

3470A - 728

9/20/2004

1/7



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

SEP 20 2004

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Ms. Glenda Haage
Loveland Products, Inc.
7251 W 4th Street
PO Box 1286
Greeley, CO 80632-1286

Dear Ms. Haage:

Subject: Shotgun Flowable Herbicide
EPA Registration Number 34704-728
Application dated September 2, 2004
Amended label per Atrazine MOA

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

- 1) Add "Wear (specify protective eyewear such as goggles, face shield, or safety glasses)" to the Precautionary statements after "Causes irreversible eye damage"
- 2) Add the attached Aerial Spray Drift Management text.
- 3) Place the FIRST AID section before the PRECAUTIONARY STATEMENTS section.
- 4) Under the section STORAGE AND DISPOSAL, remove the word "PROHIBITIONS," change the subheading "Storage" to "Pesticide Storage," and move the statement "Do not store under conditions which might adversely affect the container or its ability to function properly" to the subsection Pesticide Storage.
- 5) Change the statement on page 3 under TANK MIX REQUIREMENTS from "When tank-mixing or sequentially applying atrazine or products containing atrazine to corn or sorghum, the total pounds of atrazine applied (lbs a.i./A) must not exceed 2.5 pounds per acre per year." to "When tank mixing or sequentially applying atrazine or products containing atrazine to corn or sorghum, do not exceed an application rate of 2.0 pounds active ingredient of atrazine for any single application, and the total pounds of atrazine applied (lb a.i. per acre) must not exceed 2.5 pounds active ingredient per acre per year."
- 6) Add the following statement to the Limitations section for CONIFERS "Do not apply more than 4 pounds active ingredient per acre for any application."

7) Under the section CHEMICAL FALLOW RESTRICTIONS pages 4 and 5, change the statements "Do not apply more than one application per year" to "Do not apply more than one application per cycle."

8) Under the section Wheat/Corn or Sorghum/Fallow (CO,KS,NE,OK & TX) on page 4, the rate of 10 ½ pints is above the maximum allowable rate of 2.25 lbs active ingredient. Reduce this rate accordingly.

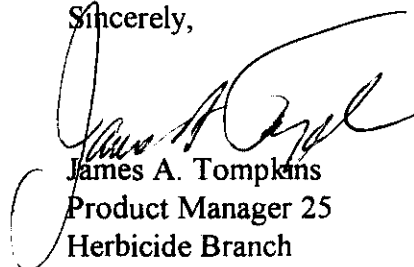
9) On page 3, under the table for MAXIMUM RATES PRIOR TO FIELD CORN OR SORGHUM EMERGENCE, change the footnote "As defined by the Soil Conservation Service" to "As defined by the Natural Resource Conservation Service."

10) Under Postemergence use directions for both corn and sorghum on page 4, change "Apply early postemergence from spike to 5-leaf stage of crop, but before 12 inches in height" to "Apply early postemergence from spike to 5-leaf stage of crop, but application must be made before crop reaches 12 inches in height."

Submit one (1) copy of final printed labeling incorporating the above changes before you release the products for shipment. Amended labeling will supercede all previously accepted ones. A stamped copy of labeling is enclosed for your records.

If you have any questions, please contact Hope Johnson at 703-305-5410.

Sincerely,



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

RESTRICTED USE PESTICIDE

(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.

ACCEPTED
with COMMENTS
in EPA Letter Dated

SEP 20 2004

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

34704-728



FLOWABLE HERBICIDE

For Weed Control in Field Corn, Sorghum, Certain Fallow Systems and Conifers

ACTIVE INGREDIENTS:

Atrazine (2-chloro-4-ethylamino-6-isopropylamino-s-triazine)	24.24%*
Related Compounds	0.76%*
Isooctyl (2-ethylhexyl) ester of 2,4-Dichlorophenoxyacetic acid	16.58%**
INERT INGREDIENTS:	59.42%
TOTAL	100.00%

*Equivalent to 2.25 lbs. per gallon of atrazine and related compounds.

**Equivalent to 11% or 1 lb. per gallon of 2,4-Dichlorophenoxyacetic acid by isomer specific AOAC method.

KEEP OUT OF REACH OF CHILDREN DANGER—PELIGRO

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

See Below For Additional Precautionary Statements.
Shake Well Before Using.

EPA REG. NO. 34704-728
EPA EST. NO. 34704-NB-2
NET CONTENTS 2½ GALS. (9.46 L)
IHT EXP 08/04

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER

Corrosive. Causes irreversible eye damage. Harmful if absorbed through the skin or inhaled. Do not get in eyes. Due to corrosive nature, may be harmful or fatal if swallowed. Avoid contact with skin or clothing. Avoid inhaling spray mist.

Personal Protective Equipment:

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

Mixers, loaders, applicators, flaggers and other handlers must wear: Long-sleeved shirt and long pants, chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber or Viton, shoes plus socks, and chemical-resistant apron, when mixing/loading, cleaning up spills, or cleaning equipment, or otherwise exposed to the concentrate.

See engineering controls for additional requirements.

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

Engineering Controls:

Mixers and loaders supporting aerial applications at a rate greater than 3 lbs a/A must use a closed system that meets the requirements for dermal protection listed in the Worker Protection Standard (WPS) for Agricultural Pesticides [40 CFR 170.240(d)(4)] must: Wear the personal protective equipment required for mixers and loaders, wear protective eyewear if the system operates under pressure, and be provided and have immediately available for use in an emergency, such as a spill or equipment breakdown; chemical resistant footwear.

Pilots must use an enclosed cockpit in a manner that is consistent with the WPS for Agricultural Pesticides [40 CFR 170.240(d)(6)]. Pilots must wear the PPE required on this labeling for applicators, however, they need not wear chemical-resistant gloves when using an enclosed cockpit.

Flaggers supporting aerial applications must use an enclosed cab that meets the definition on the Worker Protection Standard for Agricultural Pesticides [40 CFR 170.240(d)(5)] for dermal protection.

When applicators use enclosed cabs in a manner that meets the requirements listed

in the Worker Protection Standard (WPS) for Agricultural Pesticides [40 CFR 170.240(d)(5)], 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.

FIRST AID

If in eyes:	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If inhaled:	<ul style="list-style-type: none"> Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
If swallowed:	<ul style="list-style-type: none"> 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 do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
If on skin or clothing:	<ul style="list-style-type: none"> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-301-7976.

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

Note to Physician: May pose an aspiration pneumonia hazard. Probable mucosal damage may contraindicate the use of gastric lavage.

ENVIRONMENTAL HAZARDS

Atrazine can travel (seep or leach) through soil and can enter groundwater which may be used as drinking water. Atrazine has been found in groundwater. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (groundwater) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

Product must not be mixed or loaded within 50 feet of intermittent streams and rivers, natural or impounded lakes and reservoirs. Product must not be applied within 66 feet of points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 feet of natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66 foot buffer or setback from runoff entry points must be planted to crop, or seeded with grass or other suitable crop.

Product must not be mixed or loaded, or used within 50 feet of all wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 ft. of any well are prohibited, unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or

3/7

SHOTGUN® FLOWABLE HERBICIDE

EPA REG NO. 34704-728

equipment leaks, container or equipment rinse or wash water, and rain water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment 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 to the mixing/loading sites.

Additional State imposed requirements regarding well-head setbacks and operational area containment must be observed.

One of the following restrictions must be used in applying atrazine to tile-outletted fields containing standpipes:

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

This pesticide is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash water.

Nontarget Plant Precautions: This herbicide may cause injury to desirable plants by contacting foliage, stems or roots. Use care in all applications to avoid surface water or soil transport to nontarget plant areas. At high temperatures (about 85°F. or higher), vapors from this product also may injure susceptible plants growing nearby such as cotton, grapes, tobacco, fruit trees, tomatoes, legumes, okra, vegetables, flowers and ornamentals. Avoid applications in the vicinity of susceptible crops or when winds are blowing toward sensitive crops, or when temperature inversions are expected. Do not apply this product directly to, or permit spray mist to drift onto susceptible crops or plants since very small quantities of this herbicide will cause severe injury in the growing or dormant period. Crops or plants contacted may be killed or suffer significant injury resulting in grade or yield losses.

Potential spray drift from ground or air applications may be reduced by:

1. Keeping the spray discharge as near to the target as possible while obtaining good coverage.
2. Increasing the volume of spray mixture per acre.
3. By using low spraying pressures (as measured at the nozzle tips).
4. By using nozzles which produce coarse spray droplets but which still provide adequate coverage of weeds.
5. By not applying when wind is blowing toward susceptible crops or valuable plants.
6. By making applications when wind velocity is more favorable for on-target deposition. The following table is a general guide.

Wind Velocity	Comments
0-2 mph	Still air may indicate a temperature inversion which can permit drift.
3-7 mph	Generally good conditions, but check wind direction relative to susceptible crops. Allow for wind shift of swath.
7-10 mph	Possibly acceptable if wind direction is favorable and no susceptible crops are in the general vicinity. Allow for wind shift of swath.
10-15 mph	Not usually desirable except in areas of stronger prevailing winds when direction is favorable and no susceptible crops are in the general vicinity. Use an agriculturally accepted drift retardant and allow for wind shift of swath.
Over 15 mph	Do not spray.

7. By properly maintaining and calibrating all spray equipment.
8. For aerial applications, using an effective spray boom length that is no more than 75% of the wingspan or rotor diameter.
9. By using an agriculturally accepted drift retardant designed to increase droplet size.

DIRECTIONS FOR USE

ANY USE OF THIS PRODUCT IN AN AREA WHERE USE IS PROHIBITED IS A VIOLATION OF FEDERAL LAW. Before using this product, you must consult the Atrazine Watershed Information Center (AWIC) to determine whether the use of this product is prohibited in your watershed. AWIC can be accessed through [www.atrazine-watershed.info], or [1-866-365-3014]. If use of this product is prohibited in your watershed, you may return this product to your point of

purchase or contact Loveland Products, Inc. for a refund.

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.

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

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.

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, shoes plus socks, and chemical resistant gloves, such as any waterproof material.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal. Do not store under conditions which might adversely affect the container or its ability to function properly.

STORAGE: Do not store below temperature of 0°F. If frozen, warm to 40°F, and reconstitute before using by rolling or shaking the container. Store in safe manner. Store in original container only. Keep container tightly closed when not in use. Reduce stacking height where local conditions can affect package strength. Personnel should use clothing and equipment consistent with good pesticide handling.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law and may contaminate groundwater. 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: Plastic: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. **Metal:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

GENERAL INFORMATION

SHOTGUN FLOWABLE HERBICIDE will control or suppress numerous annual broadleaf and perennial broadleaf weeds, as well as certain grasses. A grass herbicide registered for use on the same crop will also be needed for complete grass control.

SHOTGUN FLOWABLE HERBICIDE may be applied preplant through early postemergence to field corn, postemergence to sorghum, in post-harvest fallow (wheat/fallow/wheat) and ecofallow (wheat/corn or sorghum/fallow) rotations, and in established conifers.

Certain states have regulations which may affect the use of this product. Contact your state pesticide authority for additional information.

MIXING PROCEDURE

This herbicide is a flowable liquid formulation for dilution with water. Except for fallow, preplant, or preemergence applications on this label, do not use liquid fertilizer to replace water as diluent. The addition of adjuvants, oils, nutrients, other pesticides, or any other spray materials to postemergent growing crop sprays may reduce selectivity and cause unacceptable crop injury or loss. Shake well before using.

To prepare the spray mixture, fill clean spray tank 1/2 to 2/3 full with clean water. Start hydraulic or mechanical agitation and add required amount of this herbicide. Finish filling tank with water. Continuous agitation is needed to maintain product in suspension. Whenever possible, prepare only as much spray as can be applied on the day of mixing. All screens and strainers should be no finer than 50 mesh (no finer than 16 mesh suction screens for liquid fertilizer).

Clean sprayer thoroughly immediately after use by flushing system with water and heavy duty detergent such as Loveland Products Inc. Tank & Equipment Cleaner.

APPLICATION PROCEDURES

For all types of applications, calibrate spray equipment to deliver the required volume. Use sufficient spray volume within the ranges specified to obtain good coverage of weeds.

SHOTGUN® FLOWABLE HERBICIDE

EPA REG NO. 34704-728

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Better weed control will result if there is no rainfall or irrigation within at least 4 hours following application.

At temperatures above 85°F., vapors from this product may injure susceptible plants growing nearby.

Weed control and crop tolerance will be best when plants have neither too little nor excessive moisture before or after application, and the crop is not under other stresses.

Ground Broadcast Treatment: Apply this product in 10 to 50 gallons of spray solution per acre using a boom type sprayer. Use flat fan nozzles and an operating pressure of 35 to 40 psi at the boom. A pressure of 30 psi or less may be desirable to help minimize drift if adequate weed coverage can be obtained at such pressure. Higher volumes of solution and lower travel speeds are generally helpful when lowering pressure.

Ground Band Treatment: Determine band equivalents to broadcast rates and volumes by the following formulas:

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

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast Volume per acre} = \text{Band volume per acre}$$

Even flat fan nozzles are usually preferred for band applications.

Chemigation: Do not apply this product through any type of irrigation system.

Aerial Broadcast Treatment: Apply this product in 3 to 10 gallons of solution per acre. Do not use nozzles or nozzle configurations that generate fine droplets. Mechanical flagging systems such as Automatic Flagmen are suggested to obtain more uniform application. With fixed-wing aircraft or helicopter application, an exactly even swath deposition cannot be achieved, and consequently crop injury or pesticide nonperformance may result wholly or in part. Do not apply by air during periods of thermal inversion. Avoid application if potential for drift is excessive and/or susceptible crops are growing in the vicinity.

WEEDS CONTROLLED

SHOTGUN FLOWABLE HERBICIDE will control or partially control the following weeds in addition to many other susceptible noxious plants. Locally resistant biotypes of listed weeds will generally be suppressed such that competition with the crop is reduced.

Alfalfa*	Henbit	Sowthistle*
Black Nightshade	Ivyleaf Morningglory	Spanisheedles
Buffalobur	Jimsonweed	Sunflower
Burcucumber	Marestail	Tall (Common) Morningglory**
Canada Thistle*	Milkweed*	Tall Waterhemp
Cocklebur	Musk Thistle** (3 pts.)	Tansy Mustard
Common Lambsquarters	Mustard	Toothed Spurge
Common Ragweed	Pennsylvania Smartweed	Velvetleaf
Common Waterhemp	Pennycrass (Fanweed)	Venice Mallow
Dandelion*	Puncturevine	Vetch*
Docks	Purple Deadnettle	Wild Buckwheat
Eastern Black Nightshade	Redroot Pigweed	Wild Lettuce
Giant Ragweed	Shepherdspurse	Wild Mustard
Hemp Dogbane*	Sicklepod	

*Perennial weed that may require repeated applications for control

**Suppression only

GRASSES SUPPRESSED

SHOTGUN FLOWABLE HERBICIDE will suppress the following grasses. A grass herbicide registered for use on the same crop will also be needed for complete control.

Downy Brome	Green Foxtail	Large (hairy) Crabgrass
Wild Oats	Witchgrass	Yellow Foxtail

COMPATIBILITY

Before full-scale mixing of this product with other herbicides, fertilizer solutions and adjuvants, it is advisable to determine the compatibility of the proposed mixture. Use proportionate quantities of each ingredient and mix in a small container. Always mix one product thoroughly with water before adding another product. If no incompatibility is evident after 30 minutes, the mixture is generally compatible for spraying.

Avoid applying this product with Accent® SP Herbicide because crop injury and/or severe grass control antagonism may occur. This product should be applied at least 7 days before or 3 days after Accent SP Herbicide.

Dry Bulk Fertilizer Impregnation Uses:

- Impregnation of bulk fertilizer is restricted to commercial facilities. On-farm fertilizer impregnation is prohibited.
- No more than 500 tons of dry bulk fertilizer can be impregnated per day.

- No single facility may impregnate fertilizer with this product for more than 30 days per calendar year.
- The commercial facility impregnating the dry bulk fertilizer must inform, in writing, the user (applicator) of the dry bulk fertilizer that:
 - Applicators must wear long-sleeved shirt, long pants, shoes and socks.
 - The restricted entry interval is 12 hours.

TANK MIX REQUIREMENTS

When tank-mixing or sequentially applying atrazine or products containing atrazine to corn or sorghum, the total pounds of atrazine applied (lbs ai/A) must not exceed 2.5 pounds active ingredient per year.

When tank-mixing or sequentially applying atrazine or products containing atrazine to crops other than corn or sorghum, the total pounds of atrazine applied (lbs ai/A) must not exceed the specific seasonal rate limits as noted in the use directions.

SPECIFIC CROP USES

Read all preceding general sections of label and NOTICE before use. Because crop varieties vary in response to herbicides, consult your seed company, Agricultural Extension service or other qualified agricultural consultant for additional information on your application. Use higher rates listed for larger or hard-to-control weeds.

Corn and Sorghum Uses PHIs

- Field corn forage uses: 60-day PHI
- Preemergent sorghum forage uses: 60-day PHI
- Postemergent sorghum forage uses: 45 -day PHI

Maximum broadcast application rates for corn and sorghum must be as follows:

- If no atrazine was applied prior to corn/sorghum emergence, apply a maximum of 2 lbs ai/A broadcast. If a postemergent treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lbs ai/A per calendar year.
- Apply a maximum of 2.0 lbs ai/A as a single preemergence application on soils that are not highly erodible or on highly erodible soils if at least 30% of the soil is covered with plant residues; or
- Apply a maximum of 1.6 lbs ai/A as a single preemergence application on highly erodible soils if <30% of the surface is covered with plant residues; or 2.0 lbs ai/A if only applied postemergence.

MAXIMUM RATES PRIOR TO FIELD CORN OR SORGHUM EMERGENCE:

For soil applications prior to crop emergence (including early preplant, preplant incorporated, preplant surface, at planting or preemergence) the following maximum rates apply to the total of all atrazine treatments:

Soil Erodibility Classification*	Plant Residue Amount	Atrazine Maximum Rate Per Acre
Highly erodible	30% or more (conservation tillage program)	2 lbs. active ingredient
	Less than 30% (conventional tillage program)	1.6 lbs. active ingredient
Not highly erodible	No limit	2 lbs. active ingredient

*As defined by the Soil Conservation Service

Note: SHOTGUN FLOWABLE HERBICIDE is not recommended for preplant incorporated application.

MAXIMUM RATES AFTER CORN OR SORGHUM EMERGENCE: For postemergence applications, the following maximum rates apply to the total of all atrazine treatments:

Previous Soil Application Of Atrazine To Crop	Total Atrazine Maximum Rate Per Acre Per Calendar Year
No	2 lbs. active ingredient postemergence
Yes	2.5 lbs. active ingredient combined from soil and postemergence applications.

Shotgun Rate	Atrazine Equivalent
1.5 pints	0.422 pounds
2 pints	0.563 pounds
2.5 pints	0.703 pounds
3 pints	0.844 pounds

FIELD CORN: Preplant Surface Application: To control existing and emerging broadleaf weed seedlings or susceptible cover crops prior to planting field corn, apply this product approximately 7 to 14 days before planting. Use according to the following rate table:

SHOTGUN® FLOWABLE HERBICIDE

EPA REG NO. 34704-728

PREPLANT APPLICATION RATES

Soil Texture	Organic Matter	Rate Per Acre
Fine or medium (Silt and clay loams)	Less than 1%	Do not make preplant application.
	1% or more	2 to 3 pints
Coarse (Sand, sandy loam, loamy sand)	Less than 2%	Do not make preplant application.
	2% or more	2 pints

To control grasses or certain other problem weeds, it may be desirable to use a tank mixture with other herbicides. Observe the most restrictive label statements of various tank mix products used.

Preemergence: Follow preplant application rates above except that timing is 5 to 7 days after planting but prior to corn emergence. Corn seed should be covered with at least 1½ inches of soil. Do not apply preemergence if a preplant application of this product was made.

Postemergence: Apply early postemergence from spike to 5-leaf stage of crop, but before 12 inches in height. Avoid spraying just after corn leaves unfold. Weeds and crop should be actively growing and not under stress. Postemergence application should not follow a preplant or preemergence application of this product by less than 3 weeks. Treated crop may be brittle and subject to breaking by wind and/or cultivation, especially in the 2 weeks following application. Use according to the following rate table:

FIELD CORN POSTEMERGENCE APPLICATION RATES

Crop Stage	Rate Per Acre	Comments
Spike to 4-leaf or up to 8 inches tall	All soil textures	2 pints Over the top broadcast spray for small, easy to control weeds.
	Fine or medium soils (silt and clay loams) with 2% or more organic matter	up to 3 pints Over the top broadcast spray. Do not apply to coarse soils (sand, sandy loam, loamy sand).
5-leaf or 8 to 11¾ inches tall	Fine or medium soils (silt and clay loams)	up to 3 pints Directed spray. For all soil textures, use drop nozzles to keep spray off corn leaves, especially whorl. Ground application only.
	Coarse soils (sand, sandy loam, loamy sand)	2 pints

Replanting and Rotational Crops

- If the treated crop is destroyed before maturity, only corn or sorghum can be replanted until the next year. This product may be applied to the replanted crop provided that the yearly maximum for atrazine is not exceeded and at least 3 weeks have elapsed since first treatment.
- Because this product has some residual activity, crops planted in treated fields the next season may be injured. Consult your local Agricultural Extension Service regarding the potential for carryover injury to rotational crops for your soil types and environmental conditions. If you are uncertain about a specific situation, a soil analysis for atrazine may be appropriate.
- In the High Plains and Intermountain areas of the West where rainfall is sparse and erratic or where irrigation is required, a treated crop should be followed only by corn or sorghum, or a crop of untreated corn or sorghum should precede any other rotational crop.
- Injury may occur to soybeans planted the year following application of this product to soils having a calareous surface layer.

Tank Mix With Bromoxynil or Dicamba for Kochia Control: Follow crop stages and all other limitations for the 2 pints rate shown above in Field Corn Postemergence Application Rates, except use the special application rate given below. For best results, resistant or non-resistant kochia should be no more than 1½ to 2 inches tall, nor past the 4-leaf stage. Control will be less satisfactory on more mature kochia. Observe the most restrictive label statements of various tank mix products used.

SHOTGUN TANK MIXES FOR KOCHIA CONTROL

Shotgun Rate Per Acre	Tank Mix Herbicide Rate Per Acre
1.5 pints	0.75 pints of Bromoxynil 2L* (0.1875 pound active ingredient)
1.5 pints	2 to 4 fluid ounces of Dicamba 4L* (0.0625 to 0.125 pound active ingredient)

*Apply equivalent rates if other formulations are used.

SORGHUM: Postemergence: Apply early postemergence from spike to 5-leaf stage of crop, but before 12 inches in height is exceeded. Avoid spraying just after leaves unfold. Weeds and crop should be actively growing and not under stress. Treated crop may be brittle and subject to breaking by wind and/or cultivation, especially in the 2 weeks following application. Use according to the following rate table:

SORGHUM POSTEMERGENCE APPLICATION RATES

Crop Stage	Rate Per Acre	Comments
Spike to 4-leaf or up to 8 inches tall	2 pints	Over the top broadcast spray.
5-leaf or 8 to 11¾ inches tall	2 pints	Directed spray. Use drop nozzles to keep spray off crop leaves. Ground application only.

Sorghum is a sensitive crop and may be susceptible to injury from this product. Do not apply if the risk of crop injury is unacceptable.

Follow Replanting and Rotational Crops restrictions for field corn, and the following additional limitations:

- Heavy rains immediately following application tend to concentrate herbicide in seed furrows resulting in possible crop injury. Furrows and planter marks should be leveled before application of this product to furrow-planted crop.
- Do not graze or feed forage from treated areas for 21 days following application.
- Do not make more than one application of this product to sorghum per growing season.
- The Replanting and Rotational Crops statements for field corn also apply to sorghum.

Tank Mix With Bromoxynil or Dicamba for Kochia Control: Follow crop stages and all other limitations shown above in Sorghum Postemergence Application Rates, except use the special application rate given below. For best results, resistant or non-resistant kochia should be no more than 1½ to 2 inches tall, nor past the 4-leaf stage. Control will be less satisfactory on more mature kochia. Observe the most restrictive label statements of various tank mix products used.

SHOTGUN TANK MIXES FOR KOCHIA CONTROL

Shotgun Rate Per Acre	Tank Mix Herbicide Rate Per Acre
1.5 pints	0.75 pints of Bromoxynil 2L* (0.1875 pound active ingredient)
1.5 pints	2 to 4 fluid ounces of Dicamba 4L* (0.0625 to 0.125 pound active ingredient)

*Apply equivalent rates if other formulations are used.

FALLOW LAND POSTHARVEST TO WHEAT: Follow each of the crop rotations as indicated or crop injury may result. Do not graze or feed forage from treated area to livestock. Do not plant any crop other than those listed on this label within 18 months following treatment. Use only on silt loam or finer textured soils. In some areas, it is recommended to spray wheat stubble ground within 10 days after harvest while weeds are small. However, the spraying period may be extended by making a delayed application or split applications as provided in directions below. Carefully timed applications may also improve control of some species because of factors such as growth stage, air temperature or moisture conditions. To control grasses or certain other problem weeds, it may be desirable to use a tank mixture with other herbicides. Observe the most restrictive label statements of various tank mix products used.

Wheat/Fallow/Wheat (CO, KS, MT, NE, ND, OK, SD, TX & WY): Broadcast 1¾ to 3½ pints per acre to control cheatgrass (downy brome, chess), common lambsquarters, field pennycress, mustard, wild lettuce and many other susceptible weeds. Apply this product only once in the same fallow period except that split applications totaling no more than 3½ pints may be made from summer to fall following a summer harvest. Control of emerged weeds may be improved by adding an agriculturally accepted surfactant, crop oil concentrate, or fertilizer solution.

Wheat/Corn or Sorghum/Fallow (CO, KS, NE, OK & TX): Broadcast 3 to 10½ pints per acre to control many annual weeds following wheat harvest. Use highest rate for larger or harder to control weeds, and longer residual. Control may extend to the subsequent minimum tillage corn or sorghum crop. Apply this product only once in the same postharvest period except that split application totaling no more than 10½ pints may be made from summer to fall following summer harvest of wheat. Control of emerged weeds may be improved by adding an agriculturally accepted surfactant, crop oil concentrate, or fertilizer solution. Plant corn or sorghum into the stubble with minimum disturbance of the soil. Use a surface planter or a planter leaving a shallow furrow. If weeds are present, remove them with a sweep plow, other suitable implement, or herbicide registered for such use. Do not apply this product postharvest to corn or sorghum crops.

CHEMICAL FALLOW USE RESTRICTIONS

For soils in North and South Dakota with a pH of 7.5 or greater:

- Do not apply more than 1.5 pounds active ingredient per acre for any application.
- Do not apply more than one application per year.

SHOTGUN® FLOWABLE HERBICIDE

EPA REG NO. 34704-728

For soils in North and South Dakota with a pH of less than 7.5:

- Do not apply more than 2.0 pounds active ingredient per acre for any application.
- Do not apply more than one application per year.

For all other locations:

- Do not apply more than 2.25 pounds active ingredient per acre for any application.
- Do not apply more than one application per year.

PERENNIAL GRASSLANDS NOT IN AGRICULTURAL PRODUCTION (NE, OK, OR, and TX): This herbicide can be used to control or suppress a number of weeds in perennial grasslands that are set aside from agricultural use, such as in the Conservation Reserve Program (CRP) or similar government programs. Grass, hay and seed crops may not be utilized (see Limitations below). For best results, apply when broadleaf weeds are small. Adequate moisture is needed for best grass tolerance and weed control. Do not apply where legumes and bentgrass are desirable species. Grasses may be discolored following treatment. Making more than one application per year may increase risk of crop injury.

Establishment: Preseeding applications must occur at least 30 days prior to seeding. If prepared seedbed gets weedy before seeding, apply 2 to 4 pints per acre.

New Stands of Big Bluestem, Switchgrass and Eastern Gramagrass: Newly seeded stands may be treated only after they are well established or injury may occur. Apply 2 to 4 pints per acre.

Renovation of Existing Stands of Big Bluestem and Switchgrass: Apply 2 to 4 pints per acre on soils with 1 to 2% organic matter, and up to 6 pints on soils with 2% or more organic matter.

Renovation of Existing Stands of Blue Grama, Indiangrass, Little Bluestem, Sand Lovegrass, Sideoats Grama and Western Wheatgrass: Apply 2 to 4 pints per acre.

Limitations:

1. Do not apply more than 2 pounds active ingredient per acre for any applications.
2. Do not make more than one application per year.
3. Do not cut hay or feed grass hay to livestock. This limitation supersedes any exceptions in the government program regarding use of hay.
4. Do not graze treated areas. This limitation supersedes any exceptions in the government program regarding grazing.
5. Do not use seeds for bird food.

ESTABLISHED CONIFERS (Including Christmas trees and reforestation areas): This herbicide can be used as a directed spray between and around conifers of all species. Use ground application equipment only. If a boom sprayer is not practical, use other spray equipment capable of directing spray to weeds and minimizing contact with conifers. Make applications in the early spring when weeds are small and actively growing, and before budbreak of conifers. Fall dormant applications may be preferable in areas where fall moisture is more regular than spring moisture.

To control many annual broadleaf weeds: Apply 3 to 4 pints per acre when susceptible weeds are about 4 inches or less in height.

For more extended control of broadleaf weeds and partial control or suppression of certain grasses: Apply 5 to 6 pints per acre when weeds and grasses are small.

Limitations:

1. Do not apply more than 4 pounds active ingredient per year.
2. Keep spray or drift off of conifer shoot growth or injury may occur.
3. Do not apply by air.
4. In areas west of the Rocky Mountains (except Great Basin), do not graze meat or milk animals on treated areas within 7 months of a fall application or 3 months of a spring application. Do not graze treated areas in the Great Basin or east of the Rocky Mountains.
5. Coarse soils increase the likelihood of conifer injury by this product. Do not use on sand, loamy sand or sandy loam if the risk of injury is unacceptable.
6. Do not apply to seedbeds.
7. Apply no more than 7 quarts per acre per 12 months.

WARRANTY DISCLAIMER AND NOTICE

THE DIRECTIONS FOR USE OF THIS PRODUCT ARE BELIEVED TO BE ADEQUATE AND 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 DUE TO SUCH FACTORS AS WEATHER CONDITIONS, PRESENCE OR ABSENCE OF OTHER MATERIALS, OR THE MANNER OF USE OR APPLICATION, ALL OF WHICH ARE BEYOND THE CONTROL OF LOVELAND PRODUCTS INC., THE MANUFACTURER OR SELLER.

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