5905-542 03-05-2004 1/4

Please read instructions on reverse before completing form. Form Approved. OMB No. 2070-0060. Approval expires 2-28-95

EPA

United States
Environmental Protection Agency
Washington, DC 20460

☐ Registration
☐ Amendment
☑ Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number	2. EPA Product Manager	3. Proposed Classification
5905-542	Joanne Miller	☑ None ☐ Restricted
4. Company/Product (Name)	**PM#**	
HM-2010	23	

5. Name and Address of Applicant *(Include ZIP Code)*
Helena Chemical Company
225 Schilling Boulevard, Suite 300
Collierville, Tennessee 38017

☐ *Check if this is a new address*

6. Expedited Reveiw. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to:
EPA Reg. No. _____
Product Name _____

Section - II

☐ Amendment - Explain below.
☐ Resubmission in response to Agency letter dated _____
☑ Notification - Explain below.
☐ Final printed labels in repsonse to Agency letter dated _____
☐ "Me Too" Application.
☐ Other - Explain below.

NOTIFICATION
MAR 5 2004

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Notification of typographical error, addition of patent number, and update copyright date per PR Notice 95-2.
This notification is consistent with the provisions of PR Notice 95-2 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 95-2 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:

Child-Resistant Packaging	Unit Packaging	Water Soluble Packaging	2. Type of Container
☐ Yes ☑ No	☐ Yes ☑ No	☐ Yes ☑ No	☐ Metal ☑ Plastic ☐ Glass ☐ Paper ☐ Other (Specify) _____
* *Certification must be submitted*	If "Yes" Unit Packaging wgt. / No. per container	If "Yes" Package wgt / No. per container	

3. Location of Net Contents Information	4. Size(s) Retail Container	5. Location of Label Directions
☑ Label ☐ Container	4x1, 2x2.5, 55, Bulk	☐ On Label

6. Manner in Which Label Is Affixed to Product
Self Adhesive
☑ Lithograph ☐ Paper glued ☐ Stenciled ☐ Other _____

Section - IV

1. Contact Point *(Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)*

Name	Title	Telephone No. (Include Area Code)
Mandy K. Styles	Product Registration Supervisor	(901) 752-4420

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowlingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature	3. Title	6. Date Application Received
Mandy K. Styles	Product Registration Supervisor	(Stamped)
4. Typed Name	**5. Date**	
Mandy K. Styles	2/23/2004	

EPA Form 8570-1 (Rev. 3-94) Previous editions are obsolete. White - EPA File Copy (original) Yellow - Applicant Copy

NOTIFICATION
MAR 5 2004 9/14

HM-2010

ACTIVE INGREDIENT:

2,4-Dichlorophenoxyacetic Acid	19.6%
INERT INGREDIENTS:	80.4%
TOTAL	100.0%

Equivalent to 19.6% 2,4-D Acid or 1.74 lb./gal.
Isomer specific by AOAC Method 6.D01-5 (12th Ed.)
U.S. Patent 6,232,272 Other Patents Pending

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 the label, find someone to explain it to you.)

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER – PELIGRO

Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Harmful if swallowed. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

FIRST AID

IF IN EYES:
- Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor immediately for advice.

IF ON SKIN OR CLOTHING:
- Take off contaminated clothing.
- Rinse immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

IF SWALLOWED:
- Call a poison control center or doctor immediately for advice.
- Have person sip a glass of water.
- Do not induce vomiting unless instructed to do so by poison control center or doctor.
- Do not give anything by mouth to an unconscious or convulsing person.

IF INHALED:
- Move victim 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 immediately for further treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency assistance call toll-free, 1-800-424-9300 (ChemTrec).

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

SEE INSIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS.

EPA REG. NO. 5905-542 NET CONTENTS:
EPA EST. NO. SN 043003/0204

MANUFACTURED BY
HELENA CHEMICAL COMPANY
225 SCHILLING BOULEVARD, SUITE 300
COLLIERVILLE, TENNESSEE 38017

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 **F** on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

Long-Sleeved shirt and long pants
Chemical-resistant gloves, such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton.
Shoes plus socks
Protective Eyewear
Chemical-resistant apron when cleaning equipment, mixing or loading.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be re-used until it has been cleaned.

If this container contains over 1 gallon and less than 5 gallons, mixers and loaders who do not use a mechanical system (probe and pump) to transfer the contents of this container must wear coveralls or a chemical-resistant apron in addition to the other required PPE.

If this container contains 5 gallons or more in capacity, do not open pour. A mechanical system (such as a probe and pump

or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Engineering Control Statements

When handlers use enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from target area. Spray equipment used in applying this product should be thoroughly cleaned before using for any other purpose. Use repeated flushing with soap and warm water or suitable chemical cleaner. It is best to use a separate sprayer for application of insecticides and fungicides. Do not contaminate water by cleaning of equipment or disposal of washwaters.

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and non-target plants.

Groundwater Contamination: Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

This product 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 non-target plant areas. Avoid contamination of irrigation or domestic water supplies. At high temperatures (about 85° or higher), vapors from this product may injure susceptible plants growing nearby such as cotton, grapes, tobacco, fruit trees, legumes, vegetables, and ornamentals. Avoid applications in the vicinity of susceptible plants or when winds are blowing toward nearby susceptible plants or when temperature inversions are expected. Avoid direct application or spray drift to susceptible plants since very small quantities of this herbicide can cause severe injury in the growing or dormant period. Plants contacted may be killed or suffer significant injury resulting in grade or yield losses. Do not apply in greenhouses.

The following steps may be helpful in reducing possible spray drift from ground or aerial applications:

1) Keep the spray discharge as near to the target as possible while getting good coverage,
2) Increase the volume of spray mixture per acre,
3) use low spraying pressures (as measured at the nozzle tips),
4) Use nozzles which produce coarse spray droplets while still providing adequate weed coverage,
5) Limit applications when wind is blowing toward nearby susceptible crops or valuable plants,
6) Make applications when wind velocity is more favorable for on-target deposition - a general guide for application would be a) wind velocity of 0-2 mph may indicate a temperature inversion which can permit drift; b) wind velocity of 3-7 mph usually indicates good conditions, but check wind direction relative to nearby susceptible crops always allowing for wind shift, c) wind velocity 7-10 mph is acceptable if wind direction is favorable and no susceptible crops are in the vicinity always allowing for wind shift, d) wind velocity of 10-15 mph is usually not desirable except in areas of stronger prevailing winds when direction is favorable and no susceptible crops are in the vicinity always allowing for wind shift; an agriculturally accepted drift retardant is suggested, and e) if wind velocity is over 15 mph do not spray,

7) Properly maintain and calibrate all spray equipment,
8) For aerial applications use an effective spray boom length that is no more than 75% of the wingspan or rotor diameter, and
9) Use an agriculturally accepted drift retardant designed to increase droplet size.

CHEMIGATION PROHIBITION

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

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.
PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls
Chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton
Shoes plus socks
Protective Eyewear

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.
USE REQUIREMENTS FOR PASTURES, PERENNIAL GRASSLANDS, RANGELAND, FALLOW LAND AND NONCROP AREAS: Do not enter treated areas until spray has dried. For early entry to treated areas, wear eye protection, chemical-resistant gloves, long-sleeved shirt, long pants, shoes and socks.
TURF USE REQUIREMENTS: Do not allow persons (other than applicator) or pets on treated area during application. Do not enter treated areas until spray has dried. NOTE: For application to turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes, follow AGRICULTURAL USE REQUIREMENTS on this label.

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 re-dissolve before using by rolling or shaking container. This product can be stored in an unheated building. Store in a 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.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. 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:

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.

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.

Returnable-Refillable Container (Drum): After use, return the container to the point of purchase or designated locations. This container must only be filled with **HM-2010**. **DO NOT RE-USE THIS CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect thoroughly for damage such as cracks, punctures, abrasions, and damaged or worn out threads on closure devices. Do not refill or transport damaged or leaking containers. Check for leaks after refilling and before transportation. If the container is not being refilled, return to the point of purchase.

GENERAL INFORMATION

Local conditions, crop varieties, and application method may affect performance of this product. User should consult local extension service, agricultural experiment station, or university weed specialists, and state regulatory agencies for recommendations in your area.

Best results are obtained when product is applied to young succulent weeds that are actively growing. Application rates lower than recommended will not be satisfactory on susceptible annual weeds. For perennial weeds and conditions such as the very dry areas of the western states, where control is difficult, the higher recommended rates should be used. When product is used for weed control in crops, the growth stage of the crop must be considered. Some plants and weeds, especially woody varieties, are hard to control and may require repeat applications. Application rates should be 1 to 5 gallons of total spray by air or 5 to 25 gallons by ground equipment unless otherwise directed. In either case, use the same amount of **HM-2010** per acre. **HM-2010** should not be allowed to come into contact with desirable, susceptible plants such as beans, cotton, fruit trees, grapes, legumes, ornamentals, peas, tomatoes and other vegetables. **HM-2010** should not be used in greenhouses. If stored below freezing, it may be necessary to warm product to 40° and agitate before using. This does not affect the efficiency of the product. Spray equipment used to apply **HM-2010** or other products containing 2,4-D should not be used for any other purpose until thoroughly cleaned with a suitable chemical cleaner.

WEEDS CONTROLLED

HM-2010 will control or partially control the following as well as many other noxious plants susceptible to 2,4-D:

Alligatorweed
Arrowhead
Artichoke
Bitter wintercress
Bittercress, smallflowered
Blue lettuce
Blue Thistle
Blueweed, Texas
Boxelder
Broomweed, common
Buckhorn
Bull nettle
Bulrush
Bur ragweed
Burdock,common
Burhead
Buttercup, smallflowered
Carolina geranium
Carpetweed
Catnip
Chickweed
Chicory
Cinquefoil, common & rough
Cocklebur, common
Coffeeweed
Cornflower
Creeping jenny
Croton (Texas, woolly)
Curly indigo
Dogfennel (mayweed)
Duckweed
Elderberry
Evening primrose, common
Evening primrose, cutleaf
Fanweed
Figwort
Four o'clock
Galinsoga (elderberry, hairy)
Goatsbeard
Healall
Hemp
Hoary Cress
Honeysuckle
Horsetail
Indigo
Ironweed
Jerusalem artichoke
Jewelweed
Jimsonweed
Klamathweed
Ladysthumb
Lambsquarters, common
Loco, Bigbend
Mallow (Venice, dwarf, little)
Marestail
Marshelder
Mexican weed
Milk vetch
Morningglory (annual, common, ivy, woolly)
Mousetail
Mustards (except blue), prior to bolting
Nutgrass
Parrotfeather
Pennycress (fanweed)
Pennywort
Pepperweeds (except perennial)
Plantains
Poison ivy
Pokeweed
Poorjoe
Poverty weed
Puncture vine
Purslane, common
Quickweed
Ragweeds (common, giant)
Redstem
Rough fleabane
Rush
Shepherdspurse
Sicklepod
Sneezeweed, bitter
Sowthistle (annual, spiny)
Spanishneedles
Speedwell
Stinkweed
Sumacs
Sunflower
Sweetclover (annual)
Tumbleweed
Velvetleaf
Vetches, except hairy
Virginia copperleaf
Virginia creeper
Water hyacinth
Water lily
Water primrose
Wild hemp
Wild lettuce
Wild mustard
Wild parsnip
Wild radish
Wild rape
Wild sweet potato
Willow
Witchweed
Wormwood
Yellow goatsbeard
Yellow rocket
Yellow starthistle

Weeds Partially Controlled (Higher rates and/or repeated applications may be needed):

Alfalfa
Beggarticks
Bindweeds (hedge, European)
Buckbrush
Bull thistle
Canada thistle
Chamise
Clover, red
Corn gromwell
Coyotebrush
Dandelion
Docks
Dogbanes
Goldenrod
Ground ivy
Hawkweed

Henbit
Knotweed
Manzanita
Nettles
Prickly lettuce
Russian thistle
Sagebrush (big, sand)
Sand shinnery oak
Smartweed, Pennsylvania
Vervains
Western ironweed
Wild garlic
Hoary cress
Many-flowered aster
Musk thistle
Peppergrass
Rabbitbrush
Sage, coastal
Salsify (western, common)
Smartweed, annual
Tansy ragwort
Vetch, hairy
Wild carrot
Wild onion

Weeds Partially Controlled And For Which Locally Resistant Biotypes May Occur:
Pigweed

Weeds Suppressed When Another Labeled Herbicide Is Also Applied:
Bindweed (field)
Russian knapweed

MIXING INSTRUCTIONS

HM-2010 is a macro-emulsifiable concentrate formulation intended for dilution in water for many applications. For certain specified applications, liquid fertilizer or oil may replace part or all of the water as diluent.

If dry flowable (DF), wettable powder (WP) or flowable (F) tank mix products are to be used, these should generally be added to the spray tank first. Refer to the mixing directions on the labels of the tank mix products.

For best results, thoroughly clean sprayer immediately after use by flushing system with water and heavy duty detergent such as Wipe Out®.

Water Spray: To prepare a water spray mixture, fill clean spray tank about 1/2 to 2/3 full with clean water. With agitation turned on, add the required amount of **HM-2010.** Continue agitation while adding balance of water and during spray operations. NOTE: In water this product forms an macro-emulsion and can separate upon prolonged standing. If spray mixture is allowed to stand, agitate again to assure uniformity.

Liquid Fertilizer Spray: Due to increased risk of crop foliage burn with fertilizer, use only as recommended on this label or supplemental labeling distributed for **HM-2010.** Use fertilizer rate recommended locally. Fill clean spray tank about 1/2 to 2/3 full with liquid nitrogen fertilizer (UAN or urea) solution. Add required amount of product with vigorous agitation running. Continue agitation while adding balance of liquid fertilizer and during spray operations. Application should be made immediately. Overnight storage of mixture is not recommended. Application during very cold (near freezing) temperatures is not advisable because of the likelihood of crop injury. This product is formulated to be compatible with most liquid nitrogen solutions, however, due to variability in fertilizers, users may wish to perform a jar compatibility test before large scale mixing.

Oil Spray: Use only as recommended on this label or supplemental labeling distributed for **HM-2010**. Fill clean spray tank about 1/2 to 2/3 full with an oil approved for agricultural use. (diesel oil, fuel oil, stove oil, etc.) Add required amount of product with agitation turned on. Continue agitation while adding balance of oil. The resulting mixture is a solution and will generally remain uniform without agitation once mixed. However, agitation is suggested if available. Do not allow any water to get into the spray mixture to avoid formation of an invert emulsion (mayonnaise consistency).

Water Spray With Oil: Use only as recommended on this label or supplemental labeling distributed for **HM-2010**. Where a combination of water and oil diluent is recommended, the use of emulsifiable crop oil or crop oil concentrate is suggested since mild agitation will be sufficient. Mix in the sequence of water, product, and oil. If diesel or other non-emulsified oils listed above under "Oil Spray" are desired for use with water, add no more than 1 quart of such oil per 1 gallon of water and agitate vigorously until tank is emptied. If possible, premix non-emulsified oil with this product and add this premix to a mostly filled spray tank with agitation on. Follow these procedures carefully to avoid formation of an invert emulsion (mayonnaise consistency).

APPLICATION PROCEDURES

Use calibrated spray equipment for all types of applications to assure applying the recommended amount of spray mixture per acre. Use sufficient spray volume within the ranges specified to obtain good coverage of weeds. **HM-2010** is absorbed sufficiently within 1 hour after application to provide adequate weed control.

Ground Broadcast Spray: Unless otherwise specified in the appropriate crop or non-crop directions, apply in 5 or more gallons of spray solution per acre. Use enough spray volume to provide uniform coverage of weeds, taking into account the amount of vegetation present and the type of application

equipment to be used. As crop canopy and weed density increase, a higher spray volume may be needed for equivalent coverage and weed control. Typical crop applications utilize 10 to 50 gallons of spray solution per acre, while certain high volume non-crop applications may utilize more than 100 gallons per acre. Use coarse sprays to minimize potential spray drift. Do not apply with hollow cone nozzles or other nozzles that produce fine spray droplets. Boom spraying with flat fan or low volume nozzles is generally most suitable for ground broadcast applications.

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

Band width in inches / Row width in inches	x	Broadcast rate per acre	=	Band rate per acre
Band width in inches / Row width in inches	x	Broadcast volume per acre	=	Band volume per acre

Aerial Broadcast Spray: Unless otherwise specified in the appropriate crop or non-crop directions, apply in 1 to 5 gallons of spray solution per acre. For best coverage and weed control, as well as reduced potential for spray drift, a minimum of 3 gallons per acre is suggested. Avoid using nozzles or nozzle configurations that generate fine droplets. One configuration usually found to be suitable includes straight stream nozzles (such as disk with no swirl plate) directed straight back along the wind stream. Mechanical flagging or GPS (Global Positioning Systems) systems are suggested to obtain more uniform application.

With fixed-wing or helicopter application, an exactly even swath deposition may not 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.

TANK MIXES

Unless otherwise prohibited on this label or the label of an intended tank mix product, this product may be applied in combination with any herbicide registered for the same crop, timing, and method of application. Observe the most restrictive label statements of various tank mix products used. LIABILITY FOR CROP INJURY RESULTING FROM A TANK MIXTURE NOT SPECIFIED ON THIS LABEL, OR SUPPLEMENTAL LABELING DISTRIBUTED FOR **HM-2010**, IS SPECIFICALLY DISCLAIMED BY HELENA CHEMICAL COMPANY.

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 the diluent before adding another product. If no incompatibility is evident after 30 minutes, the mixture is generally compatible for spraying.

PLANTING IN TREATED AREAS

Labeled Crops: Within 29 days following an application of this product, plant only those crops named as use sites on this or other registered 2,4-D labels. Follow more specific limitations, if any, provided in the directions for individual crops. Labeled crops may be at risk for crop injury or loss when planted soon after application, especially in the first 14 days. Degradation factors described below should be considered in weighing this risk.

Other Crops: All other crops may be planted 30 or more days following an application without concern for illegal residues in the planted crop. However, under certain conditions, there may be a risk of injury to susceptible crops. Degradation factors described below should be considered in weighing this risk. Under normal conditions, any crop may be planted without risk of injury if at least 90 days of soil temperatures above freezing have elapsed since application.

Degradation Factors: When planting into treated areas, the risk of crop injury is less if lower rates of product were applied and conditions following application have included warm, moist soil conditions that favor rapid degradation of 2,4-D. Risk is greater if higher rates of product were applied and soil temperatures have been cold and/or soils have been excessively wet or dry in the days following application. Consult your local Agricultural Extension Service for information about susceptible crops and typical soil conditions in your area.

APPLICATIONS

READ ALL PRECEDING GENERAL SECTIONS OF LABEL AND WARRANTY BEFORE USE.

Unless otherwise specified, applications may be made by ground or air equipment. Ground applications may provide

more thorough coverage and better weed control. For selective postemergent weed control in crops, do not add oil, surfactant, fertilizer or other additives unless specifically recommended on this label or supplemental labeling.

CORN (Field, Sweet and Pop)

This product may be applied to corn at several different timings. In all cases, plant corn to a uniform depth of at least 1½ inches. Avoid applying this product with Accent® SP Herbicide because severe grass control antagonism may occur. Apply this product at least 7 days before or 3 days after Accent® SP Herbicide.

Preplant: To control existing broadleaf weed seedlings or burn down susceptible cover crops, prior to planting, apply from 7 to 14 days before planting. To control grasses and certain other problem weeds, it may be desirable to use a tank mixture with other herbicides. Liquid fertilizers and agriculturally approved surfactants may be added. Observe the most restrictive label statements of various tank mix products used.

Corn Preplant Application Rates: Do not apply on fine or medium textured soils (silt & clay loams) with less than 1% organic matter or on coarse textured soils (sand, sandy loam, loamy sand) with less than 2% organic matter. For fine or medium textured soils with 1% or more organic matter, apply at a rate of 1.0 - 4.0 pints per acre. On coarse* textured soils with 2% or more organic matter, apply 1.0- 3.0 pints per acre.

Preemergence: To control small broadleaf weeds, apply after planting, but before corn emerges. Liquid fertilizers and agriculturally approved surfactants may be added. Do not apply preemergence if a preplant application of this product was made.

Corn Preemergence Application Rates: Do not apply on fine or medium textured soils (silt & clay loams) with less than 1% organic matter or on coarse textured soils (sand, sandy loam, loamy sand) with less than 2% organic matter. For fine or medium textured soils with 1% or more organic matter, apply at a rate of 1.0– 4.75 pints per acre. On coarse* textured soils with 2% or more organic matter, apply 1 pint per acre.

*Due to the lower rate, partial weed control may result on coarse soils.

Postemergence: General Information - Where an adjuvant is required because of tank mixing with another herbicide, use the lowest recommended concentration of a nonionic surfactant (often 0.25% vol./vol. or less) to minimize such risk. Treated crop may be brittle and subject to breaking by wind and/or cultivation, especially in the 2 weeks following application.

Early Postemergence: To control small broadleaf weeds, apply broadcast from spike to 4-leaf stage of crop or up to 8 inches tall, whichever comes first. Avoid spraying just after corn leaves unfold. Postemergence application should not follow a preplant or preemergence application by less than 3 weeks. Use rates stipulated under "Corn Postemergence Application Rates" below.

Late Postemergence: Typical timing for this application is when most broadleaf weeds are no more than 4 to 6 inches tall and corn is between 8 and 16 inches tall. The timing can extend until corn is 36 inches tall or to tasseling, whichever comes first, but weeds usually become too large and hard to control. Perennial weeds should be in the bud to bloom stage for best results. Apply as a directed spray using drop nozzles to keep spray off crop foliage. Do not apply from tasseling to hard dough stage. Use the following rates.

Corn Postemergence Application Rates: Spike to 4-leaf or up to 8 inches tall apply by ground or aerially as an early postemergence over-the-top broadcast spray at 0.50 – 1.75 pints per acre. When corn is 8 - 36 inches tall, before tasseling, apply by ground only as a late postemergence directed spray using drop nozzles at 0.75 – 1.75 pints per acre. Lowest rates may not provide adequate weed control unless used in a tank mix with another registered herbicide.

Preharvest: After the hard dough (or denting) stage when silks have turned brown, apply 2.0 – 4.5 pints per acre to suppress perennial weeds such as hemp dogbane or field bindweed, and many tall weeds such as cocklebur, pigweed, and sunflower that interfere with harvest. Weed seed production will also be suppressed if application is prior to the flowering stage of weeds. The high rate is recommended under dry conditions. Do not forage or feed corn fodder for 7 days following application.

Postharvest: Following the harvest of corn, perennial or biennial weeds produce new fall growth. To aid in suppressing these weeds before a hard freeze, product may be applied at the rate of 2.0 – 4.5 pints per acre either alone or in a combination with other registered herbicides such as certain formulations of dicamba and picloram. See "Planting

in Treated Areas" section. If products to be tank mixed have more restrictive limitations, these limitations should be followed.

SORGHUM (Milo-Grain)

Postemergence: To control small broadleaf weeds, apply when sorghum is 6 to 15 inches tall to top of canopy. If sorghum is taller than 8 inches to top of canopy, use drop nozzles to keep spray off crop foliage. Do not treat during the boot, flowering or early dough stages. Do not forage or feed fodder for 7 days following application. Use rates that follow.

***Sorghum (Milo) Postemergence Application Rates*:** When crop is 6 to 8 inches tall use as an over-the-top broadcast spray by ground or air at 0.5 – 1.75 pints per acre. When sorghum reaches 8 to 15 inches tall, use as a directed spray using drop nozzles with application by ground only at 0.75 – 1.75 pints per acre. The lowest rates may not provide adequate weed control unless used in a tank mixture with another registered herbicide. Highest rates may increase risk of injury.

SMALL GRAINS (Wheat, Oats, Barley, Rye) NOT UNDERSEEDED WITH A LEGUME

Apply as directed below.

Livestock Feeding Restrictions: Do not permit dairy animals or meat animals being finished for slaughter to forage or graze treated grain fields within 2 weeks after treatment. Do not feed treated straw to livestock if an emergency and/or preharvest treatment is applied.

Liquid Nitrogen Fertilizers: At full tiller, product may be combined with liquid nitrogen fertilizers suitable for foliar application to small grains. Refer to "Mixing Instructions" section of this label for further information. Fertilizers can increase foliage contact burn of herbicides. Reducing the fertilizer rate and concentration will reduce the hazard of foliage burn.

Tank Mixtures: **HM-2010** may be tank mixed with other herbicides for control of certain weeds in small grains. Use tank mix directions appearing on the labels of the specific herbicides when tank mixing with this product. Observe all precautions and limitations on labeling of product used in a particular tank mix.

Suggested 2-way tank mix combinations are listed below:

HM-2010+ Ally®	(Use on Wheat & Barley only)
HM-2010+ Amber®	(Use on Wheat & Barley only)
HM-2010+ Canvas®	(Use on Wheat & Barley only)
HM-2010+ Express®	(Use on Wheat & Barley only)
HM-2010+ Finesse®	(Use on Wheat & Barley only)
HM-2010+ Glean®	(Use on Wheat, Oats & Barley only)
HM-2010+Harmony Extra®	(Use on Wheat, Oats & Barley only)
HM-2010 + Peak®	(Use on Wheat, Oats, Barley & Rye)
HM-2010 + Bromoxynil	(Use on Wheat, Oats, Barley & Rye)
HM-2010 + Dicamba	(Use on Wheat, Oats & Barley only)
HM-2010 + Diuron	(Use on Wheat, Oats & Barley only)
HM-2010 + Metribuzin	(Use on Wheat & Barley only)

*Suggested 3-way tank mixes include:

HM-2010+Bromoxynil or Dicamba or Diuron or Metribuzin+ Ally®
HM-2010+Bromoxynil or Dicamba or Diuron or Metribuzin+ Amber®
HM-2010+Bromoxynil or Dicamba or Diuron or Metribuzin + Canvas®
HM-2010+Bromoxynil or Dicamba or Diuron or Metribuzin + Express®
HM-2010+Bromoxynil or Dicamba or Diuron or Metribuzin + Finesse®
HM-2010+Bromoxynil or Dicamba or Diuron or Metribuzin+ Glean®
HM-2010+Bromoxynil or Dicamba or Diuron or Metribuzin + Harmony ® Extra
HM-2010 + Bromoxynil or Dicamba or Diuron or Metribuzin + Peak®
HM-2010 + Diuron + Metribuzin
HM-2010 + Diuron + Dicamba
HM-2010 + Diuron + Bromoxynil
HM-2010 + Dicamba + Metribuzin
HM-2010 + Dicamba + Bromoxynil
HM-2010 + Metribuzin + Bromoxynil

*Refer to the previous section (Suggested 2-way tank mix combinations) and the registered product labels to determine the specific small grain crops which may be treated.

Spring Wheat and Barley

***Onset of Tillering Stage*:** Grains are generally tolerant of these treatments, but risk of crop injury is greater than at full tillering stage. Do not make application if the risk of injury is unacceptable. The onset of tillering stage is defined as grain having 1 or more tillers as well as 3 or more leaves.

Apply 1.0 – 1.75 pints per acre in the spring when grain has 1 or more tillers as well as 3 or more leaves. Do not apply from boot to dough stage.

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Full Tillering Stage: For these applications, full tillering stage is defined as grain that has 3 or more tillers and the flag leaf should not be visible.
Apply 1.0 - 3.25 pints of product per acre when grain is in the full tiller stage (usually 4 to 8 inches tall). Do not apply from boot to dough stage.

Emergency Weed Control: To control difficult weed problems in certain area, such as under dry conditions especially in Western areas, higher rates, up to 4.5 pints per acre, may be needed. Higher rates increase the risk of crop injury. The severity of the weed problem should be balanced against the possibility of crop injury. Do not apply before the tiller stage nor from boot to dough stage.

Winter Wheat, Barley and Rye
Onset of Tillering Stage: Grains are generally tolerant of these treatments, but risk of crop injury is greater than at full tillering stage. Do not make application if the risk of injury is unacceptable.

Apply 1.0 - 3.25 pints per acre in the spring when grain has 1 or more tillers as well as 3 or more leaves. Do not apply from boot to dough stage.

Full Tillering Stage: For these applications, grain should have 3 or more tillers and the flag should not be visible.
Apply 1.0 - 3.25 pints per acre when grain is in the full tiller stage (usually 4 to 8 inches tall). Do not apply from boot to dough stage.

Emergency Weed Control: For improved control of difficult weeds and heavy weed infestations, apply up to 4.5 pints per acre. Higher rates increase the risk of crop injury. The severity of the weed problem should be balanced against the possibility of crop injury. Do not apply before the tiller stage nor from boot to dough stage.

Spring Seeded Oats
Full Tillering Stage: Grains should have 3 or more tillers and the flag leaf should not be visible. Oats are less tolerant to **HM-2010** than wheat or barley and present a greater risk of crop injury. The severity of the weed problem should be balanced against the possibility of crop injury. Larger weeds and hard-to-kill weeds may be poorly controlled, especially under dry conditions.
Apply 1.0 pint per acre when grain is in the full tiller stage as specified above. Do not apply before the tiller stage nor from boot to dough stage.

Preharvest Treatment (Wheat, Oats, Barley, Rye)
Apply 1.5 - 4.5 pints per acre when grains are in the hard dough stage to control large weeds that may interfere with harvest. In tank mixtures with other herbicides registered for preharvest application, a rate of 1.0-1.75 pints per acre may be desired. Best results will be obtained when soil moisture is sufficient to cause succulent weed growth. Addition of a nonionic surfactant, such as **INDUCE®** or **DYNE-AMIC®**, usually improves weed control.

Postharvest (Wheat, Oats, Barley, Rye)
Following harvest, a flush of new weed growth may occur. For control of many annual broadleaf species, apply at up to 2.25 pints per acre. Certain perennial or biennial weeds may produce new fall growth in stubble grain fields. To aid in suppressing these weeds, product may be applied at the rate of 2.25 - 4.5 pints per acre either alone or in combination with other registered herbicides such as dicamba or picloram. See "Planting In Treated Areas" section. Follow more restrictive limitations for tank mix products used.

FALLOW LAND
Fallowland or land idle between crops may be subject to unwanted weed growth. For control of many annual broadleaf species, apply at the rate of 1.0 - 4.0 pints per acre. To aid in suppressing certain perennial or biennial broadleaf weeds (including cotton regrowth), this product may be applied at the rate of 2.25 – 8.0 pints per acre either alone or in combination with other registered herbicides such as dicamba or picloram. Use the high rate on older plants, drought stressed plants or for hard to kill species. See "Planting In Treated Areas" section. Follow more restrictive limitations for tank mix products used. **HM-2010** may be used to kill fall alfalfa stands in preparation for spring planting of row crops under conservation tillage. The treated alfalfa crop cannot be grazed, fed to livestock or cut for hay.

GRASS PASTURES
To control many emerged broadleaf weeds, apply 1.0- 4.0 pints **HM-2010** per acre. Addition of a nonionic surfactant, such as **INDUCE®** or **DYNE-AMIC®**, usually improves weed control. Preferred timing is in the early spring when sufficient weeds have emerged, and when weeds are small and actively growing, but before weeds are too mature. Summer

applications to older, drought-stressed weeds are less effective. However, weeds are more susceptible again in the fall when cooler, wetter conditions support active growth before a killing frost. For fall treatment of mature weeds or perennial weed regrowth, use 3.5 - 8.0 pints per acre. Several seasons of spring plus fall treatments may be necessary to control certain perennials.

Plant Response: Injury may result to bent grass, other warm season or southern grasses, and alfalfa, clover or other legumes. Do not use if this risk of injury is unacceptable. Clovers may recover from early spring applications. If grass seed production is desired, do not apply when grass is in boot to milk stage or after heading begins. Do not apply to newly seeded areas until grass is well established. Reseeding is not recommended for at least 30 days following application. Addition of a surfactant may increase the risk of injury to newly seeded grasses.

Livestock Feeding Restrictions: Do not graze dairy animals on treated areas within 7 days after application. Do not graze meat animals on treated areas within 3 days before slaughter. Do not cut treated grass for hay within 30 days of application.

GRASS SEED CROPS

To control many emerged broadleaf weeds, apply 1.0- 3.25 pints per acre. Use on established stands of cool season grass seed crops, such as bentgrass, bluegrass, fine fescue, tall fescues, orchard grass, annual ryegrass, and perennial ryegrass. Make applications in the spring from the tiller to early boot stage. Do not spray in boot stage. New spring seedings may be treated after the grasses have more than 5 true leaves. On established stands that have had the seed crop removed, perennial weed regrowth may be treated in the fall at up to 4.5 pints per acre. Refer to "Plant Response" and "Livestock Feeding Restrictions" under **GRASS PASTURES** section above.

SOD FARMS

For best results, do not mow turf 1 to 2 days before or after application. Turf watering should be delayed until the day after application. Do not apply to newly seeded areas until grass is well established and has been mowed several times. A period of about 30 days after application is usually a sufficient interval before reseeding. Seeding a small area and observing response is recommended before large scale seeding.

Cool Season Grasses: To control many emerged broadleaf weeds in cool season turfgrasses such as tall fescue, bluegrass, or perennial ryegrass, apply 1.0- 3.25 pints per acre. Apply when weeds are small and actively growing under good moisture conditions. Do not use on centipede, carpetgrass, St. Augustine, bentgrass, or Dichondra turf, or where desirable clovers are present.

RANGELAND PASTURES AND PERENNIAL GRASSLANDS NOT IN AGRICULTURAL PRODUCTION

HM-2010 can be used to control or suppress a number of susceptible broadleaf weeds in rangeland or perennial grasslands that are set aside from agricultural use such as in the Conservation Reserve Program (CRP) or similar government programs. Consult program rules to determine whether grass and hay may be used. For best results, apply when broadleaf weeds are small. Adequate moisture is needed for best grass tolerance and weed control. Addition of a nonionic surfactant, such as INDUCE® or DYNE-AMIC®, usually improves weed control.

Plant Response: Injury to legumes, bentgrass, and other warm season grasses is likely to occur. Grasses may be discolored following treatment. If grass seed production is desired, do not apply when grass is in boot to milk stage or after heading begins.

New Stands: Preseeding applications should be made at least 30 days prior to seeding. Newly seeded stands should only be treated after they are well established (more than 5 true leaves) or injury may occur. Apply 1.0 – 4.0 pints per acre when weeds are small and actively growing. Addition of a surfactant may increase the risk of injury at this stage of growth.

Established Stands: For optimum results, weeds must be actively growing. Apply 2.25 - 3.25 pints per acre for annual weeds and up to 4.5 pints per acre for biennial or perennial weeds. Treat biennial weeds when they are in the seedling to rosette stage and before flower stalks become apparent. Treat perennial weeds in the bud to bloom stage. For brush species in rangeland, apply up to 4.25 quarts per acre in an oil spray (see "Mixing Instructions"). Another option is to add 1 gallon of oil per acre to a **HM-2010** water spray (see "Mixing Instructions"). Repeat applications in the same or subsequent year may be needed to control brush species.

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Livestock Feeding Restrictions: Do not graze dairy animals on treated areas within 7 days of application. Do not graze meat animals within 3 days of slaughter. Treated grass cut for hay should not be cut within 30 days of application. For government program grasslands, follow program grazing restrictions if more restrictive than those stated above.

ROADSIDES; MEDIANS; HIGHWAY, RAILROAD, UTILITY AND PIPELINE RIGHTS-OF-WAY; VACANT LOTS; AROUND UTILITY INSTALLATIONS, TRANSFORMERS, PUMP HOUSES, AND BUILDINGS; STORAGE AREAS; FENCES; GUARDRAILS; LUMBER YARDS; INDUSTRIAL SITES; AIRPORTS; TANK FARMS; FARMSTEADS; AND SIMILAR NONCROP AREAS

For control of many broadleaf weeds and small woody plants, apply 1.0 - 4.25 quarts per acre. Use the high rate for woody plants. Applications may be as broadcast sprays, small area sprays, or spot treatments. For small areas or spot spraying, use 0.5 pints per gallon of water and spray weeds to runoff. Regardless of the method of application, use adequate spray volume for full coverage of weeds. Preferred application timing is in the early spring when sufficient weeds have emerged, and when weeds are small and actively growing, but before weeds are too mature. Summer applications to older, drought-stressed weeds are less effective. However, weeds are more susceptible again in the fall when cooler, wetter conditions support active growth before a killing frost.

For fall treatment of mature weeds or perennial weed regrowth, use up to 2.25 quarts per acre. Several seasons of spring plus fall treatments may be necessary to control certain perennials. Use of oil sprays or the addition of spray adjuvants improves weed control, but also increases the risk of damage to desirable ground covers.

Plant Response: Bent grass, other warm season or southern grasses, alfalfa, clover or other legumes may be killed or injured. Do not apply when grass is in boot to milk stage, or after heading begins, if grass production is desired. Do not apply to newly seeded areas until grass is well established. Reseeding is not recommended for at least 30 days following application.

ORNAMENTAL AND RECREATIONAL TURFGRASSES, LAWNS, GOLF COURSES (Fairways, Aprons, Tees, and Roughs), PARKS AND CEMETERIES

Refer to "Turf Use Requirements" in the "Non-Agricultural Use Requirements" section. The maximum number of broadcast applications per treatment site is 2 per year. For best results, do not mow turf 1 to 2 days before or after application. Turf watering should be delayed for at least 1 hour after application. Avoid contacting desirable trees, shrubs, flowers or vegetables since plant injury may result. Do not apply to newly seeded areas until grass is well established and has been mowed several times. A period of about 30 days after application is usually a sufficient interval before reseeding grasses (or other plants). Seeding a small area and observing response is recommended before large scale seeding.

Cool Season Grasses: To control many emerged broadleaf weeds in cool season turfgrasses such as tall fescue, bluegrass, or perennial ryegrass, apply 1.0 – 1.75 quarts per acre (0.75 to 1.28 fluid ounces per 1,000 square feet). Preferred application timing for broadcast treatment is in the early spring when small weeds have emerged and are actively growing under good moisture conditions. For very weedy turf, a follow-up broadcast or spot application may be needed from 2 to 4 weeks later. Summer applications are typically spot treatments of individual weeds that have emerged after a spring broadcast treatment. In the fall when cooler, wetter conditions favor active weed growth, broadcast application may be appropriate for very weedy turf, such as an area that had no spring broadcast treatment. Do not use on centipede, carpetgrass, St. Augustine, bentgrass or Dichondra turf, or where desirable clovers are present.

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 should 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 Chemical Company (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. 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 Chemical Company'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 allowed by 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.

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HELENA CHEMICAL COMPANY
225 Schilling Blvd., Suite 300
Collierville, Tennessee 38017
Telephone: 901/761-0050

February 23, 2004

U.S. Environmental Protection Agency
Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504C)
1921 Jefferson Davis Highway
Crystal Mall #2, Room 266A
Arlington, VA 22202

RE: HM-2010 EPA Reg. No. #5905-542
Notification

To Whom It May Concern,

In review for printing our next round of Unison (ABN #5905-542) labels, we noticed a typographical error. Under the Mixing Instructions, the word "micro-emulsifiable" should be "macro-emulsifiable". This same situation happens under the Water Spray section that starts with "NOTE: In water this product forms an macro-emulsion." This should also be noted on all alternate brand names of the master label HM-2010 (#5905-542).

Additionally, the U.S. Patent No. 6,232,272 and Other Patents Pending are being added along with the copyright date being updated to 2004.

In support of this Notification, you will find the following:

EPA Form 8570-1
1 copy of the revised label highlighted

If you have any questions, do not hesitate to call me at (901) 752-4420. Thank you for your assistance in this matter.

Sincerely,

Mandy K. Styles
Product Registration Supervisor