Brachiaria platyphylla</i>	C <sup>3</sup>
Browntop panicum	G	<i>Panicum fasciculatum</i>	C
Crabgrass	G	<i>Digitaria</i> spp.	C
Crowfootgrass	G	<i>Dactyloctenium aegyptium</i>	C
Fall panicum	G	<i>Panicum dichotomiflorum</i>	C
Field sandbur	G	<i>Cenchrus incertus</i>	PC
Foxtail millet	G	<i>Setaria italica</i>	C
Giant foxtail	G	<i>Setaria faberi</i>	C
Goosegrass	G	<i>Eleusine indica</i>	C
Green foxtail	G	<i>Setaria viridis</i>	C
Prairie cupgrass	G	<i>Eriochloa contracta</i>	C
Red rice	G	<i>Oryza sativa</i>	C
Red sprangletop	G	<i>Leptochloa filiformis</i>	C
Robust foxtail (purple, white)	G	<i>Setaria</i> spp.	C

Common Name	Weed Type <sup>1</sup>	Scientific Name	C = Control PC = Partial Control
Seedling johnsongrass	G	<i>Sorghum halepense</i>	PC
Shattercane	G	<i>Sorghum bicolor</i>	PC
Southwestern cupgrass	G	<i>Eriochloa gracilis</i>	C
Texas panicum	G	<i>Panicum texanum</i>	C <sup>3</sup>
Wild proso millet	G	<i>Panicum miliaceum</i>	PC
Witchgrass	G	<i>Panicum capillare</i>	C
Woolly cupgrass	G	<i>Eriochloa villosa</i>	PC
Yellow foxtail	G	<i>Setaria glauca</i>	C
Yellow nutsedge <sup>2</sup>	S	<i>Cyperus esculentus</i>	C

<sup>1</sup>B=Broadleaf, G=Grass, S=Sedge

<sup>2</sup>Yellow nutsedge requires a minimum of 3½ qts. Incorporation will improve control.

<sup>3</sup>Best control is achieved when Mesotrione/Acetoachlor 3.5 CS is applied within 5 days of planting and rainfall occurs shortly after application or mechanical incorporation is used to activate the herbicide. If it does not rain within 7 days, shallow cultivation will enhance activity. Excessive rainfall after application may reduce control. Under adverse weather conditions and/or heavy infestations, a cultivation or follow-up herbicide may be needed.

### Rotational Crops

Corn may be replanted immediately, if lost. Do not apply additional Mesotrione/Acetoachlor 3.5 CS.

Do not rotate to crops other than corn, soybeans, sorghum, wheat, or tobacco the year following application of Mesotrione/Acetoachlor 3.5 CS. Wheat may be planted 4 months after application. If applied after June 1, do not rotate to crops other than corn or sorghum, the next season, or crop injury may occur. For all other crops, wait 18 months.

---

### APPLICATION PROCEDURES

---

In reduced or no-till systems, a burndown herbicide such as Gramoxone Max, Roundup, Touchdown, or 2,4-D may be tank mixed with Mesotrione/Acetoachlor 3.5 CS if emerged weeds are present at the time of application.

**Early Preplant:** On medium and fine textured soils, Mesotrione/Acetoachlor 3.5 CS may be applied up to 14 days prior to planting.

**Sprinkler Irrigation:** *Do not apply Mesotrione/Acetoachlor 3.5 CS by sprinkler irrigation.* Use a sprinkler system only to incorporate Mesotrione/Acetoachlor 3.5 CS after

application. After Mesotrione/Aceto chlor 3.5 CS has been applied, a sprinkler irrigation system set to deliver  $\frac{1}{4}$  -  $\frac{3}{4}$  in. of water per acre may be used to incorporate the product. Using more than  $\frac{3}{4}$  in. of water could result in reduced performance. On sandy soil low in organic matter, use no more than  $\frac{1}{2}$  in. of water. Do not use flood irrigation to apply or incorporate Mesotrione/Aceto chlor 3.5 CS.

**Preemergence Surface:** Mesotrione/Aceto chlor 3.5 CS and certain tank mixes may be applied to the soil surface as a broadcast or banded application. Precipitation or sprinkler irrigation is necessary to bring Mesotrione/Aceto chlor 3.5 CS into contact with germinating seeds. If rain or sprinkler irrigation does not occur within 7 days after application, weed control may be improved by using a rotary hoe, or similar device, to incorporate the herbicide. Do not remove Mesotrione/Aceto chlor 3.5 CS from the weed control zone or dilute it with untreated soil. The device used should be run at a shallow depth to prevent disturbing the corn seed.

**Banding Preemergence:** Mesotrione/Aceto chlor 3.5 CS and certain tank mixtures may be applied in a 10-15 in. band after corn planting but prior to corn emergence. If rain or sprinkler irrigation does not occur within 7 days after application, weed control may be improved by using a rotary hoe or similar device to incorporate the herbicide. Do not remove Mesotrione/Aceto chlor 3.5 CS from the weed control zone or dilute it with untreated soil. Do not disturb the germinating corn.

**Band Applications:** For band applications, using row and band width measurements in inches, calculate the amount to be applied per acre as follows:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Rate per acre for a broadcast treatment} = \text{Amount needed per acre}$$

## Planting

Planting should be done as close to the time of application of Mesotrione/Aceto chlor 3.5 CS as possible. This allows Mesotrione/Aceto chlor 3.5 CS to provide effective weed control during the time it is most critical in the production of corn.

## Cultivation

Cultivation should be delayed as long as possible. Should weeds develop, a shallow cultivation or rotary hoeing will generally result in improved weed control. If Mesotrione/Aceto chlor 3.5 CS was incorporated, cultivate less than half the depth of incorporation.

If cultivation is necessary due to soil crusting, compaction or escaped weeds, adjust equipment to run shallow and minimize soil movement. This will decrease the possibility of diluting or moving the herbicide from the weed control zone.

---

## MIXING PROCEDURES

---

### Carrier

**Liquids:** Either water or liquid fertilizers excluding suspension fertilizers may be used as carriers. If fluid fertilizers are used, a physical compatibility test must be done before combining in the spray tank. See **Procedure for Testing the Compatibility of Mesotrione/Acetoachlor 3.5 CS and Tank Mixes With Fluid Fertilizers** section for details of the compatibility testing procedure. Even if Mesotrione/Acetoachlor 3.5 CS is physically compatible with a fluid fertilizer, constant agitation is necessary to maintain a uniform mixture during application. A longer agitation period may be required when using cold water from sources such as deep wells.

### Adding to Spray Tank

The spray tank must be clean, thoroughly rinsed and decontaminated before adding either Mesotrione/Acetoachlor 3.5 CS alone or with tank mix combinations. If water is used as the carrier, use clean water.

**Used Alone:** When Mesotrione/Acetoachlor 3.5 CS is used alone, add the recommended amount to the spray tank when the tank is half filled, then add the rest of the water or fluid fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

**Tank Mixed:** Refer to the sections on this label for recommended tank mixes. Always refer to labels of the other pesticide products for mixing directions and precautions which may differ from those outlined here. Use in accordance with the most restrictive of label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. If a tank mixture is used, it is recommended that a compatibility test be done before actual tank mixing. See **Procedure For Testing the Compatibility of Mesotrione/Acetoachlor 3.5 CS and Tank Mixes With Fluid Fertilizers** section for details on the procedure for such a test.

Once compatibility is confirmed for the tank mix, fill the tank half full. Start and continue agitation throughout mixing. All return lines to the spray tank must discharge below the liquid level. Add components in the following order of formulation:

- If a wettable powder or dry flowable formulation is used, make a slurry with water and add it slowly through the screen into the tank. Agitate during the procedure.
- If a flowable formulation is used, add slowly through screen into the tank. Mixing and compatibility may be improved when the flowable is diluted with water before adding to the tank.
- Add Mesotrione/Acetoachlor 3.5 CS next.

- Add Gramoxone Max, Touchdown, Roundup, Warrior® and/or 2,4-D and a nonionic surfactant last, if needed.
- Complete filling the sprayer tank and continue agitation.
- Batches should be mixed and applied the same day.

### **Volume**

**Liquid:** Use a minimum water volume of 10 gals./A in broadcast boom equipment for ground applications.

### **Pressure**

If liquid carriers are used, the pressure at the nozzle should be 15-40 psi to ensure good distribution in the spray pattern. Use appropriate nozzles and 50-mesh or coarser screens, if needed. Maintain agitation to ensure the mixture is suspended in the spray tank.

### **Procedure For Testing the Compatibility of Mesotrione/Aceto chlor 3.5 CS and Tank mixes with Fluid Fertilizers**

Since fluid fertilizers vary, the following procedure is suggested for determining whether Mesotrione/Aceto chlor 3.5 CS may be combined with a specific fluid fertilizer for spray tank application.

### **Materials Needed**

- Mesotrione/Aceto chlor 3.5 CS and any tank mix products.
- Fluid fertilizer to be used.
- Adjuvant for fertilizer tank mix: Use any adjuvant cleared for use on growing crops under 40 CFR 180.1001 to improve the compatibility of Mesotrione/Aceto chlor 3.5 CS with fluid fertilizers. The adjuvant which provides the best emulsification depends on the specific fertilizer under consideration.
- Two 1 qt. wide-mouth jars with lid or stopper.
- Measuring spoons (a 25 ml. pipette or graduated cylinder provides more accurate measurement).
- Measuring cup, 8 ozs. (257 ml.).

## Procedure

1. Pour a pint (about 473 ml.) of the fluid fertilizer into each of the quart jars.
2. Add Mesotrione/Acetoachlor 3.5 CS and any tank mix combination to the jars. The order of addition is wettable powders first with mixing, followed by flowables with mixing, and the EC's last. The rate of wettable powders and dry flowables is 1½ tsp. per pound of product per acre to be applied. EC's should be added at the rate of ½ tsp. for each pint per acre to be applied. Premixing the wettable powders in 1 oz. of water before adding to the pint of fluid fertilizer will improve the compatibility of the final mixture.
3. Add ½ tsp. (2 ml.) adjuvant to one of the jars, label it as "with", and mix. The rate of ½ tsp. per pt. is equal to 3 pts. of adjuvant per 100 gals. of fluid fertilizer.
4. Close both jars with lids or stoppers and mix the contents by turning the jars upside down ten times.
5. Inspect the surface and body of the mixtures:
  - a) Immediately after completing the jar inversions.
  - b) After allowing the jars to stand quietly for 30 minutes.
  - c) And then again after turning the jars upside down 10 times after the 30 minute inspection.

## Evaluation

If either mixture remains uniform for 30 minutes, the combination may be used. Should either mixture separate after 30 minutes, but readily remix uniformly with 10 jar inversions, the mixture can be used if adequate agitation is maintained in the tank. If the mixture with adjuvant is satisfactory but the one without adjuvant is not, be sure to use the adjuvant in the spray tank. Add the adjuvant first at a rate of 3 pts./100 gals. of fluid fertilizer. Foaming may be minimized by using moderate agitation. **IF NONDISPERSIBLE OIL, SLUDGE, OR CLUMPS OF SOLIDS FORM IN THE MIXTURES, THE COMBINATION SHOULD NOT BE USED.**

---

## CROP USE DIRECTIONS

---

### Mesotrione/Acetoachlor 3.5 CS Tank Mix Combinations

#### Use of Spray Adjuvants

Mesotrione/Acetoachlor 3.5 CS is a preemergence herbicide for which spray adjuvants have little or no influence on performance. However, several herbicides used in tank mixtures with Mesotrione/Acetoachlor 3.5 CS require use of adjuvants to aid in the

burndown of emerged weeds. Use only those adjuvants to aid in the burndown of emerged weeds and approved for agricultural crop use. Surfactants and/or low rate fertilizer (28%, 30% or 32% UAN or ammonium sulfate) adjuvants may be used with tank mixes applied preplant or preemergence to the crop.

### Preemergence Tank Mix Combinations

Tank mix combinations may be used in either conventional, reduced or no-till systems and be applied by the same methods and at the same timings as Mesotrione/Acetoachlor 3.5 CS unless otherwise specified in the tank mix product label. Three way tank mixtures are allowed if not restricted by the respective product labels. Check all tank mix product labels for proper rates for three way tank mixes.

#### Conventional Tillage

Tank Mix Examples	Rate (Max.)	Comments
Lorox® DF	See label	Enhanced lambsquarter and pigweed control
Warrior	3.84 fl. oz./A	For control of many insects such as cutworm

Perform compatibility test and check the product label for directions and precautions.

#### Reduced or No-Till Corn

Tank Mix Examples	Rate (Max)	Comments
Banvel®/Clarity®	See label	Burndown existing weeds
Gramoxone Max	2.7 pts./A	Burndown existing weeds
Roundup brands	See label	Burndown existing weeds
Touchdown brands	See label	Burndown existing weeds
2,4 D	See Label	Burndown existing weeds
Warrior	3.84 fl. oz./A	For control of many insects such as cutworm

Perform compatibility test and check the product label for directions and precautions.

### Mesotrione/Acetoachlor 3.5 CS and Gramoxone Max, Touchdown, Roundup, or 2,4-D

In reduced or no-till corn, Gramoxone Max, Touchdown, Roundup, and/or 2,4-D will burndown existing weeds. Gramoxone Max should be applied to emerged weeds when they are small. Weeds 1 to 6 inches in height are the easiest to control. Large weeds may be more difficult to control. Consult the Gramoxone Max, Touchdown, Roundup, or 2,4-D product label for further information on weeds controlled.

Gramoxone Max is a RESTRICTED USE pesticide. Refer to the Gramoxone Max label for further directions, precautions, and limitations relative to its use.

Callisto®, Camix®, Gramoxone® Max, Lexar™, Lumax®, Touchdown®, Warrior® and the Syngenta logo are trademarks of a Syngenta Group Company

Banvel® and Clarity® trademarks of BASF Ag Products

Lorox® DF is a trademark of E.I. duPont de Nemours & Co., Inc.

Roundup® trademark of Monsanto Company

©2004 Syngenta

For non-emergency information (e.g., current product information), call  
Syngenta Crop Protection at 1-800-334-9481

Syngenta Crop Protection, Inc.  
Greensboro, North Carolina 27409  
[www.syngenta-us.com](http://www.syngenta-us.com)

SCP 1142 MAS

MESO-ACETO 3.5CS 1142 CLEAN – pd – 08/19/04  
000100-01142.20040820.MESO-ACETO-1142-AMEND-0804.pdf