



PM 22 5905-164
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

FEB 15 1994

Beverley Neale
Registration Specialist
Helena Chemical Company
6075 Poplar Avenue
Suite 500
Memphis, TN 38119

Dear Ms. Neale:

Subject: Labeling Amendment
MSMA Plus H.C. Herbicide
EPA Reg. No. 5905-164
Your Letter Dated 09/30/93

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comments listed below. One copy of the finished labeling must be submitted prior to releasing the product for shipment.

1. The product name is considered to be misleading and must be changed to delete the term "Plus". Refer to PR Notice 93-6.
2. Under Environmental Hazards section, change the first sentence to "Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark." Please refer to the enclosed letter from Stephen L. Johnson, Acting Director, Registration Division, for additional comments.
3. The labeling have been found to be in accordance with the Worker Protection Standard instructions in PR Notices 93-7 and 93-11. The new protective language in those submissions must be incorporated into the above labels for any shipments released after the deadlines that have been established in the PR Notices.

If you have any questions, please contact Terri Stowe of my staff at (703) 305 - 6117.

Sincerely yours,

15/
Cynthia Giles-Parker
Product Manager (22)
Fungicide-Herbicide Branch
Registration Division (7505C)

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MSMA PLUS H.C.

**HIGH CONCENTRATE FOR SELECTIVE POST-EMERGENT WEED CONTROL
IN COTTON, CERTAIN FRUIT AND NUT CROPS, GRASS SEED CROPS,
TURF GRASSES, FORESTRY, AND NON-CROP AREAS**

ACTIVE INGREDIENTS:

Monosodium Acid Methanearsonate* 47.6%

INERT INGREDIENTS: 52.4%

TOTAL 100.0%

Total Arsenic (as elemental) all in water soluble form 22.03%

*Product contains 6.00 lbs. MSMA per gallon.

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KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE INSIDE PANELS FOR ADDITIONAL CAUTION STATEMENTS

**ACCEPTED
with COMMENTS
in EPA Letter Dated:**

EPA REG. NO.: 5905-164
EPA EST. NO.:

FEB 15 1994

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

5905-164

NET CONTENTS:

**MANUFACTURED BY
HELENA CHEMICAL COMPANY
MEMPHIS, TN 38119**

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

CAUTION

Harmful if swallowed, avoid breathing spray mist. May cause irritation of nose, throat and skin. Avoid contact with eyes, skin and clothing. Do not contaminate feed and food stuffs.

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

IF SPLASHED IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation develops.

IF SPILLED ON SKIN: Immediately remove contaminated clothing, INCLUDING SHOES, and wash skin with soap and plenty of water. If irritation develops, send for a physician.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and Other Handlers (other than mixers and loaders) must wear:

Long-sleeved shirt and long pants

Waterproof gloves

Shoes plus socks

For exposures in enclosed areas, a respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G).

For exposures outdoors, dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C).

Mixers and Loaders must wear:

Long-sleeved shirt and long pants

Waterproof gloves

Shoes plus socks

Protective eyewear

Chemical-resistant headgear

Chemical-resistant apron when mixing or loading

For exposures in enclosed areas, a respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23 C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G).

For exposures outdoors, dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C).

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Flagmen should be fully protected during spray operations or mechanical flagmen used.

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.

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

User Safety Recommendations:
User 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.

ENVIRONMENTAL HAZARDS

Do not apply directly to any body of water. Do not contaminate water by cleaning of equipment or disposal of waste.

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. 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 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.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

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

- Coveralls
- Waterproof gloves
- Shoes plus socks.

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 agriculture pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forest, nurseries, or greenhouses.

Keep children and pets out of treated area until sprays have dried.

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STORAGE AND DISPOSAL

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

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: 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.

GENERAL INFORMATION

This product is a herbicide for use in cotton, fruit, nuts, golf-courses, turf, grass seed crops, forestry, and non-crop areas. This product contains a surfactant (wetting agent). Additional surfactant may be required depending on the application spray volume. Local conditions and recommendations vary; consult local agricultural experiment station or extension service weed specialists for recommendations in your area.

) A partial list of weeds controlled with this product includes:

✓ Bahiagrass	✓ Dallisgrass	✓ Nutsedge
✓ Barnyardgrass	✓ Foxtail	✓ Pigweed
✓ <i>Brachiaria</i> spp.	(Green & Yellow)	✓ Puncturevine
✓ Bullnettle	✓ Goosegrass	✓ Ragweed
✓ Chickweed	✓ Johnsongrass	✓ Sandbur
✓ Cocklebur*	✓ Morningglory	✓ Watergrass
✓ Crabgrass		✓ Wood Sorrel

(Smooth & Large)

*Arsenical resistant varieties may not be controlled.

See Golf Course and Turf Uses for weeds controlled at those sites.

MIXING INSTRUCTIONS: MSMA PLUS H.C. Herbicide must be thoroughly dissolved. Fill the spray equipment reservoir about half full with water and add the required amount of herbicide with agitation. Finish filling the reservoir with water and apply. Clean application equipment thoroughly after use by flushing with water in a safe place. Do not store spray solution in tank for a prolonged period.

APPLICATION METHODS

This product should be applied with a low-volume, low-pressure, properly calibrated sprayer having satisfactory pumping and bypass action. For ground directed spray applications adjust nozzles in a manner to allow maximum coverage of weeds (and in a manner to keep spray off Cotton foliage). DO NOT apply with hose-end applicators. Do not apply this product through any type of irrigation system. This product is somewhat corrosive to certain metals therefore use in galvanized steel or aluminum equipment is not recommended.

For aerial application with fixed-wing aircraft or helicopter application, an exactly even swath deposition cannot be achieved, and consequently crop injury or pesticide nonperformance may result wholly or in part. Do not apply by air during periods of thermal inversion.

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Apply during warm weather when weeds are in an active stage of growth. Adequate coverage is very important for effective weed control.

USE DIRECTIONS

COTTON: This product is useful for the control of weeds listed above and many similar weeds. Application can be made: 1) Preplant or postplant up to cracking of soil before cotton emergence using ground or aircraft equipment. 2) Postemergent, over the top, when cotton is 3 to 6 inches high or up to early first square stage, whichever occurs first using ground or aircraft equipment. 3) Postemergent as a directed spray with ground equipment when cotton is 3 inches high to first bloom.

1) PREPLANT OR POSTPLANT UP TO CRACKING APPLICATION ON COTTON: A single ground or aircraft application of this product can be made to prepared cotton seedbeds when planting has been delayed and weeds have emerged, or as a postplant treatment, **BUT NO LATER THAN INITIAL CRACKING** of soil in field before emergence of cotton. Planting of cotton may immediately follow the preplant application. Mix at the rate of $2\frac{2}{3}$ pints of this product in 40 gallons of water for ground equipment or in 5 to 10 gallons of water for aircraft application, and apply using a properly calibrated sprayer to one acre. See **SPECIAL PRECAUTIONS** below.

2) POSTEMERGENT APPLICATION ON COTTON USING GROUND OR AIRCRAFT EQUIPMENT AS AN OVER-THE-TOP BROADCAST SPRAY when cotton is 3 inches high until early first square stage as a salvage operation. Mix at the rate of 1 to $1\frac{1}{4}$ pints of this product in 40 gallons of water for ground equipment or in 5 to 10 gallons of water for aircraft application and apply using a properly calibrated sprayer to one acre. A second or repeat application, if needed, should be timed 1 to 3 weeks after the first application. **APPLY ONLY AS A SALVAGE OPERATION. APPLY ONLY TO HEALTHY, RAPIDLY GROWING COTTON, 3 INCHES HIGH, BUT NO LATER THAN 6 INCHES HIGH OR EARLY SQUARE, WHICHEVER OCCURS FIRST. PREFERENCE SHOULD BE GIVEN TO DIRECTED SPRAYS. IN ORDER TO MINIMIZE INJURY, THE SECOND APPLICATION SHOULD BE MADE AS A DIRECTED SPRAY WHEN POSSIBLE. DO NOT** make more than two (2) applications total of either DSMA or MSMA (or a combination) per season.

3) POSTEMERGENT DIRECTED SPRAY APPLICATION ON COTTON when weeds are small using ground equipment. Mix this product at the rate of $2\frac{2}{3}$ pints in 40 gallons of water per acre. For band applications, apply 1 gallon in 40 gallons of water per acre. For band applications, apply 1 gallon of above diluted spray per acre for each 1 inch band width to be treated of cotton grown on 40 inch row spacing. A second or repeat application, if needed, should be timed about 1 to 3 weeks after the first application. Keep spray off cotton foliage. **APPLY ONLY WHEN COTTON IS 3 INCHES HIGH TO FIRST BLOOM. DO NOT APPLY AFTER FIRST BLOOM.**

Slight burning and reddish discoloration of cotton foliage may occasionally be seen following recommended treatment; however, cotton plants will develop normally.

Special precautions: **DO NOT** allow spray or spray drift to contact adjacent crops or injury will result. Apply only on still days when weather conditions **DO NOT** favor drift from areas being treated. Aircraft applications of this product should only be made by applicators experienced in use of herbicides, and application should be made in accordance with State and Federal regulations.

Note: Applications to cotton in Florida should be confined to band treatments.

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NON-BEARING FRUIT AND NUTS: This product is effective as directed postemergence spray for control of the above listed weeds in non-bearing almond and walnut orchards and plantings of non-bearing apples, apricots, cherries, peaches, pears, plums, and prunes. Mix at a rate of 2 2/3 pints of this product in 50 to 100 gallons of water, as needed for thorough coverage and apply to an area of one acre. For spot treatment of weeds, mix 2 2/3 pints of this product in 50 gallons of water and apply to point of run-off. Application should be made when weeds are small during warm weather and when conditions are favorable for good weed growth. If regrowth occurs, repeat applications should be made, but not more than three applications per year. **DO NOT** allow spray solution to contact foliage, stems or bark of trees or vines. **DO NOT** use around trees or vines from which crops will be harvested within one year. **DO NOT GRAZE TREATED AREAS.** In Florida, use only as a spot treatment.

CITRUS, BEARING AND NON-BEARING: This herbicide is useful as a directed application in citrus orchards, such as orange, grapefruit, tangerine, lemon and lime orchards. It should be applied at the rate of 2 2/3 to 5 1/3 pints per acre. Mix at the rate of 2 2/3 pints in 50 gallons of water. Apply as a directed spray in interspaces and around base of trees. Spray unwanted vegetation to just short of run-off. If regrowth occurs, reapply as required; however, **DO NOT** exceed 3 applications per year. **DO NOT** allow spray solution to contact fruit, leaves, stems or bark. Use a shield, if necessary, for nursery plantings or young trees. In Florida, use only as a spot treatment.

BLUEGRASS, FESCUE, & RYEGRASS GROWN FOR SEED (Pacific Northwest): For control of wild oats and certain other broadleaf and grassy weeds, apply 6 to 8 pints of this product per acre in sufficient water for good coverage. Application can be made any time after weeds emerge and before grass has reached boot stage. Use on grasses grown for seed only. **DO NOT USE MORE THAN ONE APPLICATION PER YEAR. DO NOT APPLY AFTER BOOT STAGE. DO NOT GRAZE TREATED CROP OR ALLOW HAY, SEEDS OR SEED SCREENINGS FROM TREATED CROP TO BE USED FOR FOOD OR FEED.**

GOLF COURSE AND ORNAMENTAL TURFGRASS: This product can be used for selective control of Bahiagrass, Barnyardgrass, Chickweed, Smooth and Large Crabgrass, Dallisgrass, Nut-sedge, Sandbur, and Wood Sorrel with little or no injury to well established, actively growing turfgrass. Mow turfgrass to a height of 1 to 1 1/2 inches before treatment. On new lawns, do not treat until after three mowings. Mix at a rate of 2 1/2 to 2 2/3 pints in 40 to 100 gallons of water for application to one acre. For small areas, mix 1 fluid ounce (2 tablespoons) in 5 gallons of water for application to an area of 1,000 square feet. On established Bermuda and Zoysiagrass, up to 2 fluid ounces in 5 gallons of water per 1000 sq. ft. may be used. Application should be uniform and thorough to adequately wet all undesirable plants.

Two or more repeat treatments at 14-day intervals may be necessary. Make applications during warm weather when temperature is between 80 and 90°F. **DO NOT** water turf for at least 24 hours after application. Turfgrasses may be temporarily discolored. Bermudagrass, Bluegrass and Zoysiagrass have shown tolerance to properly applied MSMA. Injury may result if applied to Bentgrasses and Fescues. **DO NOT** apply to St. Augustinegrass, Carpetgrass, Centipedegrass, or to Dichondra lawns. **DO NOT** reseed until 2 weeks after last application.

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FORESTRY:

GENERAL INFORMATION ON TREE CONTROL: This product is designed for crown kill of undesirable trees through spaced-cut injection methods. It is useful for the control of the following conifers: Cedar, Douglas fir, Grand fir, Lodgepole pine, Ponderosa pine, Jack pine, Red pine, Silver fir, and Western hemlock. It is also useful for the control of Big leaf maple, but not most hardwoods. It shows negligible translocation through root grafts and has no residual phytotoxic action in the soil. Forked trees require individual treatment.

CARE OF EQUIPMENT: This product is entirely soluble in water. Rinse all injection equipment thoroughly after use.

USE INSTRUCTIONS:

1. SPACED -CUT INJECTION WITH ANSUL "HYPO-HATCHET" INJECTOR: The Ansul HYPO-HATCHET injector cuts and injects in one operation. When a tree is struck with the injector, a pre-set amount of this product is injected automatically into the sapstream of the tree immediately after impact. The injector works by inertia and is designed to inject at least 1 milliliter of chemical per stroke. The cuts should be evenly spaced around the trunk to give proper distribution into the sapwood. For detailed instructions on how to use the Ansul HYPO-HATCHET injector, refer to the Operation Manual.

CONIFERS (See General Information on Tree Control) AND BIG LEAF MAPLE (Growing Season): For trees less than 8 inches diameter at breast height (DBH), make one cut per 2 inches of DBH (4½" spacing between cut edges) at waist height or below. For trees 8 inches DBH and larger, make one cut per 1 inch DBH (1½" spacing between cut edges).

CONIFERS (Dormant Season): Make one cut per 1 inch of DBH (1½" spacing between cut edges) at waist height or below.

BIG LEAF MAPLE (Dormant Season): Make a complete frill at waist height or below (cuts need not be overlapping).

2. SPACED-CUT APPLICATION: Although spaced-cut application is facilitated by use of the Ansul HYPO-HATCHET injector, a hatchet or similar cutting tool can be used to make horizontal frills. The number of cuts per tree depends upon the size of the cuts and the volume to be injected, but in any case, should be sufficient to hold the herbicide without running down the trunk. Make certain that each cut penetrates into the sapwood. Large trees with full crowns require almost overlapping frills to effect control. Apply this product with a pump-type oil can, plastic squeeze bottle, or other suitable dispenser.

CONIFERS (See General Information on Tree Control) AND BIG LEAF MAPLE (Growing Season): For trees less than 8 inches diameter breast height (DBH), apply 1 to 2 milliliters of this product per cut per 2 inches of DBH (6" spacing between cut centerlines) at waist height or below. For trees 8 inches DBH and larger, use 1 to 2 milliliters per cut per 1 inch DBH (3" spacing between centerlines).

CONIFERS (Dormant Season): Apply 1 to 2 milliliters of this product per cut per 1 inch of DBH (3" spacing between cut centerlines)

BIG LEAF MAPLE (Dormant Season): Apply 1 to 2 milliliters of this product per cut in a complete frill at waist height or below (cuts need not be overlapping).

1 fluid ounce = 29.57 milliliters
1 gallon = 3785 milliliters

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NON-CROP: This product is effective in control of the above listed weeds and many similar weeds on drainage ditch banks, Rights-of-way (including highway, railroad, pipeline, and utility), fence rows, golf course sand traps, storage yards and many similar non-crop areas. Application should be made when weeds are small and conditions are favorable for good weed growth. Mix at a rate of 2½ to 6 pints of this product in 40 to 50 gallons of water for application to one acre. Use higher rates and spray volume for dense weed growth. For small areas, use 1 to 2 fluid ounces in 5 gallons per 1,000 square feet. Spray undesirable vegetation thoroughly to point of runoff. Adequate coverage and complete wetting of foliage is important for effective control. Repeat applications may be necessary if regrowth occurs. Use only as spot treatment in Florida.

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

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, 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 is a claim for damage and in no event shall damages or any other recovery of any kind against the Company exceed the price of the product which causes the alleged loss, damage, injury, or other claim. 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.