



U.S. ENVIRONMENTAL PROTECTION AGENCY  
 Office of Pesticide Programs  
 Registration Division (7505P)  
 1200 Pennsylvania Ave., N.W.  
 Washington, D.C. 20460

**EPA Reg. Number:**

5905-642

**Date of Issuance:**

1/29/21

**NOTICE OF PESTICIDE:**

Registration  
 Reregistration  
 (under FIFRA, as amended)

**Term of Issuance:**

Conditional

**Name of Pesticide Product:**

HM-1824 Herbicide

**Name and Address of Registrant (include ZIP Code):**

Ann Tillman  
 Senior Regulatory Consultant  
 Agent for Helena Agri-Enterprises LLC  
 c/o Pyxis Regulatory Consulting, Inc.  
 4110 136<sup>th</sup> St. Ct. NW  
 Gig Harbor, WA 98332

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

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

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

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

*Continued on page 2*

**Signature of Approving Official:**

Mindy Ondish, Product Manager 23  
 Herbicide Branch, Registration Division (7505P)

**Date:**

1/29/21

2. You are required to comply with the data requirements described in the Generic Data Call-In (GDCI) identified below:
  - a. Atrazine GDCI-080803-1780

You must comply with all of the data requirements within the established deadlines. If you have questions about the GDCI listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: <http://iaspub.epa.gov/apex/pesticides/f?p=chemicalsearch:1>

3. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSF:

- Basic CSF dated 10/09/2019

Additionally, the alternate brand name "**Empyros Triad Flex**" has been added to the product record.

If you have any questions, please contact Curtis Hildebrandt at 703-347-8198 or by email at [hildebrandt.curtis@epa.gov](mailto:hildebrandt.curtis@epa.gov).

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.

**For Ground Application Only**

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

<b>S-METOLACHLOR</b>	<b>GROUP</b>	<b>15</b>	<b>HERBICIDE</b>
<b>ATRAZINE</b>	<b>GROUP</b>	<b>5</b>	<b>HERBICIDE</b>
<b>TOLPYRALATE</b>	<b>GROUP</b>	<b>27</b>	<b>HERBICIDE</b>

**HM-1824 Herbicide**

**(Alternate Brand Name: Empyros Triad Flex)**

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

Active Ingredients*:	% w/w
(S)-Metolachlor, S)-2-Chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl) acetamide .....	28.00%
Atrazine, 6-chloro-N <sup>2</sup> -ethyl-N <sup>4</sup> -isopropyl-1,3,5-triazine-2,4-diamine.....	10.50%
Tolpyralate, (RS)-1-(1-Ethyl-4-(4-mesyl-3-(2-methoxyethoxy)-o-toluoyl)pyrazol-5-yloxy)ethyl methyl carbonate.....	0.54%
Other Ingredients: .....	<u>60.96%</u>
TOTAL: .....	100.00%

\*Active ingredients per gallon: S-metolachlor 2.47 pounds, atrazine 0.93 pounds and tolpyralate 0.048 pounds.

Contains safener for corn.

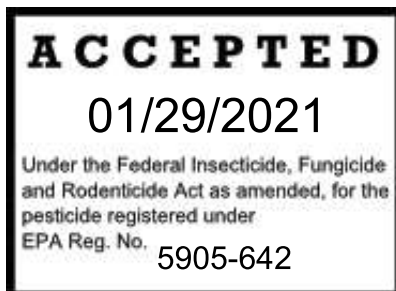
**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

**See additional precautionary statements and directions for use inside booklet.**

EPA REG. NO. 5905-642  
EPA EST. No. \_\_\_\_\_

AD XXXXXX  
NET CONTENTS: \_\_\_\_\_



Manufactured for  
Helena Agri-Enterprises, LLC  
225 Schilling Boulevard, Suite 300  
Collierville, TN 38017

<b>FIRST AID</b>	
IF IN EYES:	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a Poison Control Center or doctor for treatment advice.</li> </ul>
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a Poison Control Center or doctor for treatment advice.</li> </ul>
IF SWALLOWED:	<ul style="list-style-type: none"> <li>• Call a Poison Control Center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>HOT LINE NUMBER</b>	
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. In case of an emergency involving this product and for 24-hour medical emergency assistance (human or animal) and chemical emergency assistance (spill, leak, fire, or accident), call CHEMTREC at <b>1-800-424-9300</b>.</p>	

**PRECAUTIONARY STATEMENTS**  
**Hazards to Humans and Domestic Animals**  
**CAUTION**

Causes moderate eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

**Personal Protective Equipment (PPE)**

**Mixers, Loaders, Applicators and other handlers must wear:**

- Protective eyewear
- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, polyethylene, polyvinyl chloride(PVC) ≥14 mils or Viton® ≥14 mils)
- Shoes plus socks
- 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. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

### **User Safety Recommendations**

#### **Users should:**

- Remove clothing/PPE 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.

#### **Engineering Controls**

When applicators use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.607(d-e)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### **Environmental Hazards**

This product 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 or runoff 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 or rinsate.

#### **Ground Water Advisory**

Atrazine can travel (seep or leach) through soil and can enter ground water which may be used as drinking water. Atrazine has been found in ground water. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (ground water) 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 ground water.

Tolpyralate and s-metolachlor have properties and characteristics associated with chemicals detected in groundwater. They may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

#### **Surface Water Advisory**

This product has the potential to contaminate surface water through ground spray drift and runoff of rain water. This product is classified as having high potential for reaching surface water (via runoff) for several months or more after application. Conditions that contribute to this potential include poorly drained or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain to surface water.

A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features including ponds, streams, and springs will reduce the potential loading of this product from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

**Non-Target Organism Advisory Statement:** This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

#### **Mixing/Loading/Application Instructions**

Take care when using this product to prevent back-siphoning into wells, spills, or improper disposal of excess pesticide, spray mixtures, or rinsates.

Check valves or antisiphoning devices must be used on mixing equipment.

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

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

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

#### **Tile-Outletted Terraced Fields Containing Standpipes**

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

1. Do not apply this product within 66 ft of standpipes in tile-outletted terraced fields.
2. Apply this product to the entire tile-outletted terraced field and immediately incorporate it to a depth of 2-3 inches in the entire field.
3. Apply this product to the entire tile-outletted terraced 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.

#### **Physical and Chemical Hazards**

Do not mix or allow to come in contact with oxidizing agents. Hazardous chemical reaction may occur.

## DIRECTIONS FOR USE

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

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.atrazinewatershed.info](http://www.atrazinewatershed.info) or 1-901-761-0050. If use of this product is prohibited in your watershed, you may return this product to your point of purchase or contact Helena Agri-Enterprises, LLC for a refund.

Use HM-1824 Herbicide only in accordance with requirements on this label or in separately published Helena supplemental labeling requirements for this product. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

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

**Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.** Exception: If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

- Coveralls
- Shoes plus socks
- Protective eyewear
- Chemical-resistant gloves made of barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, natural rubber  $\geq 14$  mils, polyethylene, polyvinyl chloride (PVC)  $\geq 14$  mils or Viton  $\geq 14$  mils

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

### PRODUCT INFORMATION

HM-1824 Herbicide may be used preemergence and early postemergence in the culture of field corn, field seed corn, and field corn silage. HM-1824 Herbicide may also be used in the culture of sweet corn, and yellow popcorn, but the application must be made prior to crop emergence, (i.e., preemergence) or severe crop injury may occur.

HM-1824 Herbicide is recommended for preemergence use for control of most annual grasses and broadleaf weeds in the crops described above. HM-1824 Herbicide may also be applied early postemergence for the control of broadleaf weeds in field corn (preemergence only in sweet corn, and yellow popcorn).

HM-1824 Herbicide is a combination of the herbicides: S-metolachlor, atrazine, and tolpyralate. HM-1824 Herbicide also contains the safener benoxacor (0.124 lb/gal). HM-1824 Herbicide controls weeds by interfering with normal germination and seedling development. Use for management of the weed species listed in Tables 1 and 2.

#### **USE PRECAUTIONS**

1. To prevent off-site movement due to runoff or wind erosion:
  - a. Avoid treating powdery dry or light sand soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
  - b. Do not apply to impervious substrates, such as paved or highly compacted surfaces.
  - c. Do not use tail water from the first flood or furrow irrigation of treated fields to treat nontarget crops, unless at least ½ inch of rainfall has occurred between application and the first irrigation.
2. Thoroughly clean sprayer or other application device before using. Dispose of cleaning solution in a responsible manner. Do not use a sprayer or applicator contaminated with other materials, or crop damage or sprayer clogging of the application device may occur.

#### **USE RESTRICTIONS**

1. Not for use in the states of Hawaii or Alaska, or in the U.S. territories (Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, and the North Mariana Islands).
2. Do not apply this product through any type of irrigation system.
3. Do not use aerial application to apply HM-1824 Herbicide.
4. Do not use HM-1824 Herbicide on any crop other than field corn (for grain, seed, or silage), sweet corn (preemergence applications only) and yellow popcorn (preemergence applications only).
5. Allow at least 14 days between applications of HM-1824 Herbicide.
6. Do not use HM-1824 Herbicide in the culture of white popcorn or ornamental (Indian) corn or injury may occur.
7. Do not apply using mechanically pressurized handguns to sweet corn.
8. Do not apply under conditions which favor runoff or wind erosion of soil containing this product to non-target areas.
9. Do not contaminate irrigation water used for non-labeled crops or water used for domestic purposes.
10. Do not apply to dry bulk fertilizers.
11. Observe all precautions and limitations on the label of each product used in tank mixtures.

#### **12. Atrazine Herbicide Rate Limitations**

Certain states may have established rate limitations within specific geographical areas for the use of atrazine. These more restrictive/protective requirements must be followed. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.

Maximum atrazine application rates for field corn, field seed corn, field silage corn, sweet corn, and yellow popcorn must be as follows:

- If no atrazine was applied prior to corn emergence, apply a maximum of 2.0 lbs. a.i./A broadcast. If a post-emergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lbs. a.i./A per calendar year. When tank mixing or sequentially applying atrazine or products containing atrazine to corn, the total pounds of atrazine applied (lbs. a.i./A) must not exceed 2.5 lbs. active ingredient per year;
- Apply a maximum of 2.0 lbs. a.i./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. a.i./A as a single preemergence application on highly erodible soils if <30% of the surface is covered with plant residues, or 2.0 lbs. a.i./A if only applied postemergence.



Applied according to directions and under normal growing conditions, HM-1824 Herbicide will not harm the treated crop. During germination and early stages of growth, extended periods of unusually cold and wet or hot and dry weather, insect or plant disease attack, carryover pesticide residues, the use of certain soil applied systemic insecticides, improperly placed fertilizers or soil insecticides, may weaken crop seedlings. HM-1824 Herbicide used under these conditions could result in crop injury.

### **WEED RESISTANCE MANAGEMENT**

For resistance management, HM-1824 Herbicide is a combination of s-metolachlor, atrazine and tolpyralate (Group 15, 5, and 27 herbicides). Any weed population may contain or develop plants naturally resistant to HM-1824 Herbicide and other Group 15, 5, and 27 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance management strategies should be followed.

To delay herbicide resistance, take one or more of the following steps:

- Rotate the use of HM-1824 Herbicide or other Group 15, 5, and 27 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Fields should be scouted prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact Helena Agri-Enterprises, LLC representatives at 901-761-0050 or at [www.helenaagri.com](http://www.helenaagri.com).

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further seed production.

Plant into weed-free fields and keep fields as weed-free as possible.

To the extent possible do not allow weed escapes to produce seeds, roots or tubers. Manage weed seeds at harvest and post-harvest to prevent a buildup of the weed seedbank.

Prevent field-to-field and within-field movement of weed seed or vegetative propagules. Thoroughly clean plant residues from equipment before leaving fields.

Prevent an influx of weeds into the field by managing field borders.

Apply this herbicide at the correct timing and rate needed to control the most difficult weed in the field.

Use a broad-spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in a weed-control program. Do not use more than two applications of this or any other herbicide with the same mechanism of action within a single growing season unless mixed with an herbicide with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.

## APPLICATION PROCEDURES

### Ground Application

Ensure that spray nozzles are uniformly spaced, the same size and type, and provide accurate and uniform application. Use spray nozzles that provide coarse or coarser droplet size (ASABE S572) to avoid drift yet provide good coverage. Ensure that all in-line strainer and nozzle screens in the sprayer are 50-mesh or coarser. Use a pump that can maintain a pressure of at least 35-40 psi at the nozzles and provide proper agitation within the tank to keep the product dispersed. Lower pressures may be used with extended range or drift reduction nozzles as long as adequate coverage is maintained. Always ensure that agitation is maintained until spraying is completed, even if stopped for brief periods of time. If the agitation is stopped for more than 5 minutes, resuspend the spray solution by running on full agitation prior to spraying.

**Preemergence:** Apply in a spray volume of 10-80 gal/A.

**Early Postemergence:** Good weed coverage is essential for optimum weed control. Base boom height for broadcast over-the-top applications on the height of the crop - at least 15 inches above the crop canopy, but only high enough to give uniform coverage. Apply in a spray volume of 10-30 gal/A. When weed foliage is dense, use a minimum spray volume of 20 gals/A. Flat fan nozzles of 80° or 110° will provide optimum postemergence coverage. Do not use floodjet nozzles or controlled droplet application equipment for postemergence applications. Nozzles may be angled forward 45° to enhance penetration of the crop and provide better coverage.

### MANDATORY SPRAY DRIFT MANAGEMENT

#### **Ground Boom Applications:**

- User must only apply with the release height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- Applicators are required to use a coarse or coarser droplet size (ASABE S572).
- Do not apply when wind speeds exceed 10 miles per hour at the application site.

- User must maintain a 15 foot (4.6 m) in-field downwind buffer (in the direction in which the wind is blowing) from the following areas:
  - edge of streams and rivers, as well as high-tide line for all estuarine/marine environments
  - threatened and endangered species critical habitat and/or species locations listed in Bulletins Live Two (<https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins>).
- Do not apply during temperature inversions.

**Boomless Ground Applications:**

- Applicators are required to use a medium or coarser droplet size (ASABE S572) for all applications.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

**SPRAY DRIFT ADVISORIES**

**THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.**

**BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.**

**IMPORTANCE OF DROPLET SIZE**

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

**Controlling Droplet Size – Ground Boom**

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

**BOOM HEIGHT – Ground Boom**

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

**SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

**TEMPERATURE AND HUMIDITY**

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

**TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

**WIND**

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

**Boomless Ground Applications:**

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

**Handheld Technology Applications:**

Take precautions to minimize spray drift.

**ADDITIVES**

When an adjuvant is to be used with this product, use an adjuvant that meets the standards of the Chemical Producers and Distributors Association (CPDA) adjuvant certification program.

**Applications After Corn Has Emerged**

When applying HM-1824 Herbicide postemergence to corn, add either a non-ionic surfactant (NIS) or crop oil concentrate (COC). When using a NIS, add at 0.25% v/v (1 qt./100 gals.). When using a COC, add at a rate of 1% v/v (1 gal./100 gals.) or the equivalent of 1 gal./100 gals. The use of COC will provide more consistent weed control than an NIS but may also result in temporary crop injury.

In addition to COC or NIS, a nitrogen-based adjuvant may also be added to increase consistency of weed control. The use of nitrogen-based adjuvants (AMS or UAN) will increase the risk of crop injury and can result in temporary crop injury.

Do not use methylated seed oil (MSO) with HM-1824 Herbicide when applied alone to emerged field corn, or when HM-1824 Herbicide is applied as a postemergence tank mixture with other products.

**Applications Prior to Corn Emergence**

Any of the adjuvants may be used at a preemergence or preplant timing, i.e., where the corn crop has not yet emerged to increase burndown activity on existing weeds.

**Use of Spray Adjuvants With Tank Mixtures**

When HM-1824 Herbicide is used as a preemergence herbicide and before weeds have emerged, spray adjuvants have little or no influence on performance. However, in burndown situations where the weeds have emerged and the corn has not, an adjuvant may be used with HM-1824 Herbicide applied alone or when applied in tank mixture with a burndown herbicide as allowed on the individual product labels. Use only those adjuvants approved for agricultural crop use.

For postemergence (after corn emergence) tank mixtures with HM-1824 Herbicide, use the additives described in the Applications After Corn Has Emerged section above for recommendations. If the HM-1824 Herbicide tank mixture partner label has more restrictive additive requirements than what is recommended on this label, follow the more restrictive directions.

**MIXING PROCEDURES**

Always refer to labels of other pesticide products for mixing directions and precautions which may differ from those outlined here. Use in accordance with the most restrictive of label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Do not tank mix HM-1824 Herbicide with any other insecticide, fungicide, fertilizer solution, or adjuvant not recommended on the label without testing compatibility as poor mixing may result. It is recommended that the compatibility of any tank-mix combination be tested on a small scale such as a jar test before actual tank mixing.

**Carrier for Preemergence Applications:** Either clean water or liquid fertilizers, excluding suspension fertilizers, may be used as carriers for preemergence applications. If fluid fertilizers are used, a

compatibility test must be done. Even if HM-1824 Herbicide is physically compatible with a fluid fertilizer, constant agitation is necessary to maintain a uniform mixture during application.

**Carrier for Postemergence Applications:** Use only clean water as the carrier when applying HM-1824 Herbicide after field corn emergence. Do not apply HM-1824 Herbicide to emerged sweet corn, and yellow popcorn.

#### **ADDING HM-1824 HERBICIDE TO THE SPRAY TANK**

The spray tank must be clean, thoroughly rinsed and decontaminated before adding either HM-1824 Herbicide alone or with tank-mix partners. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. If water is used as the carrier, use clean water.

Use the Following Mixing Instructions for Adding HM-1824 Herbicide to the Spray Tank:

1. Only use sprayers in good operating condition with adequate agitation. Ensure the sprayer is cleaned according to instructions on label of the product used prior to use of HM-1824 Herbicide. If water is used as the carrier, use clean water.
2. Begin to fill sprayer tank or premix tank with clean water and engage agitator. Agitation must be continued throughout the entire mixing and spraying procedure.
3. When the sprayer or premix tank is half full of water, begin to add the mixture components (if they pass the compatibility test).
4. If ammonium sulfate (AMS) is used, continue agitation until completely dispersed.
5. If a wettable powder or dry flowable formulation is used, add it slowly to the tank. Mixing and compatibility may be improved when a wettable powder or dry flowable is diluted with water before adding to the tank. Agitate during the procedure.
6. If a flowable formulation is used, add slowly to the tank.
7. Add HM-1824 Herbicide.
8. Add any other tank-mix products next, with emulsifiable concentrates added last.
9. Add an adjuvant last, if needed.
10. Complete filling the sprayer tank and continue agitation. Apply as soon as possible after spray mixture is prepared. Do not leave mixture in spray tank overnight without agitation or unattended.

If HM-1824 Herbicide is added to the spray tank via induction, compatibility may be compromised. If an induction tank (or similar equipment) is used, add each product separately and allow each to disperse into the spray tank before adding the next product. For best tank-mix compatibility, rinse the induction tank with water before adding each component.

It is recommended that HM-1824 Herbicide not be added to the spray tank via in-line injection.

#### **TANK MIX COMPATIBILITY TEST**

Conduct a compatibility test before tank mixing to ensure compatibility of HM-1824 Herbicide with other pesticides. The following test assumes a spray volume of 25 gal/A. For other spray volumes, make appropriate changes in the ingredients.

Nitrogen solutions or complete liquid fertilizers, excluding suspension fertilizers, may replace all or part of the water in the spray. Because liquid fertilizers vary, even within the same analysis, always check compatibility with pesticide(s) before use. Incompatibility of tank mixtures is more common with mixtures of fertilizer and pesticides.

### **Compatibility Test Procedure**

1. Add 1.0 pt of carrier (fertilizer or water) to each of two 1 qt jars with tight lids. Note: Use the same source of water that will be used for the tank mix and conduct the test at the temperature the tank mix will be applied.
2. To one of the jars, add ¼ tsp or 1.2 milliliters of a compatibility agent approved for this use (¼ tsp is equivalent to 2.0 pt/100 gal spray). Shake or stir gently to mix.
3. To both jars, add the appropriate amount of pesticide(s) in their relative proportions based on label rates. If more than one pesticide is used, add them separately with dry pesticides first, flowables next, and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix.
4. After adding all ingredients, put lids on and tighten, and invert each jar ten times to mix. Let the mixtures stand 15-30 minutes and then look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if the compatibility agent is needed in the spray mixture by comparing the two jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (a) slurry the dry pesticide(s) in water before addition, or (b) add ½ the compatibility agent to the fertilizer or water and the other ½ to the emulsifiable concentrate or flowable pesticide before addition to the mixture. If incompatibility is still observed, do not use the mixture.
5. After compatibility testing is complete, dispose of any pesticide wastes in accordance with the Storage and Disposal section in this label.

### **Cleaning Equipment After Application**

Special attention must be given to cleaning equipment before spraying a crop other than field corn. Mix only as much spray solution as needed.

1. Flush tank, hoses, boom, and nozzles with clean water.
2. Prepare a cleaning solution of 1 gal of household ammonia per 25 gal of water. Many commercial spray tank cleaners may be used.
3. Use a pressure washer to clean the inside of the spray tank with this solution. Take care to wash all parts of the tank, including the inside top surface. If a pressure washer is not available, completely fill the sprayer with the cleaning solution to ensure contact of the cleaning solution with all internal surfaces of the tank and plumbing. Start agitation in the sprayer and thoroughly recirculate the cleaning solution for at least 15 minutes. Remove all visible deposits from the spraying system.
4. Flush hoses, spray lines, and nozzles for at least 1 minute with the cleaning solution.
5. Remove boom end caps and flush dead space areas, with water, then replace caps.
6. Dispose of rinsate from steps 1-5 in an appropriate manner.
7. Repeat steps 2-6.
8. Remove nozzles, screens, and strainers and clean separately in the ammonia solution after completing the above procedures.
9. Rinse the complete spraying system with clean water.

### **WEEDS CONTROLLED**

HM-1824 Herbicide applied as directed in this label will control or suppress the weeds listed in Tables 1 and 2. Optimal weed control will be obtained if HM-1824 Herbicide is applied according to all label use directions.

If a significant rainfall does not occur within 7 days after application, weed control may be decreased. If

irrigation is available, apply ½ to 1 inch of water. If irrigation is not available, a uniform shallow cultivation is recommended as soon as weeds emerge.

Where reference is made to weeds partially controlled, partial control can either mean erratic control from good to poor or consistent control at a level below that generally considered acceptable for commercial weed control.

Dry weather following preemergence application of HM-1824 Herbicide may reduce weed control effectiveness. Cultivate if weeds develop in conventional tillage corn.

**Table 1. Weeds Controlled or Partially Controlled by Preemergence Applications of HM-1824 Herbicide**

<b>Common Name</b>	<b>Scientific Name</b>	<b>C = Control PC = Partial Control</b>
Amaranth, Palmer	<i>Amaranthus palmeri</i>	C
Amaranth, Powell	<i>Amaranthus powellii</i>	C
Barnyardgrass	<i>Echinochloa crus-galli</i>	C
Bedstraw, catchweed	<i>Galium aparine</i>	PC
Beggarweed, Florida	<i>Desmodium tortuosum</i>	C
Buckwheat, wild	<i>Polygonum convolvulus</i>	C
Buffalobur	<i>Solanum rostratum</i>	C
Carpetweed	<i>Mollugo verticillata</i>	C
Chickweed, common	<i>Stellaria media</i>	C
Cocklebur, common	<i>Xanthium strumarium</i>	PC
Crabgrass	<i>Digitaria</i> spp.	C
Crowfootgrass	<i>Dactyloctenium aegyptium</i>	C
Cupgrass, prairie	<i>Eriochloa contracta</i>	C
Cupgrass, Southwestern	<i>Eriochloa gracilis</i>	C
Cupgrass, woolly	<i>Eriochloa villosa</i>	PC
Deadnettle, purple	<i>Lamium purpureum</i>	C
Devil's-claw	<i>Proboscidea louisianica</i>	C
Foxtail, giant	<i>Setaria faberi</i>	C
Foxtail, green	<i>Setaria viridis</i>	C
Foxtail, robust (purple, white)	<i>Setaria</i> spp.	C
Foxtail, yellow	<i>Setaria pumila</i>	C
Galinsoga	<i>Galinsoga parviflora</i>	C
Goosegrass	<i>Eleusine indica</i>	C
Henbit	<i>Lamium amplexicaule</i>	C
Horseweed (maretail)	<i>Conyza canadensis</i>	C
Jimsonweed	<i>Datura stramonium</i>	C
Johnsongrass, seedling	<i>Sorghum halepense</i>	PC
Kochia	<i>Kochia scoparia</i>	C
Lambsquarters, common	<i>Chenopodium album</i>	C
Mallow, Venice	<i>Hibiscus trionum</i>	C
Millet, foxtail	<i>Setaria italica</i>	C
Millet, wild proso	<i>Panicum miliaceum</i>	PC
Morningglory, ivyleaf/entireleaf	<i>Ipomoea hederacea</i>	PC
Mustard, wild	<i>Brassica kaber</i>	C

Nightshade, black	<i>Solanum nigrum</i>	C
Nightshade, eastern black	<i>Solanum ptycanthum</i>	C
Nightshade, hairy	<i>Solanum sarrachoides</i>	C
Panicum, Texas	<i>Panicum texanum</i>	PC
Pigweed, redroot	<i>Amaranthus retroflexus</i>	C
Pigweed, smooth	<i>Amaranthus hybridus</i>	C
Puncturevine	<i>Tribulus terrestris</i>	PC
Purslane, common	<i>Portulaca oleracea</i>	C
Pusley, Florida	<i>Richardia scabra</i>	C
Radish, wild	<i>Raphanus raphanistrum</i>	C
Ragweed, common	<i>Ambrosia artemisiifolia</i>	PC
Ragweed, giant	<i>Ambrosia trifida</i>	PC
Rice, red	<i>Oryza sativa</i>	C
Sandbur, field	<i>Cenchrus incertus</i>	PC
Sesbania, hemp	<i>Sesbania exaltata</i>	C
Shattercane	<i>Sorghum bicolor</i>	PC
Shepherd's-purse	<i>Capsella bursa-pastoris</i>	C
Sida, prickly	<i>Sida spinosa</i>	PC
Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>	PC
Signalgrass, narrowleaf	<i>Brachiaria piligera</i>	C
Smartweed, ladysthumb	<i>Polygonum persicaria</i>	C
Smartweed, Pennsylvania	<i>Polygonum pensylvanicum</i>	C
Sprangletop, red	<i>Leptochloa filiformis</i> C	C
Starbur, bristly	<i>Acanthospermum hispidum</i>	C
Sunflower, common	<i>Helianthus annus</i>	PC
Velvetleaf	<i>Abutilon theophrasti</i>	C
Waterhemp, common	<i>Amaranthus rudis</i>	C
Waterhemp, tall	<i>Amaranthus tuberculatus</i>	C
Witchgrass	<i>Panicum capillare</i>	C

**Table 2. Weeds Controlled or Partially Controlled by Early Postemergence Applications of HM-1824 Herbicide**

HM-1824 Herbicide applied early postemergence will provide control or partial control of small emerged weeds (less than 3 inches) but will not provide consistent or effective control of weeds identified as resistant to postemergence HPPD inhibitors.

Common Name	Scientific Name	C = Control PC = Partial Control
Amaranth, Palmer	<i>Amaranthus palmeri</i>	C
Amaranth, Powell	<i>Amaranthus powellii</i>	C
Barnyardgrass	<i>Echinochloa crus-galli</i>	C
Beggarweed, Florida	<i>Desmodium tortuosum</i>	C
Buckwheat, wild	<i>Polygonum convolvulus</i>	C
Carpetweed	<i>Mollugo Verticillata</i>	C
Chickweed, common	<i>Stellaria media</i>	C
Cocklebur, common	<i>Xanthium strumarium</i>	PC



Crabgrass, large	<i>Digitaria spp.</i>	C
Crowfootgrass	<i>Dactyloctenium aegyptium</i>	C
Cupgrass, prairie	<i>Eriochloa contracta</i>	C
Cupgrass, Southwestern	<i>Eriochloa acuminata</i>	C
Cupgrass, woolly	<i>Eriochloa villosa</i>	C
Dandelion	<i>Taraxacum officinale</i>	PC
Deadnettle, purple	<i>Lamium purpureum</i>	C
Devil's-claw	<i>Proboscidea louisianica</i>	C
Foxtail, giant	<i>Setaria faberi</i>	C
Foxtail, green	<i>Setaria viridis</i>	C
Foxtail, yellow	<i>Setaria pumila</i>	C
Galinsoga	<i>Galinsoga parviflor</i>	C
Goosegrass	<i>Eleusine indica</i>	C
Hemp	<i>Cannabis sativa.</i>	C
Henbit	<i>Lamium amplexicaule</i>	C
Horsenettle	<i>Solanum carolinense</i>	C
Horseweed (marestail)	<i>Conyza canadensis</i>	C
Jimsonweed	<i>Datura stramonium</i>	C
Kochia	<i>Kochia scoparia</i>	C
Lambsquarters, common	<i>Chenopodium album</i>	C
Mallow, Venice	<i>Hibiscus trionum</i>	C
Marestail	<i>Hippuris vulgaris</i>	PC
Millet, foxtail	<i>Setaria italica</i>	C
Millet, wild proso	<i>Panicum miliaceum</i>	PC
Morningglory, tall	<i>Ipomoea purpurea</i>	PC
Morningglory, ivyleaf/entireleaf	<i>Ipomoea hederacea</i>	PC
Mustard, blue	<i>Chorispora tenella</i>	C
Mustard, wild	<i>Brassica kaber</i>	C
Nightshade, black	<i>Solanum nigrum</i>	C
Nightshade, eastern black	<i>Solanum ptycanthum</i>	C
Nightshade, hairy	<i>Solanum sarrachoides</i>	C
Nutsedge, yellow	<i>Cyperus esculentus</i>	C
Panicum, fall	<i>Panicum dichotomiflorum</i>	C
Pigweed, redroot	<i>Amaranthus retroflexus</i>	C
Pigweed, smooth	<i>Amaranthus hybridus</i>	C
Pokeweed	<i>Phytolacca americana</i>	C
Potatoes, volunteer	<i>Solanum spp.</i>	C
Purslane, common	<i>Portulaca oleracea</i>	C
Pusley, Florida	<i>Richardia scabra</i>	C
Radish, wild	<i>Raphanus raphanistrum</i>	C
Ragweed, common	<i>Ambrosia artemisiifolia</i>	C
Ragweed, giant	<i>Ambrosia trifida</i>	C
Sesbania, hemp	<i>Sesbania exaltata</i>	C
Shattercane/vol. sorghum	<i>Sorghum bicolor</i>	PC
Shepherd's-purse	<i>Capsella bursa-pastoris</i>	C
Sida, prickly	<i>Sida spinosa</i>	C

Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>	PC
Signalgrass, narrowleaf	<i>Brachiaria piligera</i>	C
Smartweed, ladysthumb	<i>Polygonum persicaria</i>	C
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	C
Sowthistle, annual	<i>Sonchus oleraceus</i>	C
Sunflower, volunteer	<i>Helianthus annuus</i>	C
Sunflower, wild (common)	<i>Helianthus annuus</i>	PC
Velvetleaf	<i>Abutilon theophrasti</i>	C
Thistle, Canada	<i>Cirsium arvense</i>	C
Waterhemp, common	<i>Amaranthus rudis</i>	C
Waterhemp, tall	<i>Amaranthus tuberculatus</i>	C

A tank mix of atrazine with HM-1824 Herbicide can enhance control of certain emerged annual grass weeds. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Refer to the atrazine product label for weeds controlled and other restrictions.

#### ROTATIONAL CROPS

Crop	Rotational Interval <sup>1</sup>
Grain sorghum <sup>2</sup>	9 months
Soybeans	10 months
All other rotational crops	18 months
All corn types	Anytime

<sup>1</sup> Time between HM-1824 Herbicide application and replanting of the rotational crop.

<sup>2</sup> Grain sorghum must be seed treated with a safener to tolerate S-metolachlor.

When rotating crops following an application of HM-1824 Herbicide:

- If HM-1824 Herbicide is applied after June 1, rotating to crops other than corn (all types) the next spring, may result in crop injury.
- Do not rotate to crops other than corn (all types), soybeans, or sorghum the spring following application of HM-1824 Herbicide.
- Injury may occur to soybeans planted the year following application on soils having a calcareous surface layer - for example, those found within the Clarion-Nicollet-Webster soil series of northern Iowa and southern Minnesota.
- In eastern parts of the Dakotas, KS, western MN, and NE, do not rotate to soybeans for 18 months following application if the combined atrazine rate applied was more than 2.0 lb ai/A, or equivalent band application rate, or soybean injury may occur.
- 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 (all types) or sorghum is to follow field corn, or a crop of untreated corn (all types) or sorghum is to precede other rotational crops.

#### CROP USE DIRECTIONS - CORN

Apply HM-1824 Herbicide for preemergence use for control of most annual grass and broadleaf weeds in field corn, field corn seed corn, field corn silage, sweet corn and yellow popcorn. HM-1824 Herbicide may also be applied early postemergence for the control of annual grass and broadleaf weeds in field corn, field corn seed corn and field corn silage. Do not apply HM-1824 Herbicide to emerged sweet corn or yellow popcorn or severe crop injury may occur.

See Table 1 and 2 for a list of weeds controlled.

### HM-1824 Application Timings

**Burndown Combinations for Reduced Tillage Situations:** In reduced or no-till corn and before the crop has emerged, HM-1824 Herbicide can be applied alone or in tank mixture with paraquat, glyphosate, or other registered herbicides for burndown of emerged weeds. Refer to Tables 1 and 2 for a list of weeds controlled or partially controlled by HM-1824 Herbicide.

**Early Preplant:** HM-1824 Herbicide may be applied up to 14 days prior to planting.

**Preemergence Surface:** HM-1824 Herbicide may be applied to the soil surface as a broadcast or banded application.

**Early Postemergence:** HM-1824 Herbicide may be applied after field corn emergence. See the “ADDITIVES” section of this label for adjuvant instructions. Do not apply early postemergence to field corn in liquid fertilizer or severe crop injury may occur. Apply this treatment to small broadleaf weeds and before the field corn exceeds 12 inches in height. Occasional field corn leaf burn may result, but this will not affect later growth or corn yield. Do not apply HM-1824 Herbicide to emerged sweet corn or yellow popcorn or severe crop injury may occur.

**Split Application:** HM-1824 Herbicide may be applied as a split application in field corn, field corn seed corn, and field corn silage. For a split application program, apply one-half of the labeled rate of HM-1824 Herbicide prior to crop emergence followed by a second HM-1824 Herbicide application at one-half of the labeled rate as a post application after corn emergence. The total amount of HM-1824 Herbicide applied in the split application program cannot exceed 2.5 qt/A (0.58 lb atrazine per acre, 1.54 lb s-metolachlor per acre, 0.03 lb tolpyralate per acre) in soils with <3% OM and cannot exceed 2.9 qt/A (0.67 lb atrazine per acre, 1.79 lb s-metolachlor per acre, 0.034 lb tolpyralate per acre) in soils with >3% OM. Refer to the Early Postemergence section above for instructions on post emergence applications.

### HM-1824 Herbicide Use Rates

**Table 3. HM-1824 Herbicide Use Rates in Corn**

% Organic Matter	HM-1824 Herbicide Use Rate
<3%	2.0 – 2.5 qts./A (0.47-0.58 lb atrazine per acre, 1.24-1.54 lb s-metolachlor per acre, 0.02-0.03 lb tolpyralate per acre)
>3%	2.5 – 2.9 qts./A (0.58-0.67 lb atrazine per acre, 1.54-1.79 lb s-metolachlor per acre, 0.03-0.034 lb tolpyralate per acre)

HM-1824 Herbicide is not recommended on soils with greater than 10% organic matter or poor weed control may result.

### HM-1824 HERBICIDE TANK MIX COMBINATIONS

It is the pesticide user’s responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

The tank-mix partners listed in this section may be used in conventional, reduced, or no-till systems and can be applied by the same methods and at the same timings as HM-1824 Herbicide, unless otherwise specified in the tank-mix product label. Follow all tank-mix product labels for use rates and restrictions. Perform a compatibility test prior to spraying the tank-mix application. Do not apply HM-1824 Herbicide

tank mixtures to emerged sweet corn or yellow popcorn. For specific adjuvant recommendations, refer to the ADDITIVES section on this label.

**Preemergence Tank Mixtures Applied Before Corn Emergence**

The tank-mix partners listed in Table 4 may be used in either conventional, reduced, or no-till systems and be applied by the same methods and at the same timings as HM-1824 Herbicide unless otherwise specified in the tank-mix product label.

Follow all tank-mix product labels for use rates and restrictions. Perform a compatibility test prior to spraying the tank-mix application. Tank mixtures with 2,4-D are allowed, but only with extreme care taken with regard to ensuring compatibility before mixing a load. 2,4-D products, and even batches, vary greatly with regard to compatibility and need to be checked each time a water or carrier source, water or carrier temperature, product source, or tank mixture recipe is changed.

**Table 4: Tank Mixtures for Preemergence Applications with HM-1824 Herbicide**

Tank-Mix Partner <sup>1</sup>	Objective
Atrazine products	Improved broadleaf and grass weed control
Paraquat products	Burndown existing weeds
Metribuzin products	Improved broadleaf control
Simazine products	Improved broadleaf and grass weed control
Glyphosate brands	Burndown existing weeds
Pyrethroid insecticides	To control insects, such as cutworm

<sup>1</sup> Refer to tank-mix product label for use rates.

**Early Postemergence Tank Mixtures (Applied After the Crop Has Emerged)**

The tank-mix partners listed in Table 5 may be used in conventional, reduced, or no-till systems and can be applied by the same methods and at the same timings as HM-1824 Herbicide unless otherwise specified in the tank-mix product label.

Follow all tank-mix product labels for use rates and restrictions. Perform a compatibility test prior to spraying the tank-mix application. Do not apply HM-1824 Herbicide tank mixtures to emerged sweet corn or yellow popcorn.

**Table 5: Tank Mixtures for Postemergence Weed Control with HM-1824 Herbicide**

Tank-Mix Partner <sup>1</sup>	Objective
Atrazine products	Broadleaf and annual grass weed control
Nicosulfuron products	Emerged grass control
Basis® (thifensulfuron and rimsulfuron, EPA Reg. No. 352-571 and EPA Reg. No. 352-854)	Emerged grass control
Glufosinate products	See instructions under “HM-1824 Herbicide Programs in Glufosinate-Resistant Corn” section of this label
NorthStar® (dicamba, sodium salt and primisulfuron-methyl, EPA Reg. No. 100-923)	Improved broadleaf and grass weed control
Prosulfuron products	Improved broadleaf and grass weed control
Resolve® Q (thifensulfuron and rimsulfuron, EPA Reg. No. 352-777)	Emerged grass control
Glyphosate products	See instructions under “HM-1824 Herbicide Programs in Glyphosate-Resistant Corn” section of this label

<b>Tank-Mix Partner<sup>1</sup></b>	<b>Objective</b>
Spirit® (primisulfuron-methyl and prosulfuron, EPA Reg. No. 100-911)	Improved broadleaf and grass weed control
Status® (diflufenzopyr-sodium and dicamba, sodium salt, EPA Reg. No. 7969-242)	Emerged broadleaf weed control
Steadfast® Q (nicosulfuron and rimsulfuron, EPA Reg. No. 352-774)	Improved grass control
Pyrethroid insecticides	To control insects, such as cutworm

<sup>1</sup> Refer to tank-mix product label for use rates.

### **HM-1824 Herbicide Programs with Glyphosate in Glyphosate-Resistant Corn**

HM-1824 Herbicide may be applied preemergence at a rate down to 2 qt/A (0.47 lb atrazine per acre, 1.24 lb s-metolachlor per acre, 0.02 lb tolpyralate per acre) as part of a two-pass weed control system when followed by a postemergence application of a glyphosate based product in glyphosate-resistant corn. When used in this way, HM-1824 Herbicide will provide reduced competition of the weeds listed in Table 1 for a period of 30 or more days, thus improving the timing flexibility and effectiveness of the glyphosate based product application. Follow all directions for use and restrictions on the glyphosate product label.

HM-1824 Herbicide may also be applied early postemergence at a rate down to 2 qt/A (0.47 lb atrazine per acre, 1.24 lb s-metolachlor per acre, 0.02 lb tolpyralate per acre) in tank mixture with a solo glyphosate product that is registered for use over-the-top in glyphosate-resistant field corn. To minimize weed competition with the crop, target the application of this mixture to weeds in the 1 to 2 inch range. Do not apply this mixture to corn that is greater than 12 inches tall. If the glyphosate product has a built-in adjuvant system (i.e. the product label does not ask for additional adjuvant), only add spray grade ammonium sulfate (AMS) at 8.5 lb/100 gal to this mixture. If the glyphosate product label calls for an adjuvant in addition to AMS, add a non-ionic surfactant (NIS) at 0.25% v/v and AMS to this spray mixture. Do not add urea ammonium nitrate (UAN), crop oil concentrate (COC), or methylated seed oil (MSO) type adjuvants to these mixtures, or crop injury may occur. Follow all directions for use and restrictions on the glyphosate product label.

### **HM-1824 Herbicide Programs for Glufosinate-Resistant Corn**

HM-1824 Herbicide may be applied preemergence at a rate down to 2 qt/A (0.47 lb atrazine per acre, 1.24 lb s-metolachlor per acre, 0.02 lb tolpyralate per acre) as part of a two-pass weed control system when followed by a postemergence application of glufosinate in field corn designated as glufosinate-resistant. When used in this way, HM-1824 Herbicide will provide reduced competition of the weeds listed in Table 1 for a period of 30 or more days, thus improving the timing flexibility and effectiveness of the glufosinate application. Follow all directions for use and restrictions on the glufosinate product label.

HM-1824 Herbicide may also be applied early postemergence at a rate down to 2 qt/A (0.47 lb atrazine per acre, 1.24 lb s-metolachlor per acre, 0.02 lb tolpyralate per acre) in tank mixture with glufosinate and applied over-the-top in field corn designated as glufosinate-resistant. To minimize weed competition with the crop, target the application of this mixture to weeds in the 1 to 2 inch range. Do not apply this mixture to corn that is greater than 12 inches tall. Ammonium sulfate (AMS) may be added as a spray adjuvant as directed on the glufosinate label. Do not add urea ammonium nitrate (UAN), crop oil concentrate (COC), non-ionic surfactants (NIS), methylated seed oil (MSO), or any other type adjuvants to these mixtures, or crop injury may occur. Follow all directions for use and restrictions on the glufosinate product label.

### **PRECAUTIONS FOR ALL CORN USES**

1. Applying HM-1824 Herbicide postemergence (emerged corn) to corn that has received an at plant application of terbufos insecticide can result in severe corn injury. Temporary corn injury may also

occur if HM-1824 Herbicide is applied to emerged corn where organophosphate insecticides other than terbufos were applied at planting.

2. Postemergence (emerged corn) application of any organophosphate or carbamate insecticide within 7 days before or 7 days after a HM-1824 Herbicide application may result in severe corn injury.

#### **RESTRICTIONS AND FOR ALL CORN USES**

1. Postemergence applications to corn must be made before crop reaches 12 inches in height.
2. Do not apply more than 2.9 qts./A of HM-1824 Herbicide (0.67 lb atrazine per acre, 1.79 lb s-metolachlor per acre, 0.035 lb tolpyralate per acre) per application.
3. Do not apply more than a total of 2.9 qts./A of HM-1824 Herbicide (0.67 lb atrazine per acre, 1.79 lb s-metolachlor per acre, 0.035 lb tolpyralate per acre) per year.
4. Do not harvest forage, grain, or stover within 60 days after last application.
5. Do not graze or feed forage from treated areas for 60 days following application, or illegal residues may result. For sweet corn, do not graze or feed forage from treated areas for 45 days following application, or illegal residues may result.
6. Do not make postemergence (emerged corn) applications of HM-1824 Herbicide in a tank mix with any organophosphate or carbamate insecticide or severe corn injury may occur.
7. Atrazine Herbicide Rate Limitations
  - Maximum atrazine application rates for field corn, field seed corn, field silage corn, sweet corn, and yellow popcorn must be as follows:
  - If no atrazine was applied prior to corn emergence, apply a maximum of 2.0 lbs. a.i./A broadcast. If a post-emergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lbs. a.i./A per calendar year. When tank mixing or sequentially applying atrazine or products containing atrazine to corn, the total pounds of atrazine applied (lbs. a.i./A) must not exceed 2.5 lbs. active ingredient per year;
  - Apply a maximum of 2.0 lbs. a.i./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. a.i./A as a single preemergence application on highly erodible soils if <30% of the surface is covered with plant residues, or 2.0 lbs. a.i./A if only applied postemergence.

#### **STORAGE AND DISPOSAL**

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

##### **Pesticide Storage**

Keep container tightly closed when not in use. Do not store near seeds, fertilizers, or foodstuffs. HM-1824 Herbicide can be stored at temperatures as low as -10°F. Keep away from heat and flame. Ground water contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

##### **Pesticide Disposal**

Open dumping is prohibited. Waste resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. Rinse spray equipment. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of as described above, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

##### **Container Handling [less than or equal to 5 gallons]**

**Non-refillable container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full

with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

**Container Handling [greater than 5 gallons]**

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

**Container Handling [greater than 5 gallons]**

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

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

- Cover spill with absorbent material.
- Sweep into disposal container.
- Wash area with detergent and water and follow with clean water rinse.
- Do not allow to contaminate water supplies.
- Dispose of according to instructions.

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

**CONDITIONS OF SALE - LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES**

**Read the Conditions of Sale - Warranty and Limitations of Liability and Remedies before using this product. If the terms are not acceptable, return the product, unopened, and the full purchase price will be refunded.**

The directions on this label are believed to be reliable and must be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions or the failure to follow the label directions or good application practices, all of which are beyond the control of Helena Agri-Enterprises, LLC (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the

environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. To the extent consistent with applicable law, The Company makes no other warranties or representations of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

The exclusive remedy against the Company for any cause of action relating to the handling or use of this product shall be limited to, at Helena Agri-Enterprises, LLC's election, one of the following:

1. Refund of the purchase price paid by buyer or user for product bought, or
2. Replacement of the product used

To the extent consistent with applicable law, the Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income. The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.