



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

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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 Arsonate Liquid  
EPA Reg. No. 5905-67  
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. Align the percentages for the active and inert ingredients as follows:

**ACTIVE INGREDIENTS:**

Monosodium Acid Methanearsonate\*.....51.0%

**INERT INGREDIENTS:**.....49.0%

**TOTAL**.....100.0%

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.
4. The EPA Reg. Nos. on the Formulator's Exemption Statement form are incorrect. EPA Reg. No. 677-204 has been transferred to 50534-16 and 677-314 has been transferred to 50534-31. If these new EPA Reg. Nos. are the correct sources of the active ingredient in the above product, then submit a revised form.

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

Sincerely yours,



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

Enclosures

3/10  
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Submitted for Amendment 9/30/93

02007-5 PM 2:45

# MSMA ARSONATE LIQUID

ARSONATE LIQUID FOR POST EMERGENCE  
WEED CONTROL IN COTTON, CERTAIN FRUIT AND NUT  
CROPS, GRASS SEED CROPS, TURF GRASSES, FORESTRY,  
AND NON-CROP AREAS

## ACTIVE INGREDIENTS:

Monosodium Acid Methanearsonate ..... 51.0%

INERT INGREDIENTS: ..... 49.0%

TOTAL ..... 100.0%

Total Arsenic, all in water soluble form, expressed as elemental ..... 23.41%

This product contains 6.6 lbs. MSMA per gallon

KEEP OUT OF REACH OF CHILDREN

## CAUTION

SEE OTHER CAUTION STATEMENTS ON SIDE PANEL

ACCEPTED  
with COMMENTS  
in EPA Letter Dated:

FEB 15

Under the Federal Insecticide  
Fungicide, and Rodenticide Act  
registered for the pesticide  
labeled under EPA Reg. No.  
5905-67

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EPA REG. NO.: 5905-67

EPA EST. NO.:

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 outdoor, 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-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G).

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

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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.

**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.

**ENVIRONMENTAL HAZARDS**

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

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

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

**CHEMIGATION PROHIBITION**

Do not use this product in any type irrigation system.

**STORAGE AND DISPOSAL**

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

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**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 does not contain a surfactant. A suitable non-ionic surfactant, approved for growing crops covered by this label should be added to the spray tank. 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
✓ Brachiaria 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.

### APPLICATION METHODS

MSMA should be applied with a low volume sprayer having satisfactory pumping and bypass action.

Nozzles should be placed so as to avoid spraying cotton foliage, but also to give good coverage of the weeds and grasses. Proper coverage is very important. Adjust nozzles to allow maximum coverage of weeds and grasses.

ADJUST NOZZLES TO DIRECT THE SPRAY IN A MANNER TO ALLOW MAXIMUM COVERAGE OF WEEDS, KEEP SPRAY OFF COTTON FOLIAGE.

### MIXING INSTRUCTIONS

MSMA must be thoroughly dissolved. Fill the tank about half full with water and with the pump operating, add the required amount of MSMA, finish filling the tank with water and apply.

If preferred, MSMA can be pre-mixed by dissolving the required amount of MSMA and suitable non-ionic surfactant in 3 to 5 gallons of water in an open head bucket. This pre-mix should then be placed in the partly filled spray tank, and the tank filled.

Do not store spray solution in tank for a prolonged period. Clean application equipment thoroughly after use by flushing with water.

Helena Chemical Company makes no expressed or implied warranties. User relies on his own skill and

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judgement, and assumes all risk in use and handling.

**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 2½ pints of this product, plus manufacturer's recommended rate of suitable surfactant, 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 IN 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 1¼ pints of this product, plus manufacturer's recommended rate of a suitable surfactant, 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 2½ pints, plus manufacturer's recommended rate of a suitable surfactant, 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 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 application 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.

**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 2½ pints of this product, plus manufacturer's recommended rate of a suitable surfactant, 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 2½ pints of this

product, plus manufacturer's recommended rate of a suitable surfactant, 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 2½ to 5 pints per acre. Mix at the rate of 2½ pints, plus manufacturer's recommended rate of a suitable surfactant, 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 5½ to 7½ pints of this product, plus manufacturer's recommended rate of a suitable surfactant, 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, Nutsedge, Sandbur, and Wood Sorrel with little or no injury to well established, actively growing turfgrass. Mow turfgrass to a height of 1 to 1½ inches before treatment. On new lawns, do not treat until after three mowings. Mix at a rate of 2¼ to 2½ pints, plus manufacturer's recommended rate of a suitable surfactant, in 40 to 100 gallons of water for application to one acre. For small areas, mix 1 fluid ounce (2 tablespoons), plus manufacturer's recommended rate of a suitable surfactant, in 5 gallons of water for application to an area of 1,000 square feet. 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°. 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 Bentgrass 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 pine, 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 oil. 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 HYDRO-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 HYDRO-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, plus manufacturer's recommended rate of a suitable surfactant, 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.

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