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7969-136

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEC 16 1999

Mr. Mel Graben
Registration Scientist
BASF CORPORATION
P. O. Box 13528
Research Triangle Park, NC 27709-3528

SUBJECT: Label Amendment
Marksman Herbicide, EPA Reg. No. 7969-136
Your Application Dated November 17, 1999

The above mentioned amendment submitted in connection with registration under Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable provided that you:

Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:

1. The "Hazards to Humans" section should be revised as follows:

"CAUTION: Causes moderate eye irritation. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin or clothing. Avoid breathing spray mist."

2. Under the "PPE" section under "Mixers and Loaders must wear:" Delete the following "Discard clothing and other absorbent materials that have been drenched or heavily contaminate with this product's concentrate. Do not re-use them."

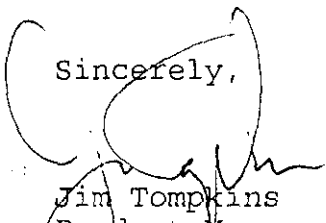
CONCURRENCES

SYMBOL ▶	7505C							
SURNAME ▶	MINOR, E.							
DATE ▶	Dec 15, 1999							

3. Under the "Directions For Use" section delete the subsection: "Conditions of Sale and Warranty".
4. Clarify the reference to "Table 2" under the "General Information" section.
5. Under the "Aerial Application" add the "Aerial Spray Drift" labeling (see attachment for language).
6. In "Table 3" under "Livestock Grazing or Feeding" for "Fallow Ground" change "n/a" to "no".
7. Please clarify the following statements: Under the "Ground and Surface Water Advisory" is the statement: "Therefore, growers are advised to avoid use of MARKSMAN Herbicide in well-drained loamy-sand to sand soils, particularly in areas having high groundwater tables". Under the direction for "Corn" subsection "Preplant and Pre-emergence Application in no Tillage Corn" is the following: "Use 2 pints per acre on coarse soils (sand, loamy sand, and sandy loam) or medium and fine textured soils with less than 2.5% organic matter.

A stamped copy is enclosed for your records. Please submit one(1) final printed copy for the above mentioned label before releasing the product for shipment.

Sincerely,


Jim Tompkins
Product Manager, (25)
Herbicide Branch
Registration Division (7505C)

Enclosure

RESTRICTED USE PESTICIDE
DUE TO GROUND AND SURFACE WATER CONCERNS

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 ground and surface water concerns. Users must read and follow all precautionary statements and instructions for use in order to minimize potential for atrazine to reach ground and surface water.

BASF

wjm 11-16-99
NVA 99-4-68-0138

Marksman®

herbicide

For use in corn, fallow systems, and sorghum

Active Ingredient:

Potassium salt of dicamba (3,6-dichloro- <i>p</i> -anisic acid)*	13.42%
Atrazine** (2-chloro-ethylamino-6-isopropyl/amino- <i>s</i> -triazine).....	22.23%
Inert Ingredients:	<u>64.35%</u>
Total	100.00%

* contains 11.45% 3,6-dichloro-*p*-anisic acid (dicamba) which equals 1.1 pounds per gallon (132 grams per liter), or 0.14 pounds per pint.
 ** contains 22.23% atrazine which equals 2.1 pounds per gallon (252 grams per liter), or 0.26 pounds per pint.

EPA Reg. Number: 7969-136

EPA Est. Number: 68323-TX-1

**KEEP OUT OF REACH OF CHILDREN.
CAUTION**

See inside booklet for complete **Precautionary Statements, Statement of Practical Treatment, Directions For Use, and Conditions of Sale and Warranty.**

Net contents: 2.5 gallons (9.46 liters)

Shake before using.

ACCEPTED
with COMMENTS
In EPA Letter Dated

DEC 16 1999

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

[Signature]

7969-136

Precautionary Statements

Hazards to Humans and Domestic Animals

Caution. Harmful if swallowed. Avoid breathing spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly after handling.

First Aid

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor.

If on skin: 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 in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

Personal Protective Equipment (PPE)

Some materials that are chemically resistant to this product are listed below. For more options, refer to category C 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, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride, or viton \geq 14 mils
- Chemical-resistant footwear plus socks

Mixers and loaders must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride, or viton \geq 14 mils
- Chemical-resistant footwear plus socks
- Protective eyewear

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

Engineering Controls Statement

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

Keep out of lakes, streams, or ponds. This product is toxic to aquatic invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters. Apply this product only as directed on the label. Groundwater contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

- This product may not be mixed, loaded, or used within 50 feet of all wells including abandoned wells, drainage wells, and sinkholes.
- This product may not be mixed or loaded within 50 feet of intermittent streams and rivers, natural or impounded lakes, and reservoirs.
- This product may not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 feet around natural or impounded lakes and reservoirs.
- If this product is applied to highly erodible land, the 66-foot buffer or set-back from runoff points must be planted to crop or seeded with grass or other suitable crop.

Tile-terraced Fields Containing Standpipes

To ensure protection of surface water from run-off through standpipes and tile outlets in terraced fields, one of the following options may be used:

- Do not apply this product within 66 feet of standpipes in tile-outletted terraced fields.
- Apply this product to the entire tile-outletted field and immediately incorporate it to a depth of 2-3" in the entire tile-outletted terraced field.
- Apply this product to the entire tile-outletted field under a no-till practice only when high crop residue management practices are used. High crop residue management practice is described as a crop management practice where little or no crop residue is removed from the field during or after crop harvest.

Ground and Surface Water Advisory

Marksman contains the active ingredient atrazine. Atrazine can leach through soil and has been found to result in contamination of water supplies by way of groundwater. Therefore, growers are advised to avoid use of **Marksman** in well-drained loamy sand to sand soils, particularly in areas having high groundwater tables. Consult with your state or county extension agent for alternative recommendations such as **Clarity**® or **Distinct**® herbicides alone or in combination with a non-triazine herbicide. Check valves or anti-siphoning devices must be used on all mixing equipment to prevent back-siphoning into wells or bulk storage tanks. Refer to **Storage**

and Disposal regarding proper disposal of excess pesticide, spray mixtures, and rinsates.

Endangered Species Concerns

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of federal law.

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.

Unless otherwise directed in supplemental labeling, all applicable directions, restrictions, precautions and

Conditions of Sale and Warranty are to be followed. This labeling must be in the user's possession during application.

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 **48 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.

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, butile rubber, nitrile rubber, neoprene rubber, PVC, or viton ≥ 14 mils
- Chemical-resistant footwear plus socks

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. This product may not be mixed, loaded, or used within 50 feet of all wells including abandoned wells, drainage wells, and sinkholes.

Pesticide Storage: Store in original container in a well-ventilated area separately from fertilizer, feed, and foodstuffs. Avoid cross-contamination with other pesticides.

Pesticide Disposal: Pesticide wastes are toxic. Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions,

contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state or local procedures under Subtitle C of the Resource Conservation and Recovery Act.

Container Disposal:

- **Plastic Containers:** Triple rinse (or equivalent) and add rinsate to spray tank. 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.
- **Bulk/Mini-bulk Containers:** Reusable containers should be returned to the point of purchase for cleaning and refilling because the container must be thoroughly cleaned before refilling.

In Case of Emergency

In case of large-scale spillage regarding this product, call:

CHEMTREC 800-424-9300
BASF Corporation 800-832-HELP

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment.
- Your local poison control center (hospital).
- BASF Corporation (800-832-HELP)

Steps to be taken in case material is released or spilled:

Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal. Remove contaminated clothing, and wash affected skin areas with soap and water. Wash clothing before re-use. Keep the spill out of all sewers and open bodies of water.

I. General Information

Marksman® herbicide is a water-dispersible formulation for use in corn, sorghum, or fallow to control annual broadleaf weeds and to suppress perennial broadleaf weeds (refer to **Table 1** and **2**).

Mode of Action

Marksman contains two active ingredients: dicamba and atrazine. Dicamba is readily absorbed by plants through shoot and root uptake, translocates throughout the plant's system, and accumulates in areas of active growth. Dicamba interferes with the plant's growth hormones (auxins) resulting in death of many broadleaf weeds. Atrazine is absorbed by roots and shoots and controls weeds by inhibiting photosynthesis.

Resistance Management

Dicamba has a low probability of selecting for resistant biotypes. With repeated use, atrazine has selected for resistant biotypes of some weed species. Combining the two herbicides, which are each active in a similar broadleaf weed spectrum, reduces the risk of selecting for resistant biotypes.

Cleaning Spray Equipment

Clean application equipment thoroughly by using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions and then triple rinsing the equipment before and after applying this product.

Table 1. General Weed List, Including ALS- and Triazine-Resistant Biotypes

<p>ANNUALS Buckwheat, Wild Burcucumber Chickweed, Common Clovers Cocklebur, Common Copperleaf, Hophornbeam Cucumber, Wild Jimsonweed Kochia Ladysthumb Lambsquarters, Common Mallow, Common, Venice Marestail (Horseweed) Morningglory, Ivyleaf, Tall Mustard, Wild, Tansy, Yellowtops Nightshade, Black, Cutleaf Pigweed, Palmer, Powell Prostrate, Redroot (Carelessweed), Smooth, Spiny, Tumble Puncturevine Purslane, Common Ragweed, Common, Giant, Lance-Leaf Sicklepod Sida, Prickly (Teaweed) Smartweed, Green, Pennsylvania Spanish Needles Spurge, Prostrate Sunflower, Common (Wild), Volunteer Thistle, Russian Velvetleaf</p>	<p>Waterhemp, Common, Tall PERENNIALS Alfalfa Artichoke, Jerusalem Bindweed, Field, Hedge Clover, Hop Dandelion, Dock, Broadleaf, Curly Dogbane, Hemp Horsenettle, Carolina Lespedeza Milkweed, Common Ragweed, Western Smartweed, Swamp Sowthistle, Perennial Thistle, Canada, Scotch Trumpetcreeper (Buckvine) Vetch</p>
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II. Application Instructions

Marksman® herbicide can be applied pre-emergence or post-emergence to actively growing weeds as aerial, broadcast, band, or spot spray applications using water or sprayable fertilizer as a carrier. Sprayable fluid fertilizer as a carrier is not recommended for use after crop emergence. For crop-specific application timing and other details, refer to section **VI. Crop-Specific Information**.

To avoid uneven spray coverage, **Marksman** should not be applied during periods of gusty wind or when wind is in excess of 15 mph. Avoid off-target movement. Use extreme care when applying **Marksman** to prevent injury to desirable plants and shrubs.

Sensitive Crop Precautions

Marksman may cause injury to desirable trees and plants, particularly beans, cotton, flowers, fruit trees, grapes, ornamentals, peas, potatoes, soybeans, sunflowers, tobacco, tomatoes, and other broadleaf plants when contacting their roots, stems, or foliage. These plants are most sensitive to **Marksman** during their development or growing stage.

- Use coarse sprays (volume median diameter of 400 microns or more) to avoid potential herbicide drift. Select nozzles that are designed to produce minimal amounts of fine spray particles (less than 200 microns). Examples of nozzles designed to produce coarse sprays via ground applications are **Delavan® Raindrops®, Spraying Systems XR** (excluding 110° tips) flat fans, **Turbo Teejets®, Turbo Floodjets®**, or large capacity flood nozzles such as D10, TK10, or greater capacity tips. Keep the spray pressure at or below 20 psi and the spray volume at or above 20 gallons per acre, unless otherwise required by the manufacturer of drift-reducing nozzles. Consult your spray nozzle supplier concerning the choice of drift-reducing nozzles.
- Agriculturally approved drift-reducing additives may be used.

Aerial Application

Water Volume: Use 2-10 gallons of water per acre. Use the higher spray volume when treating dense or tall vegetation.

Application Equipment: Select nozzles designed to produce minimal amounts of fine spray particles. Make applications at the lowest safe height to reduce the exposure of spray droplets to evaporation and wind. The applicator must follow the most restrictive use cautions to avoid drift hazards, including those found in this labeling as well as applicable state and local regulations and ordinances.

Do not use aerial equipment if spray particles can be carried by the wind into areas where sensitive crops or plants are growing or when temperature inversions exist.

Ground Application (Banding)

When applying **Marksman** by banding, determine the amount of herbicide and water volume needed using the following formula:

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \frac{\text{Broadcast rate}}{\text{per acre}} = \frac{\text{Banding herbicide}}{\text{rate per acre}}$$

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \frac{\text{Broadcast volume}}{\text{per acre}} = \frac{\text{Banding water}}{\text{volume per acre}}$$

Ground Application (Broadcast)

Water Volume: Use 10-50 gallons of spray solution per broadcast acre for optimal performance. Use the higher spray volume when treating dense or tall vegetation.

Application Equipment: Select nozzles designed to produce minimal amounts of fine spray particles. Spray with nozzles as close to the weeds as is practical for good weed coverage.

III. Additives

To improve postemergence weed control, agriculturally approved surfactants, sprayable fertilizers (urea ammonium nitrate, or ammonium sulfate), or crop oil concentrate may be added, particularly in dry growing conditions. (Refer to **Table 2 Additive Rate.**)

Nitrogen Source

- **Urea ammonium nitrate (UAN):** Use 2-4 quarts of UAN (commonly referred to as 28%, 30%, or 32% nitrogen solution) per acre. Do not use brass or aluminum nozzles when spraying UAN.
- **Ammonium sulfate (AMS):** AMS at 2.5 pounds per acre may be substituted for UAN. Use high-quality AMS (spray grade) to avoid plugging of nozzles. Other sources of nitrogen are not as effective as those mentioned. BASF does not recommend applying AMS if applied in less than 10 gallons per acre because of potential problems with precipitation in reduced volumes. Use AMS only if it has been demonstrated to be successful in local experience.

Nonionic Surfactant

The standard label recommendation is 1 pint of an 80% active nonionic spray surfactant per 100 gallons of water. For certain weeds, a higher spray surfactant rate is recommended.

Oil Concentrate

A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet all of the following criteria:

- be nonphytotoxic,
- contain only EPA-exempt ingredients,
- provide good mixing quality in the jar test, and
- be successful in local experience.

The exact composition of suitable products will vary; however, vegetable and petroleum oil concentrates should contain emulsifiers to provide good mixing quality. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils.

For additional information, see **Compatibility Test for Mix Components.**

Adjuvants containing crop oil concentrates may be used in preplant, pre-emergence, and all fallow system applications. Do not use crop oil concentrate for postemergence in-crop applications unless specifically allowed in section **VI. Crop-Specific Information** of this label.

Table 2. Additive Rate Per Acre

Additive	Rate Per Acre
Nonionic Surfactant	1-2 pints per 100 gallons
AMS	2.5 pounds
UAN Solution	2-4 quarts
Crop Oil Concentrate	1 quart*

* see manufacturer's label for specific rate recommendations

Compatibility Test for Mix Components

Before mixing components, always perform a compatibility jar test.

For 20 gallons per acre spray volume, use 3.3 cups (800 ml) of water. For other spray volumes, adjust rates accordingly. Only use water from the intended source at the source temperature.

Add components in the sequence indicated in the **Mixing Order** using 2 teaspoons for each pound or 1 teaspoon for each pint of recommended label rate per acre.

Always cap the jar and invert 10 cycles between component additions.

When the components have all been added to the jar, let the solution stand for 15 minutes. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. If the spray solution is not compatible, repeat the compatibility test with the addition of a suitable compatibility agent. If the solution is then compatible, use the compatibility agent as directed on its label. If the solution is still incompatible, do not mix the ingredients in the same tank.

Mixing Order

If an inductor is used, rinse it thoroughly after each component has been added. Maintain constant agitation during application.

- 1) **Water.** Begin by agitating a thoroughly clean sprayer tank half full of clean water.
- 2) **Agitation.** Maintain constant agitation throughout mixing and application.
- 3) **Products in PVA bags.** Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
- 4) **Water-dispersible products** (such as **Marksman® herbicide**, dry flowables, wettable powders, suspension concentrates, or suspensions).
- 5) **Water-soluble products.**
- 6) **Emulsifiable concentrates** (such as oil concentrate when applicable).
- 7) **Water-soluble additives** (such as AMS or UAN when applicable).
- 8) **Remaining quantity of water.**

IV. General Tank Mixing Information

Tank Mix Partners/Components

Marksman[®] herbicide may be tank mixed or applied sequentially with one or more of the following products according to the specific tank mixing instructions in this label and respective product labels.

- **Accent**[®] (nicosulfuron)
- **Ally**[®] (metsulfuron-methyl)
- **Atrazine**
- **Axiom**[™] (flufenacet + metribuzin)
- **Banvel**[®] (dicamba)
- **Basagran**[®] (bentazon)
- **Beacon**[®] (primisulfuron-methyl)
- **Bicep**[®] II (metolachlor + atrazine)
- **Bladex**[®] (cyanazine)
- **Buctril**[®] (bromoxynil)
- **Bullet**[®] (alachlor + atrazine)
- **Celebrity**[®] (dicamba + nicosulfuron)
- **Clarity**[®] (dicamba)
- **Command**[®] (clomazone)
- **Curtail**[®] (clopyralid + 2,4-D)
- **Cyclone**[®] (paraquat)
- **DoublePlay**[®] (acetochlor + EPTC)
- **Dual**[®] (metolachlor)
- **Dual II**[®] (metolachlor)
- **Eradicane**[®] (EPTC)
- **Exceed**[®] (primisulfuron + prosulfuron)
- **Express**[®] (thifensulfuron + tribenuron-methyl)
- **Extrazine**[®] II (cyanazine + atrazine)
- **Fallow Master**[®] (glyphosate + dicamba)
- **Field Master** (acetochlor + atrazine + glyphosate)
- **Frontier**[®] (dimethenamid)
- **FulTime**[™] (acetochlor + atrazine)
- **Glean**[®] (chlorsulfuron)
- **Gramoxone**[®] Extra (paraquat)
- **Guardsman**[®] (dimethenamid + atrazine)
- **Harness**[®] (acetochlor)
- **Harness**[®] Xtra (acetochlor)
- **Hornet**[®] (flumetsulam + clopyralid)
- **Laddok**[®] S-12 (bentazon + atrazine)
- **Landmaster**[®] BW (glyphosate + 2,4-D)
- **Lasso**[®] (alachlor)
- **Liberty**[®] (glufosinate)
- **OpTill**[™] (dicamba + dimethenamid)
- **Paramount**[®] (quinclorac)
- **Peak**[®] (prosulfuron)
- **Permit**[®] (halosulfuron)
- **Princep**[®] (simazine)
- **Prowl**[®] (pendimethalin)
- **Python**[™] (flumetsulam)
- **Ramrod**[®] (propachlor)
- **Roundup Ultra**[®] (glyphosate)
- **Roundup Ultra**[®] RT (glyphosate)
- **Spirit**[™] (primisulfuron + prosulfuron)
- **Stinger**[®] (clopyralid)
- **Surpass**[®] (acetochlor)
- **Sutan**[®] + (butylate)
- **TopNotch**[®] (acetochlor)
- **Touchdown**[®] (sulfosate)
- **Tough**[®] (pyridate)
- 2,4-D

See section VI. **Crop-Specific Information** for more details. Read and follow the applicable **Restrictions and Limitations** and **Directions For Use** on all products involved in tank mixing. The most restrictive labeling applies to tank mixes.

Physical incompatibility, reduced weed control, or crop injury may result from mixing **Marksman** with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers. BASF does not recommend using tank mixes other than those listed on BASF labeling. Local agricultural authorities may be a source of information when using other than BASF recommended tank mixes.

V. Restrictions and Limitations — All Crops

- **Maximum seasonal use rate:** See **Table 3** for crop-specific maximum seasonal use rates for **Marksman[®]** herbicide.
- **Marksman** contains atrazine (0.26 pounds of active ingredient per pint). When tank mixing or making sequential applications with products that contain atrazine, do not exceed the following total combined rates of atrazine.
 - **On Highly Erodible Soils (as defined by the SCS).**
If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, the maximum rate is 2 pounds of atrazine active ingredient per acre.
If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.6 pounds of atrazine active ingredient per acre can be applied.
 - **On Soils Not Highly Erodible.** The maximum rate which can be applied is 2 pounds of atrazine active ingredient per acre.
 - **Postemergence Application:** If no atrazine was applied prior to corn emergence, the maximum postemergence application rate is 2 pounds of atrazine active ingredient per acre. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 pounds of atrazine active ingredient per acre, per calendar year.
- **Preharvest Interval (PHI):** Refer to section **VI. Crop-Specific Information** for preharvest intervals.
- **Restricted Entry Interval (REI): 48 hours**
- **Crop Rotation Restriction:**
 - In cases of treated crop failure, the area may be replanted to either corn or sorghum during the same cropping season. If corn is replanted, do not apply **Marksman**, **Clarity[®]**, or **Banvel[®]** herbicides until after emergence. If sorghum is the replanted crop, either **Banvel**, **Clarity**, or **Marksman** can be used as a postemergence application.
 - If applied after June 10, rotation with crops other than corn or sorghum the following spring may result in crop injury.
 - In the High Plains and intermountain areas of the West, where rainfall is sparse and erratic or where irrigation is required, use only when corn or sorghum is to follow corn or sorghum, or when a crop of untreated corn or sorghum is to precede other rotational crops.
 - For soils containing a calcareous surface layer, such as those found in eastern parts of the Dakotas, Kansas, western Minnesota, and Nebraska, injury may occur to soybeans or small grains planted the year following application.
 - Small grains may be planted 10 months following treatment. Do not plant sugarbeets, tobacco, vegetables (including dry beans), or small-seeded legumes and grasses in the spring of the year following application, or injury may occur.
- **Rainfast period:** Rainfall or irrigation occurring within **4 hours** after postemergence applications may reduce the effectiveness of **Marksman**.
- **Stress:** Do not apply to weeds under stress due to lack of moisture, hail damage, flooding, herbicide injury, mechanical injury, or widely fluctuating temperatures, as unsatisfactory control may result.
- Do not apply to crops that show injury (leaf phytotoxicity or plant stunting) produced by any other prior herbicide applications, because this injury may be enhanced or prolonged.
- Do not apply through any type of **irrigation** system. Do not contaminate irrigation ditches or water used for domestic purposes.

Table 3. Crop-Specific Restrictions and Limitations

Crop	Maximum Rate Per Acre Per Application	Maximum Rate Per Acre Per Season	Livestock Grazing or Feeding	Aircraft Application
Corn	3.5 pints	5.25 pints	Yes ¹	Yes
Fallow Ground	11 pints	11 pints	n/a	Yes
Sorghum	2 pints	3.5 pints	Yes ²	Yes

¹ Crop may be harvested or grazed for feeding after ensilage stage (milking stage or later in maturity).

² Crop may be grazed or fed to livestock at mature grain stage.

VI. Crop-Specific Information

Corn (Field, Pop, Seed, and Silage)

Corn may be harvested or grazed for feed after it has reached the ensilage (milk) stage or later in maturity. Direct contact of **Marksman**[®] herbicide with corn seed must be avoided in preplant or pre-emergence applications. If corn seeds are less than 1.5" below the soil surface, delay application until corn has emerged.

A maximum of 2 applications of **Marksman** may be made per season.

Do not apply **Marksman** to seed corn or popcorn without first verifying with your local seed corn company (supplier) the selectivity of **Marksman** on your inbred line or variety of popcorn. This precaution will help avoid potential injury of sensitive varieties.

Marksman is not registered for use on sweet corn. Avoid using crop oil concentrates after crop emergence as crop injury may result. Use crop oil concentrates only in dry conditions when corn is less than 5" tall and when applying **Marksman** alone or tank mixed with atrazine.

PREPLANT AND PRE-EMERGENCE APPLICATION IN NO TILLAGE CORN:

Apply 3.5 pints of **Marksman** per acre on medium- or fine-textured soils containing 2.5% or greater organic matter. Use 2 pints per acre on coarse soils (sand, loamy sand, and sandy loam) or medium and fine textured soils with less than 2.5% organic matter.

Marksman may be applied for burndown of emerged weeds before, during, or after corn maturity. When planting into a legume sod (e.g., alfalfa or clover), apply **Marksman** after 4-6" of regrowth has occurred.

PRE-EMERGENCE APPLICATION IN CONVENTIONAL OR REDUCED TILLAGE CORN:

Marksman may be applied after planting and prior to corn emergence.

Apply 3.5 pints per treated acre to medium- or fine-textured soils that contain 2.5% organic matter or more. Do not apply to coarse-textured soils (sand, loamy sand, or sandy loam) or any soil with less than 2.5% organic matter until after corn emergence (see **Early Post-emergence** uses below).

Pre-emergence application of **Marksman** does not require mechanical incorporation to become active. A shallow mechanical incorporation is recommended if application is not followed by adequate rainfall or sprinkler irrigation. Avoid tillage equipment (e.g., drags, harrows) which concentrate treated soil over seed furrow, as seed damage could result.

EARLY POSTEMERGENCE APPLICATION IN ALL TILLAGE SYSTEMS:

Apply 3.5 pints of **Marksman** per treated acre to medium- or fine-textured soils. Reduce the rate to 2 pints per treated acre for corn grown on coarse-textured soils (sand, loamy sand, and sandy loam). Apply between corn emergence and the 5-leaf stage or 8" tall, whichever occurs first.

POSTEMERGENCE APPLICATION IN ALL TILLAGE SYSTEMS:

Apply 2 pints of **Marksman** per acre on all soils when corn is 8-12" tall.

For best performance, apply **Marksman** when weeds are less than 3" tall. Apply **Marksman** with directed spray when corn leaves prevent proper spray coverage of the target weeds.

Corn Tank Mixes or Sequential Uses

When using tank mix or sequential applications with **Marksman**, always follow the companion product label to determine specific use rates by soil types, weed species, and weed or crop growth stage. In addition, follow precautions and restrictions including state and local use restrictions that may apply to specific products.

Apply **Marksman** prior to, in tank mix with, or after one or more of the following herbicides:

- **Accent**¹
- **Atrazine**
- **Axiom**²
- **Banvel**³
- **Beacon**^{5,1}
- **Bicep**⁵
- **Bladex**³
- **Bullet**³
- **Celebrity**^{2,1}
- **Clarity**^{2,1}
- **DoublePlay**^{2,2}
- **Dual**³
- **Eradicane**^{2,2}
- **Exceed**^{5,1}
- **Extrazine**^{2,11}
- **Field Master**⁹
- **Frontier**⁵
- **FulTime**¹¹
- **Gramoxone**⁵ Extra
- **Guardsman**⁵
- **Harness**³
- **Harness**⁵ Xtra
- **Hornet**^{3,1}
- **Laddok**³ S-12
- **Lasso**⁵
- **Liberty**^{3,3}
- **Marksman**^{5,1}
- **OpTill**^{1,1}
- **Permit**^{5,1}
- **Princep**⁵
- **Prowl**¹¹
- **Python**¹¹
- **Roundup Ultra**^{5,4}
- **Roundup Ultra**⁵ RT
- **Spirit**^{1,1}
- **Stinger**^{3,1}
- **Surpass**³
- **Sutan**^{9,2}
- **TopNotch**³
- **Touchdown**³
- **Tough**⁵
- **2,4-D**¹

¹ See **Table 4** for additional limitations or restrictions that apply for tank mix or sequential use programs with these products

² sequential use only

³ use only on **Liberty Link**[®] (glufosinate tolerant) corn hybrids.

⁴ includes postemergence use on **Roundup Ready**[®] (glyphosate tolerant) corn hybrids.

Table 4. Specific Guidelines for Tank Mixes or Sequential Use Programs

Tank Mix Partner	Rate Per Acre
Accent or Beacon	When tank mixing, applications immediately following extreme day or night temperature fluctuations or applications when daytime temperatures do not exceed 50° F may result in decreased weed control or crop injury. Delay application until the temperatures warm and both weeds and crop resume normal growth.
2,4-D	To provide maximum crop safety after corn emergence, use this tank mix only after corn is greater than 8" tall and when application can be made with drop pipes that direct spray beneath corn leaves and away from the whorl of the corn. The maximum rate of 2,4-D recommended in this tank mix is 0.25 pints per acre (0.125 pounds of acid equivalent per acre).
Celebrity, Clarity, Banvel, Marksman, or OpTill	Tank mixes with these products that contain dicamba must not exceed a total combined rate of 0.50 pounds of dicamba acid equivalent per acre (0.25 pound on coarse-textured soils or on any soil when corn is greater than 8" tall). Sequential applications of these products must be separated by a minimum of 2 weeks (unless the combined rate is less than 0.5 pounds of dicamba acid equivalent and corn is 6" tall or less) and must not exceed a combined total of 0.75 pounds dicamba acid equivalent per acre for in-crop use.
Exceed, Spirit, Stinger, Hornet, or Permit	For improved control of velvetleaf, tank mix 0.25-0.5 ounce of Exceed , 0.5 ounce of Spirit , or 0.17-0.33 ounce Permit per acre with Marksman . For improved control of Canada thistle, Stinger at 1.5-3 fluid ounces per acre or Hornet at 0.6-1.2 ounces per acre may be tank mixed with Marksman . Use the higher rate in the range for heavier infestations of these weeds.

Fallow Systems

Marksman may be applied to fallow ground through the summer and fall after wheat harvest in wheat/fallow/wheat or wheat/corn or sorghum/fallow (Eco-fallow) rotations. For Eco-fallow systems, plant corn or sorghum in the spring after treatment with minimum soil disturbance. Use a surface planter or a planter leaving a shallow furrow. If weeds are present at planting, remove them with a sweep plow or other suitable implement before planting.

ROTATIONAL CROP PRECAUTIONS:
The application rates and timings in this label pertain only to a cropping system of wheat/fallow/wheat (postharvest fallow) or wheat/corn or sorghum/fallow (Eco-fallow). If any other crop is to be substituted for wheat, corn, sorghum, or the fallow period, refer to the **Crop Rotation Restrictions** in section V.

Restrictions and Limitations.
To avoid injury to crops planted after applying **Marksman**, specific restrictions for postharvest fallow or Eco-fallow application(s) are:

- Use only on silt loam or finer-textured soils.
- Do not treat erodible hillsides, caliche, and rocky

- outcroppings, or exposed calcareous subsoil.
- Do not treat soils of the Rosebud and Canyon series in Western Nebraska and adjoining counties in Colorado and Wyoming.
- Do not treat soils with calcareous surface layers.
- Avoid overlapping spray swaths during treatment application.

WHEAT/FALLOW/WHEAT:
For use in: Colorado, Kansas, Nebraska, Oklahoma, South Dakota, Texas, and Wyoming.

For pre-emergence or postemergence control or suppression of the weeds listed in this label. Apply 2-3.5 pints of **Marksman** per treated acre as a broadcast treatment. For best performance, apply soon after wheat harvest, prior to or soon after weed emergence. A split application of **Marksman** may be used, but only in the summer to fall after wheat harvest, and may not exceed the maximum rate of 3.5 pints per treated acre.

WHEAT/CORN OR SORGHUM/FALLOW (ECO-FALLOW):

For use in: Colorado, Kansas, Nebraska, Oklahoma, and Texas.

To control annual broadleaf or grass weeds following wheat and into the following corn or sorghum crop (when grown under minimum tillage). Apply 2-11 pints of **Marksman** per acre. For best performance, apply **Marksman** within 10 days after harvesting the wheat. Use the higher rates listed for added grass control and longer residual weed control. A split application of **Marksman** may be used but only in summer to fall after wheat harvest and may not exceed the maximum labeled rate of 11 pints per acre (2.8 pounds of atrazine per acre).

Crop-Specific Restrictions and Limitations
Do not graze or feed forage from treated areas to livestock.
Do not plant any crop other than those listed in this label within 18 months following treatment.

Fallow Systems Tank Mixes or Sequential Uses

When using tank mix or sequential applications with **Marksman**, always follow the companion product label to determine specific use rates by soil types, weed species, and weed or crop growth stage. In addition, follow precautions and restrictions including state and local use restrictions that may apply to specific products.

Apply **Marksman** prior to, in tank mix with, or after one or more of the following herbicides:

- **Ally**[®]
- **Atrazine**
- **Banvel**[®]
- **Buctril**[®]
- **Clarity**[®]
- **Command**[®]
- **Curtail**[®]
- **Cyclone**[®]
- **Express**[®]
- **Fallow Master**[®]
- **Glean**[®]
- **Gramoxone**[®] Extra
- **Landmaster**[®] BW or II
- **Paramount**[®]
- **Rour.dup Ultra**[®]
- **Roundup Ultra**[®] RT
- **2,4-D**

Sorghum

Marksman may be applied preplant or postemergence in sorghum to control many annual broadleaf weeds and to reduce competition from established perennial broadleaf weeds as well as control their seedlings.

Do not apply to furrow planted sorghum until level (plowed in).

Do not apply **Marksman** to sorghum grown for seed production.

Do not graze or feed forage from treated areas for 21 days or more following application.

Do not graze livestock in treated areas for 21 days or more following application.

Do not harvest for ensilage or hay for 37 or more days following application.

Do not add crop oil if application is made after sorghum emergence. Do not add surfactant unless possible crop injury is acceptable.

PREPLANT APPLICATION:

Up to 2 pints of **Marksman** may be used and must be applied at least 15 days before sorghum planting.

POSTEMERGENCE APPLICATION:

Apply **Marksman** in sorghum between the 2-5 leaf stage (about 2-8" tall) of the sorghum. For best performance, apply when sorghum is in the 2-3 leaf stage. Applying **Marksman** to sorghum during periods of rapid growth may result in temporary leaning of plants or rolling of leaves. These effects are usually outgrown within 10-14 days. On coarse soils, injury to sorghum may occur if heavy rain immediately follows application.

Apply 1.5 pints of **Marksman** per acre to control actively growing redroot pigweed less than 3" tall.

Apply 2 pints of **Marksman** per acre for all other listed broadleaf weeds.

SPLIT APPLICATIONS:

Marksman may be applied in split applications: preplant followed by postemergence applications. Do not exceed a total of 3.5 pints of **Marksman** per acre, per season.

Sorghum Tank Mixes or Sequential Uses

When using tank mix or sequential applications with **Marksman**, always follow the companion product label to determine specific use rates by soil types, weed species, and weed or crop growth stage. In addition, follow precautions and restrictions including state and local use restrictions that may apply to specific products.

Apply **Marksman** prior to, in tank mix with, or after one or more of the following herbicides:

- Atrazine
- Basagran®
- Bicep®
- Buctril®
- Cyclone®
- Dual®
- Fallowmaster®
- Frontier®
- Gramoxone® Extra
- Guardsman®
- Laddok® S-12
- Landmaster®
- Lasso®
- Paramount®
- Peak®
- Permit®
- Ramrod®
- Roundup Ultra®

Pests listed in this label:	
Common Name	Scientific Name
Alfalfa	<i>Medicago sativa</i>
Artichoke, Jerusalem	<i>Helianthus tuberosus</i>
Bindweed, Field	<i>Convolvulus arvensis</i>
Hedge	<i>Calystegia sepium</i>
Buckwheat, Wild	<i>Polygonum convulvulus</i>
Chickweed, Common	<i>Stellaria media</i>
Clovers	<i>Trifolium spp.</i>
Clover, Hop	<i>Trifolium aureum</i>
Cocklebur, Common	<i>Xanthium strumarium</i>
Copperleaf, Hophornbeam	<i>Acalypha ostryifolia</i>
Cucumber, Wild	<i>Echinocystis lobata</i>
Dandelion	<i>Taraxacum officinale</i>
Dock, Broadleaf (Bitterdock)	<i>Rumex obtusifolius</i>
Curly	<i>Rumex crispus</i>
Dogbane, Hemp	<i>Apocynum cannabinum</i>
Horsenettle, Carolina	<i>Solanum carolinense</i>
Jimsonweed	<i>Datura stratum</i>
Kochia	<i>Kochia scoparia</i>
Ladysthumb	<i>Polygonum persicaria</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Lespedeza	<i>Lespedeza spp.</i>
Mallow, Common	<i>Malva neglecta</i>
Venice	<i>Hibiscus trionum</i>
Marestail (Horseweed)	<i>Hippurus vulgaris</i>
Milkweed, Common	<i>Asclepias syriaca</i>
Morningglory, Ivyleaf	<i>Ipomea hederacea</i>
Tall	<i>Ipomea purpurea</i>
Mustard, Wild	<i>Sinapis arvensis</i>
Yellowtops	
Nightshade, Black	<i>Solanum nigrum</i>
Pigweed, Palmer,	<i>Amaranthus palmeri</i>
Powell,	<i>Amaranthus powellii</i>
Prostrate,	<i>Amaranthus blitoides</i>
Redroot,	<i>Amaranthus retroflexus</i>
(Carelessweed)	
Smooth,	<i>Amaranthus hybridus</i>
Spiny,	<i>Amaranthus spinosus</i>
Tumble	<i>Amaranthus albus</i>
Puncturevine	<i>Portulaca oleracea</i>
Purslane, Common	<i>Richardia scabra</i>
Ragweed, Common	<i>Ambrosia artemisiifolia</i>
Giant	<i>Ambrosia trifida</i>
(Buffaloweed)	—
Lance-Leaf	<i>Ambrosia bidentata</i>
Western	<i>Ambrosia psilostachya</i>
Sida, Prickly (Teaweed)	<i>Sida spinosa</i>
Smartweed, Green	<i>Polygonum scabrum</i>
Pennsylvania	<i>Polygonum pennsylvanicum</i>
Swamp	<i>Polygonum coccineum</i>
Sowthistle, Perennial	<i>Sonchus arvensis</i>
Spanish needles	<i>Bidens bipinnata</i>
Spurge, Prostrate	<i>Euphorbia humistrata</i>
Sunflower, Common (Wild)	<i>Helianthus annuus</i>
Thistle, Russian	<i>Salsola iberica</i>
Canada	<i>Cirsium arvense</i>
Trumpet creeper	<i>Campsis radicans</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Vetch	<i>Vicia spp.</i>
Waterhemp, Common	<i>Amaranthus rudis</i>
Tall	<i>Amaranthus tuberculatus</i>

Crops

This product can be used on the following crops:

Corn
Fallow Systems
Sorghum

Look inside for complete **Restrictions and Limitations** and **Application Instructions**.

Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. All such risks shall be assumed by the Buyer. BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above. **BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL BASF OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.** BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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