

## **HARVEST AID (WHEAT AND BARLEY)**

### General Information

#### IMPORTANT

DO NOT USE ON FOOD OR FEED CROPS EXCEPT AS SPECIFIED BY THIS LABEL OR SUPPLEMENTAL LABELING. Injury to or loss of desirable trees or other plants may result from failure to observe the following: Do not apply Alligare MSM 60 (except as directed), or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend or in locations where the chemical may be washed or moved into contact with their roots. Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of spray to desirable plants. Do not contaminate any body of water, including irrigation water. Keep from contact with fertilizers, insecticides, fungicides and seeds. Following a Alligare MSM 60 application, do not use sprayer for application to food or feed crops other than as directed by EPA registered label instructions. This is extremely important, as low rates of Alligare MSM 60 can kill or severely injure most crops (except small grains).

#### PRODUCT INFORMATION

Alligare MSM 60 is a dispersible granule that is mixed in water and applied as a spray. Alligare MSM 60 controls many annual and perennial weeds and woody plants in noncrop areas, conifer and hardwood plantations.

Alligare MSM 60 may be used for weed and brush control, and for the control of certain noxious weeds on non-crop sites, ditch banks of dry drainage ditches, and for selective weed control in certain types of unimproved turf grass. Do not use on irrigation ditches.

Alligare MSM 60 can also be used for controlling and suppressing undesirable weeds and hardwoods in conifer plantations, on land primarily dedicated to the production of wheat, barley, fallow, pasture, and rangeland and on irrigated or dry land grain sorghum in Colorado, Kansas, Nebraska, Oklahoma, and Texas (north of Interstate 20). Alligare MSM 60 can be used in most states. Check with your state before use. Alligare MSM 60 is not registered for use in Alamosa, Conejos, Costilla, Rio Grande, and Saquache counties of Colorado. Alligare MSM 60 controls weeds and woody plants primarily by postemergent activity. Although Alligare MSM 60 has preemergence activity, best results are obtained when Alligare MSM 60 is applied to

foliage after emergence or dormancy break. For the control of annual weeds, Alligare MSM 60 provides the best results when applied to young, actively growing weeds. For the control of perennial weeds, applications made at the bud/bloom stage or while the target weeds are in the fall rosette stage may provide the best results. The use rate depends upon the weed species and size at the time of application.

The degree and duration of control may depend on the following:

- Weed spectrum and infestation intensity
- Weed size at application
- Environmental conditions at and following treatment
- Soil pH, soil moisture, and soil organic matter

Alligare MSM 60 may be applied on conifer and hardwood plantations, and non-crop sites that contain areas of temporary surface water caused by the collection of water between planting beds, in equipment ruts, or in other depressions created by management activities. It is permissible to apply Alligare MSM 60 to marshes, swamps and bogs after water has receded as well as seasonally dry floodplains where surface water is not present, terrestrial areas of deltas and low lying areas where water is drained but may be isolated in pockets due to uneven or unlevel conditions. DO NOT APPLY to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams and canals.

Alligare MSM 60 is noncorrosive, nonflammable, nonvolatile and does not freeze.

#### ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

Alligare MSM 60 is absorbed primarily through the foliage of plants, and by the roots to a lesser degree. Plant cell division is generally inhibited in sensitive plants within a few hours following uptake. Two to 4 weeks after application, leaf growth slows followed by discoloration and tissue death. The final effects on annual weeds are evident about 4 to 6 weeks after application. The ultimate effect on perennial weeds and woody plants occurs in the growing season following application.

Warm, moist conditions following treatment promote the activity of Alligare MSM 60, while cold, dry conditions may reduce or delay activity. Weeds and brush hardened off by cold weather or drought stress may not be controlled. Use a surfactant to enhance the control of susceptible plants, except where noted. Apply at a minimum rate (concentration) of  $\frac{1}{4}$  % volume/ volume (1 qt. per 100 gal. of

spray solution), or at the manufacturer's specified rate. Use only EPA approved surfactants containing at least 80% active ingredient. Certain types of surfactants, such as those incorporating acetic acid (i.e. LI-700), may not be compatible with Alligare MSM 60 and may result in decreased performance. Certain surfactants may not be suitable for use on desirable plants, such as turf and conifers, listed on this label. Consult the surfactant manufacturer's label for appropriate uses.

Weed and brush control may be reduced if rainfall occurs soon after application.

## RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tankmix partners and/or sequential herbicide applications that have a different site of action.

Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes. It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

## INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for

treating specific pest/crop systems in your area.

## SPRAY EQUIPMENT

Following an Alligare MSM 60 application, do not use the sprayer or mixing equipment for application to agricultural crops, except that it may be used to treat wheat, barley, fallow, pasture and rangeland. This is extremely important as low rates of Alligare MSM 60 can kill or severely injure most agricultural crops. The selected sprayer should be equipped with an agitation system to keep Alligare MSM 60 suspended in the spray tank. Use a sufficient volume of water to thoroughly cover the foliage of undesirable weeds, generally 10 to 40 gallons per acre. Select a spray volume and delivery system that will deliver a uniform spray pattern. Be sure the sprayer is calibrated before use. Avoid overlapping and shut off spray booms while starting, turning, slowing or stopping to avoid injury to desired plants.

Refer to the brush control section of this label for information unique to that particular use.

### At the End of the Day

When multiple loads of Alligare MSM 60 herbicide are applied, at the end of each day of spraying, rinse the interior of the tank with fresh water and then partially fill. Flush boom and hoses. This will prevent the buildup of dried pesticide deposits that can accumulate in the application equipment.

### Before Spraying Crops Other Than Wheat, Barley, Fallow, Pasture or Rangeland:

1. Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gal of household ammonia\* (contains 3% active) for every 100 gal of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 min. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
4. Repeat step 2.

5. Rinse the tank, boom, and hoses with clean water.

6. If only Ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) listed on this label. Do not exceed the maximum labeled use rate. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

\*Equivalent amounts of an alternate-strength ammonia solution or other recommended cleaners can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your agricultural dealer, applicator, or extension agent for a listing of approved cleaners.

#### Notes:

- Attention: Do not use chlorine bleach with ammonia, as dangerous gases will form. Do not clean equipment in an enclosed area.
- Steam-clean aerial spray tank prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
- When Alligare MSM 60 is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be followed.
- In addition to this cleanout procedure, all pre-cleanout guidelines on subsequently applied products should be followed as per the individual labels.
- Where spray equipment is frequently used for applications of this product and subsequent applications of other pesticides to sensitive crops during the same spray season, dedicate a sprayer to use only this product to further reduce the chance of crop injury.

#### USE PRECAUTIONS AND RESTRICTIONS

Injury to or loss of desirable trees or other plants may result from failure to observe the following.

- Do not drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be

washed or moved into contact with their roots.

- To reduce the potential for movement of treatment soil due to wind erosion, do not apply to powdery dry or light sandy soils until they have been stabilized by rainfall, trashy mulch, reduced tillage, or other cultural practices. Injury to immediately adjacent crops may occur when treated soil is blown onto land used to produce crops other than cereal grains or pasture/ rangeland.

- Applications made where runoff water flows onto agricultural land may injure crops. Applications made during periods of intense rainfall, to soils saturated with water, surfaces paved with materials such as asphalt or concrete, or soils through which rainfall will not readily penetrate may result in runoff and movement of Alligare MSM 60. Do not treat frozen soil. Treated soil should be left undisturbed to reduce the potential for Alligare MSM 60 movement by soil erosion due to wind or water.

- Do not use on lawns, walks, driveways, tennis courts or similar areas.

- Do not use on grasses grown for seed.

- Do not apply through any type of irrigation system. Do not use the equipment used to mix or apply Alligare MSM 60 on crops (except pasture, range and wheat). The mixing and application equipment may be used for noncrop areas and conifer plantations only.

- When used as directed, there is no grazing or haying restriction for use rates of 1 2/3 ounces per acre and less.

- Do not use this product in the following counties of Colorado: Saguache, Rio Grande, Alamosa, Costilla and Conejos.

- Do not use this product in California.

- Do not apply to irrigated land where tailwater will be used to irrigate crops other than wheat and barley.

- Do not apply to frozen ground as surface runoff may occur.

- Do not apply to snow-covered ground.

- Wheat and barley varieties may differ in their response to various herbicides.

Consult your state experiment station, universities, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use of this product to a small area.

- Under certain conditions such as heavy rainfall, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after application, temporary discoloration and/or crop injury may occur. Do not apply to wheat or barley that is stressed by severe weather conditions, drought, low fertility, water-saturated soil, disease, or insect damage, as crop injury may result. Risk of injury is greatest when crop is in the 2 to 5-leaf stage. Severe winter stress, drought, disease, or insect damage following application also may result in crop injury.
- The combined effects of this product postemergence applied following use of preemergence wild oat herbicides may cause crop injury to spring wheat when crop stress (soil crusting, planting too deep, prolonged cold weather, or drought) causes poor seedling vigor.
- In the Pacific Northwest, to prevent cold weather-related crop injury, avoid making applications during winter months when weather conditions are unpredictable and can be severe.
- Do not apply to wheat, barley or pastures undersown with legumes, as injury to the forage may result.
- For ground applications applied to weeds when dry, dusty field conditions exist, control of weeds in wheel track areas may be reduced. The addition of 2,4-D of MCPA should improve weed control under these conditions.
- Preplant or preemergence applications of 2,4-D or herbicides containing 2,4-D made within 2 weeks of planting spring cereals may cause crop injury when used in conjunction with early postemergence applications of this product. For increased crop safety, delay treatment with Alligare MSM 60 until crop tillering has begun.

#### DIRECTIONS FOR USE

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

Alligare MSM 60 must be used only in accordance with directions on this label.

Alligare, LLC will not be responsible for losses or damages resulting from the use of this product in any manner not specifically directed by Alligare, LLC. User assumes all risks associated with such non-directed use.

For tank mixes, use the most restrictive limitations from the labeling of the products being mixed. Use only those tank mix partners which are labeled for the appropriate use site. Do not apply more than 4 ounces of Alligare MSM 60 per acre per year. Do not use on food or feed crops except as specified by this label or supplemental 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 in your State responsible for pesticide regulation.

#### Limitations, Restrictions, and Exceptions

##### Harvest aid (Wheat and Barley)

1/10 oz. Alligare MSM 60 per acre in combination with 2,4-D or Roundup aids in dry down of many broadleaf weeds.

##### Wheat and Barley-Harvest Aid

Apply after reaching the hard dough stage, but no later than 10 days before harvest. See section of Harvest Aid Tank Mixtures.

##### WEEDS CONTROLLED

Apply when weeds are less than 4" tall or in diameter and are actively growing. See specific directions for each weed type.

Effectiveness may be reduced if rainfall occurs within 4 hrs after application

##### Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

##### Restricted Entry Interval

4 hours

##### Timings

[Broadcast/Foliar Ground](#)