

ASSERT[®]

herbicide

For Use in Wheat,
Barley and Sunflowers

ACTIVE INGREDIENTS:

m-Toluic acid, 6-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-methyl ester and
p-Toluic acid, 2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)methyl ester 27.0%

INERT INGREDIENTS 73.0%

TOTAL 100.0%

EPA Reg. No. 241-285

(One gallon contains 2.5 lbs of active ingredient)

EPA Est. No. 327F1-MO-3

KEEP OUT OF REACH OF CHILDREN
DANGER! PELIGRO!

PRECAUCION AL USUARIO: Si usted no lee inglés,
no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

STATEMENT OF PRACTICAL TREATMENT

- If in eyes:** Hold eyelids open and flush with a steady gentle stream of water for 15 minutes. Get medical attention.
- If swallowed:** Drink promptly a large quantity of milk, egg white, gelatin solution, or if these are not available, large quantities of water. Avoid alcohol. Get medical attention.
- If on skin:** Wash thoroughly with soap and water. Get medical attention if irritation persists.
- Note to Physician:** Probable mucosal damage may contraindicate the use of gastric lavage.
- See Inside For Additional Precautionary Statements. See Inside For Directions For Use**

In case of an emergency endangering life or property involving this product,
call collect, day or night (201) 835-3100.

Net Contents: 2.5 Gallons
(9.6 liters)

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CYANAMID
American Cyanamid Company
Agricultural Division
Crop Protection Chemicals Dept.
Wayne, NJ 07470 01280

10/89



PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND
DOMESTIC ANIMALS**

DANGER

**Corrosive, Causes
Irreversible Eye Damage**

DANGER: Do not get in eyes. Wear goggles and gloves when handling. Avoid contact with skin and clothing. Avoid breathing vapor or spray mist. Use with adequate ventilation. Wash thoroughly after handling with soap and water. Remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

DO NOT apply directly to any body of water or wetlands. **DO NOT** contaminate water when disposing of equipment washwaters.

DIRECTIONS FOR USE

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

ASSERT should be used only in accordance with recommendations on this label.

Do Not apply this product through any type of irrigation system.

Observe all cautions and limitations on this label and on the labels of products used in combination with ASSERT. American Cyanamid Company will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by American Cyanamid. User assumes all risks associated with such non-recommended use. Keep container closed to avoid spills and contamination.

STORAGE AND DISPOSAL

Keep from freezing. Do not store below 32°F. Ice will form if the container is at 5°F (-15°C). If ice occurs from prolonged storage at temperatures of 5°F (-15°C) or below, place container at room temperature until ice melts. Stability of ASSERT is not affected by freezing and thawing.

DO NOT contaminate water, food or feed by storage or disposal. **DO NOT** mix or store in unlabeled containers.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Follow proper 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: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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PRECAUTIONARY STATEMENTS

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GENERAL INFORMATION

Use of ASSERT herbicide in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible.

EQUIPMENT APPLICATION INSTRUCTIONS

The spray equipment must be clean and properly calibrated before treatments are applied. For best results, use flat fan nozzles and a pressure of 20 to 40 psi to achieve uniform spray distribution and minimize drift. **DO NOT** use flood jet nozzles. Keep the by-pass line on or near the bottom of the tank to minimize foaming. An antifoaming agent may be added to the tank if needed.

In ground applications, check nozzles for even distribution of spray droplets.

In aerial applications, it is recommended that a flagman be located at each end of the field, or an automatic mechanical tagging unit be attached to the aircraft to ensure uniform aerial application.

MIXING INSTRUCTIONS

Fill tank one half to three quarters full with clean water.

When using ASSERT alone, add ASSERT to the partially filled tank while agitating. When ASSERT is thoroughly mixed, fill remainder of tank with water and surfactant while agitating.

When using ASSERT with a broadleaf herbicide, add the broadleaf herbicide first to the partially filled tank while agitating. When the broadleaf herbicide is thoroughly mixed, add ASSERT to the tank, then complete filling the tank with water and surfactant while agitating. **Maintain continuous agitation until spraying is completed.**

The addition of a non-ionic surfactant of at least 80% active ingredient is required. For each gallon per acre of spray solution, add 0.3 fluid ounces of a non-ionic surfactant. Use a recommended surfactant registered for use on crops. An antifoaming agent may be added to the tank if needed.

APPLICATIONS WITH LIQUID FERTILIZERS

Liquid fertilizers can be applied with ASSERT alone or in combination with MCPA ester¹, 2,4-D ester² or Bromoxynil³, MCPA ester¹, Bromate⁴ to wheat and barley. Follow all ASSERT label recommendations regarding timing of application, special instructions and precautions. Apply the ASSERT liquid fertilizer combination with a minimum of 5 gallons of spray solution per acre with aircraft or a minimum of 8 gallons per acre with ground equipment.

NOTE: Herbicides can increase contact burn of fertilizers on plant foliage. Reduced gallons of fertilizer per acre may decrease leaf burn. **DO NOT** allow ASSERT to remain overnight in a liquid fertilizer solution.

Individual state regulations relating to liquid fertilizer mixing, registration, labeling and application are the responsibility of

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individual and/or company selling the ASSERT liquid fertilizer mixture.

LIQUID FERTILIZER COMPATIBILITY DETERMINATIONS

Liquid fertilizer and herbicide(s) mixture separates in the spray tank. Jugged equipment and uneven application can result, which can cause poor weed control and crop injury. Always predetermine the compatibility of ASSERT alone or with other herbicides in the specific liquid fertilizer to be used according to the following directions:

Add 1 pint of liquid fertilizer to each of 2 one quart jars

Add 1/2 teaspoon of adjuvant* to one jar

- (a) When using ASSERT alone, add to each jar the correct amount of ASSERT as specified in the table below. (b) When using ASSERT tank mixtures, first add the specified quantity of MCPA ester, 2,4-D ester, or Bromoxynil + MCPA ester (Bronate) and then add the correct amount of ASSERT.

Close both jars and shake thoroughly for 10 seconds. Let them stand for 30 minutes and then observe the results. Look for signs of separation, an oily layer or globules, sludge, flakes or other precipitates.

Determine compatibility

- (a) If the mixture without adjuvant does not separate, use this mixture in your spray tank.
- (b) If the mixture with adjuvant does not separate, but the one without adjuvant separates, use the adjuvant mixture in your spray tank. Add the adjuvant to the liquid fertilizer as directed on the manufacturer's label.
- (c) If either mixture separates, but mixes readily with shaking, the mixture can be used providing good agitation is maintained in the spray tank.
- (d) If separation of the mixture occurs, and agitation and/or adjuvant does not correct this problem, DO NOT use the herbicide(s) in that specific liquid fertilizer.

Gallons of Liquid Fertilizer plus Water to be Applied per Acre	Teaspoons of Specific Herbicide to be Added to 1 pint of Liquid Fertilizer Solution			
	ASSERT	MCPA ester	2,4-D ester	Bronate
5	3	2	2	2
10	1 1/2	1	1	1
15	3/4	1/2	1/2	1/2

SPRAYING INSTRUCTIONS

Uniformly apply the recommended ASSERT or ASSERT tank mixture 8 or more gallons of water per acre with ground equipment or in 5 more gallons of water per acre by aircraft. Avoid overlapping, and shut off spray booms while starting, turning, slowing or stopping, or injury to the crop or rotational crops may result. DO NOT allow spray drift onto adjacent crops as injury may occur.

IMPORTANT

DO NOT make more than one application of ASSERT per growing season. DO NOT graze treated fields or cut treated forage for silage or hay. Wheat or barley straw may be fed or used for bedding.

FOLLOW CROP RESTRICTIONS

The following rotational crops may be planted after applying ASSERT at recommended rates in wheat, barley and sunflowers:

Soybean	Corn	Edible beans	Potatoes
Safflower	Wheat	Barley	Sunflowers

If ASSERT and Glean⁵, ASSERT and Ally⁵, or ASSERT and Harmony⁵ are applied during the same year, follow the most restrictive precautions, directions and recropping rotation limitations that appear on the respective product labels.

DO NOT plant sugar beets for at least 20 months following an ASSERT application. DO NOT plant other rotational crops for at least 15 months following an ASSERT application. Land should be deep plowed prior to planting other crops.

Use of ASSERT herbicide in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible.

WHEAT AND BARLEY

ASSERT is a selective herbicide for the postemergence control of wild oats and certain broadleaved weeds in wheat and barley. Apply ASSERT postemergence to wheat (including durum) and barley from the 2 leaf stage, but before development of the first internode (jointing).

ASSERT alone or in combination can be applied by ground equipment or aircraft.

Maximum weed control with ASSERT alone or in combination is obtained when temperature, moisture, fertility and cultural practices provide favorable conditions for active plant growth. Thorough uniform spray coverage is required to maximize weed control.

ASSERT rapidly inhibits growth of susceptible weeds; however, typical symptoms (discoloration, or dying weeds) may not be noticeable for 2-4 weeks after application. Weeds hardened by cold weather or drought stress may not be fully controlled and regrowth may occur. Increase spray solution and surfactant under these conditions.

WEEDS CONTROLLED:

Field pennycress, Fanweed (*Thlaspi arvense*)
 Flixweed (*Descurainia sophia*)
 London rocket (*Sisymbrium irio*)
 Roughstalk bluegrass (*Poa trivialis*)
 Tansymustard (*Descurainia pinnata*)
 Wild oats (*Avena fatua*)
 Wild mustard (*Brassica kaber*)
 *Catchweed bedstraw (*Galium aparine*)
 *Tartary buckwheat (*Fagopyrum tataricum*)
 *Wild buckwheat (*Polygonum convolvulus*)

*When ASSERT is applied up to the 3 leaf stage, plants stop growing, resulting in a non-competitive plant.

HERB

Additional weeds can be controlled when ASSERT is tank-mixed with MCPA ester (Bronate), Glean, Ally, or Harmony. See recommended label rates and directions.

NOTE: Follow the most restrictive precautions, directions and recropping rotation limitations that appear on the respective product labels. Tank mixtures of ASSERT and MCPA ester or 2,4-D ester are not recommended.

DO NOT tank-mix ASSERT with MCPA ester, 2,4-D ester, or Bromoxynil + MCPA ester (Bronate) or with Glean, Ally, or Harmony.

RATES AND DIRECTIONS

For wild oats population, use a minimum spray volume of 8 gallons per acre.

EAST COAST

Use ASSERT at 1.5 pints per acre in tank mixtures with MCPA ester (Bronate), Glean, Ally, or Harmony. See recommended label rates and directions. Use the high rate if weeds have initiated tillering.

WEST COAST

Use ASSERT at 1.5 pints per acre in tank mixtures with MCPA ester (Bronate), Glean, Ally, or Harmony. See recommended label rates and directions. Use the high rate if weeds have initiated tillering.

The label instructions are reliable and should be followed. Injury, ineffectiveness, or the use or application of ASSERT under such risks shall be assumed by the user.

American Cyanamid Company is not responsible for the use of ASSERT under such risks.

Any damages arising from the use of ASSERT, such as loss of profits, shall be assumed by the user.

American Cyanamid Company does not warrant MERCHANTABILITY.

*MCPA ester is sold under the name Bronate.

*2,4-D ester is sold under the name Glean.

*Bromoxynil + MCPA ester is sold under the name Bronate.

*Glean, Ally, and Harmony are registered trademarks of American Cyanamid Company.

*Tartary buckwheat is a variety of buckwheat.

INTERTOX is a registered trademark of American Cyanamid Company.

BINATIONS:

heat and barley when ASSERT ester, Bromoxynil + MCPA ester M at manufacturer's recommendation.

cautions, directions and recrop appear on the respective product applied prior to the development of the crop.

ester unless the crop is fully with Banvel[®] or amine formula-

APPLICATION

25 plants per square foot use per acre

MOUNTAINS

(19-24 fl oz A) alone or in ester, Bromoxynil + MCPA ester M at manufacturer's recommendation. is in the 1-4 leaf stage of spray volume if the wild oats

MOUNTAINS

fl oz (A) alone or in tank mix. Bromoxynil + MCPA ester M at manufacturer's recommendation. is in the 1-4 leaf stage of

DISCLAIMER

product reflect the opinion of experts based on field use and tests. The directions are believed to be. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop consequences may result because of such factors as weather conditions, presence of other materials, contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All

is only that the material contained herein conforms to the chemical description on the label and is used when used in accordance with the directions for use, subject to the risks referred to above.

Warranty shall be limited to direct damages and shall not include consequential commercial damages, other special or indirect damages.

to other express or implied warranty, including other express or implied warranty of FITNESS or of

*Curtail M is a trademark of The Dow Chemical Company

*Banvel is a trademark of Sandoz Crop Protection Corp.

*Eptam is a trademark of ICI Americas, Inc.

*PROWL is a trademark of American Cyanamid Company

*Treltan is a trademark of Elanco Products Company



American Cyanamid Company
Agricultural Division
Crop Protection Chemicals Department
Wayne, NJ 07470
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Patents: U.S.A. 4744161 4680080 4592572 4675062 Canada 422793 and others

SUNFLOWERS

ASSERT herbicide is a selective herbicide for the postemergence control of wild mustard and wild oats in sunflowers. Apply ASSERT postemergence to sunflowers not under drought stress, from the 2 to 8 leaf stage of growth (sunflowers must be less than 15 inches high). Maximum weed control with ASSERT is obtained when temperature, moisture, fertility and cultural practices provide favorable conditions for active plant growth. Uniform spray coverage is required for maximum weed control.

WEEDS CONTROLLED:

Wild mustard (*Rapistrum caaberi*)

Wild oats (*Avena fatua*)

TIMING AND RATES OF APPLICATION

For optimum wild mustard control apply ASSERT at 0.6 to 0.8 pints per acre (9.6 to 12.8 fl. oz. A) when the majority of wild mustard plants are in the rosette stage and prior to bloom.

For wild oat control apply ASSERT at 1.2 pints per acre (19 fl. oz. A) when the majority of wild oat plants are in the 1-4 leaf stage of growth. ASSERT may be applied following application of a soil applied herbicide registered for use in sunflowers such as Amben[®], Eptam[®], PROWL[®], Treltan[®].

ASSERT

herbicide

For Use In Wheat, Barley and Sunflowers

ACTIVE INGREDIENTS: *m*-Toluidic acid, 6-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-methyl ester and *p*-Toluidic acid, 2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-methyl ester

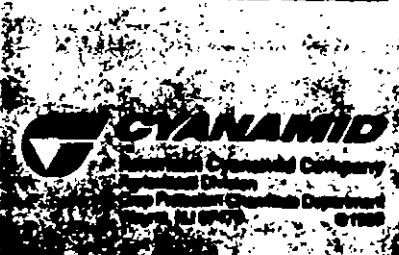
2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-methyl ester 27.8%
INERT INGREDIENTS 73.0%
TOTAL 100.0%

(This gallon contains 2.5 lbs of active ingredient)

EPA Reg. No. 241-285
EPA Est. No. 32761-MO-3

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Net Contents: 2.5 Gallons (9.5 Liters)

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KEEP OUT OF REACH OF CHILDREN DANGER! / PELIGRO!

STATEMENT OF PRACTICAL TREATMENT

If in eyes: Hold eyelids open and flush with a steady gentle stream of water for 15 minutes. Get medical attention.

If swallowed: Drink promptly a large quantity of milk, egg white, gelatin solution, or if these are not available, large quantities of water. Avoid alcohol. Get medical attention.

If on skin: Wash thoroughly with soap and water. Get medical attention if irritation persists. Note to Physician: Probable mucosal damage may contraindicate the use of washing, lavage.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

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ENVIRONMENTAL HAZARDS

DO NOT apply directly to any body of water or wetlands. DO NOT contaminate water when disposing of equipment washwaters.

DIRECTIONS FOR USE

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See Inside Leaflet For Disclaimer