

MAGMA™

For use on Conservation Reserve Program Land, Fallow Systems (Between Crop Applications), General Farmstead, Sorghum, Grass (Hay or Silage), Pastures, Rangeland, Sugarcane, and Wheat

ACTIVE INGREDIENTS:

Dimethylamine salt of dicamba (3,6-dichloro- <i>o</i> -anisic acid)*.....	12.4%
Dimethylamine salt of 2,4-dichlorophenoxyacetic acid**.....	35.7%
OTHER INGREDIENTS:	51.9%
TOTAL	100.0%

*This product contains 10.3% 3,6-dichloro-*o*-anisic acid (dicamba) or 1 pound per gallon (120 g/L)

**This product contains 29.6% 2,4-dichlorophenoxyacetic acid (2,4-D) or 2.87 pounds per gallon (344 g/L).

Isomer specific by AOAC method 978.05, 15th Edition

SHAKE WELL BEFORE USING

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 in detail.)

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 for treatment advice.
IF SWALLOWED:	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything to an unconscious person.
IF ON SKIN OR CLOTHING:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for 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. You may also contact 1-877-424-7452 for emergency medical treatment information.	
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate the use of gastric lavage.	

See inside booklet for additional Precautionary Statements

FOR CHEMICAL SPILL, LEAK, FIRE, OR EXPOSURE, CALL CHEMTREC (800) 424-9300

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Harmful if swallowed or absorbed through skin. Avoid contact with skin.

EPA Reg. No. 42750-55-33270

EPA Est. No. 42750-MO-001

Manufactured For:
United Suppliers, Inc.
30473 260th St.
Eldora, IA 50627

NET CONTENTS: 1 Gal.

1/0211/6

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are butyl rubber, natural rubber, neoprene or nitrile rubber.

All mixers, loaders, applicators, flaggers, and other handlers must wear:

1. Long-sleeved shirt and long pants.
2. Shoes and socks.
3. Chemical resistant gloves (except for applicators using groundboom equipment, pilots, and flaggers) such as barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils, natural rubber \geq 14 mils, polyethylene, polyvinyl chloride (PVC) \geq 14 mils, or viton \geq 14 mils.
4. Chemical resistant apron when applying with any handheld nozzle or equipment, mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.
5. Wear protective eyewear (goggles or face shield).

See engineering controls for additional requirements.

ENGINEERING CONTROLS STATEMENTS

Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)]

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:

1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
3. 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.

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

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

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate. Apply this product only as directed on label.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution must 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.

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

Use of this product in certain portions of California, Oregon and Washington is subject to the January 22, 2004 Order for injunctive relief in *Washington Toxics Coalition, et al. v. EPA*, C01-0132C, (W.D. WA). For further information, please refer to EPA Web Site: <http://www.epa.gov/espp>.

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:

1. Coveralls worn over short-sleeve shirt and short pants
2. Chemical-resistant footwear plus socks
3. Chemical-resistant gloves made of any waterproof material.
4. Chemical-resistant headgear for overhead exposure.
5. Protective eyewear.

Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

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.

Do not enter or allow people (or pets) to enter the treated area until sprays have dried.

BEFORE USING MAGMA™ READ AND FOLLOW ALL PRECAUTIONS
APPEARING ON THE CONTAINER AND IN THIS BOOKLET

PRODUCT INFORMATION

Magma™ is a selective postemergence herbicide for controlling a wide spectrum of annual, biennial, and perennial broadleaf weeds and brush in grass forages and selected row crops. Magma™ may be used

in/on Conservation Reserve Program Land*, Fallow Systems (Between Crop Applications)*, General Farmstead*, Grain Sorghum, Grass (Hay or Silage), Pastures, Rangeland, Sugarcane, and Wheat.

*These crops are considered Food/Feed crops only when harvested, grazed or foraged. Otherwise, they are considered as non-Food/Feed uses.

MODE OF ACTION: Magma™ contains dicamba and 2,4-D as the active ingredients. Magma™ is readily absorbed by plants through shoot and root uptake, translocates throughout the plant's system, and accumulates in areas of active growth. Magma™ interferes with the plant's growth hormones (auxins) resulting in death of many broadleaf weeds.

SPRAY EQUIPMENT CLEANING: Spray equipment may be cleaned by using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions and then triple rinsing the equipment before and after applying this product.

APPLICATION INSTRUCTIONS

Apply Magma™ at the labelled rates and growth stages in the Annual Weeds and the Biennial and Perennial Weeds rate tables unless instructed differently in the Food/Feed Crop Specific Information or Non-Food/Feed Use-Specific Information sections of this label. Make applications of Magma™ to actively growing weeds using aerial, broadcast, band, or spot spray applications. Magma™ may be applied using water or sprayable fluid fertilizer as a carrier. For preplant or pre-emergence uses, sprayable fluid fertilizer may be used as the carrier for all crops listed on this label. Postemergence applications with sprayable fluid fertilizer may be made on pasture, hayland, or wheat crops only.

The most effective application rate and timing varies based on the target weed species. In mixed weed populations, the correct rate is determined by the weed species requiring the highest rate. Inadequate control may be observed if application is delayed since weeds may exceed the maximum size stated on this label.

IRRIGATION: In irrigated areas, it may be necessary to irrigate before application of Magma™ to ensure active weed growth.

SPRAY COVERAGE: Ensure weeds are thoroughly covered with spray. Dense leaf canopies may shield smaller weeds and prevent adequate coverage.

SENSITIVE CROP PRECAUTIONS: Magma™ may cause injury to desirable trees and plants, particularly beans, cotton, flowers, fruit trees, grapes, ornamentals, peas, potatoes, soybeans, sunflowers, tobacco, tomatoes and other broadleaf plants when contacting their roots, stems or foliage. These plants are most sensitive to Magma™ during their development or growing stage.

Do not treat areas where either possible downward movement into the soil or surface washing may cause contact of Magma™ with the roots of desirable plants such as trees and shrubs.

Avoid making applications when spray particles may be carried by air currents to areas where sensitive crops and plants are growing. Leave an adequate buffer zone between area to be treated and sensitive plants. Agriculturally approved drift-reducing additives may be used.

Do not use aerial equipment to apply Magma™ when sensitive crops and plants are growing in the vicinity of area to be treated.

AERIAL APPLICATION METHODS AND EQUIPMENT

Water Volume: Use 3-10 gallons of water per acre. Use the higher spray volume when treating dense or tall vegetation.

Application Equipment: Do not use aerial equipment if spray particles can be carried by the wind into areas where sensitive crops or plants are growing or when temperature inversions exist.

GROUND APPLICATION (BANDING)

When applying Magma™ by banding, determine the amount of herbicide and water volume needed using the following formula:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast rate per acre} = \text{Banding herbicide rate per acre}$$
$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast volume per acre} = \text{Banding water volume per acre}$$

GROUND APPLICATION (BROADCAST)

For optimal performance, use 5-40 gallons of spray solution per broadcast acre. Use the higher spray volume when treating dense or tall vegetation.

Application Equipment: Select nozzles designed to produce minimal amounts of fine spray particles. Make applications with nozzles as close to the weeds as is practical for good weed coverage.

SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g. wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast, spot) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Droplet Size

When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a Coarse or coarser spray, apply only as a Coarse or coarser spray (ASAE standard 572) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying sprays that contain 2,4-D mixed with other active ingredients that require a Medium or more fine spray, apply only as a Medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a Medium spray, leave one swath unsprayed at the downwind edge of the treated field.

Temperature Inversions

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

Susceptible Plants

Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.

Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

Equipment

All aerial equipment and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

For aerial equipment, the boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

The applicator must follow the most restrictive use cautions to avoid drift hazards, including those found in this labeling as well as applicable state and local regulations and ordinances.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications.

When applications are made in a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

For ground boom application, do not apply with a nozzle height greater than 4 feet above the crop canopy.

SPOT OR SMALL AREA APPLICATION

Magma™ may be applied to individual clumps or small areas (SPOT TREATMENT) of undesirable vegetation using handgun or similar types of application equipment. Apply diluted sprays to allow complete wetting (up to runoff) of foliage and stems. For knapsack or other small capacity sprayers, utilize the table below to calculate material needed. (The table below is based on the assumption that the spot treatment rate equates to 60 gallons per acre on the broadcast basis.)

Knapsack Sprayer Dilution Instructions

Sprayer Capacity (Gallons of water)	Fluid Ounces* of Magma™ to add per filled tank
1.0 gallon	1.0 oz
2.5 gallons	2.5 oz
3.0 gallons	3.0 oz
5.0 gallons	5.0 oz

The addition of a surfactant can help improve control. Add ½% (0.005) by volume. For example, 5 gallons (40 pt/640 fl oz) of herbicide solution would require 0.2 pt (3.2 fl oz) of surfactant.

*1 fluid ounce = 2 tablespoons and 1 cup (liquid) = 16 tablespoons

Application Equipment: Select nozzles designed to produce minimal amounts of fine spray particles. Spray with nozzles as close to the weeds as is practical for good weed coverage.

ANNUAL WEEDS
Application Rate and Timing
(Applicators must follow maximum application rates in the
Use Specific Information sections of the label)

Weeds Controlled (including ALS- and triazine-resistant)	Magma™ Rate Per Acre (according to weed growth stage)					
	0.5 pint	1 pint	1.5 pints	2 pints	3 pints	4 pints
Beebalm, Spotted	---	---	---	pre-bloom	post-bloom	---
Broomweed	1-3"	3" branching	---	branching	---	after branching
Buckwheat, Wild	---	1-6"	---	---	---	---
Buffalobur	---	---	---	1-6"	---	flowering
Burdock	---	pre-flower	---	---	---	---
Buttercup	---	pre-flower	---	early bloom	late bloom	---
Chickweed, Common	---	seedling	1-3"	---	---	---
Cockle, Cow	---	< 3"	---	---	---	---
Cocklebur, Common	---	1-6"	6-12"	12-18"	---	---
Coreopsis, Plains	---	1-6"	---	---	---	---
Croton, Woolly	1-4"	4-12"	12-30"	---	---	---
Devilsclaw	---	---	---	< 8"	---	---
Dogfennel	---	---	---	10-15"	---	---
Evening Primrose	---	< 2"	---	2-6"	---	---
Falseflax, Smallseed	---	< 2"	---	---	---	---
Fleabane, Annual	---	1-4"	4-8"	8"	---	---
Flixweed	---	< 3"	---	---	---	---
Henbit	---	---	pre-flower	---	flower	---
Knotweed, Spp.	---	< 3" runners	---	> 3" runners	---	actively growing
Kochia	---	1-6"	6-10"	10-20"	---	actively growing
Lambsquarters, Common	---	1-6"	6-10"	10-20"	---	actively growing
Mallow, Common	---	< 3"	---	---	---	---
Morningglory, Ivyleaf	---	pre-flower	---	---	---	---
, Tall	---	pre-flower	---	post-flower	---	---
Mustards, Annual	---	rosette	---	early bolt	---	---
, Tansy	---	< 3"	---	---	---	---
Pennycress, Field	---	---	---	rosette	---	---
Pepperweed, Virginia	---	---	1-3"	3-6"	after branching	---
Pigweed, Prostrate	---	< 3"	---	---	---	---
, Redroot	---	< 3"	3-10"	---	---	---
, Smooth	---	< 3"	---	---	---	---
, Tumble	---	< 3"	---	mature	---	---
Poorjoe	---	prior to flower	---	---	---	actively growing
Purslane, Common	---	< 3"	3-8"	---	---	---
Ragweed, Common , Lanceleaf , Western	1-3"	3-6"	6-10"	> 10"	---	---

Sedge ¹	---	---	---	actively growing	---	---
Shepherdspurse	---	rosette	---	---	---	---
Smartweed, Pennsylvania	---	< 4"	---	---	4-12"	---
Sneezeweed, Bitter	---	1-4"	prior to flower	flower	---	---
Sowthistle	---	rosette	---	bolting	---	---
Sunflower	---	1-3"	3-6"	6-24"	---	---
Thistle, Russian	---	---	---	rosette	---	---
Velvetleaf	---	< 6"	6-20"	> 20"	---	---

¹For use in non-food/feed crop only. Adding crop oil concentrate has shown to improve performance on actively growing annual sedge.

BIENNIAL and PERENNIAL WEEDS
Application Rate and Timing
(Applicators must follow maximum application rates in the Use Specific Information sections of the label)

Weeds Controlled	Magma™ Rate Per Acre (according to weed growth stage)					
	0.5 pint	1 pint	1.5 pints	2 pints	3 pints	4-6 pints
Bindweed, Field	---	---	---	---	---	actively growing
Bittercress ⁵	---	2-3"	---	---	---	---
Buckeye, species ¹	---	---	---	---	full leaf	---
Bullnettle ^{2, 5}	---	---	---	flower	---	---
Chicory	---	---	---	---	early bolting	---
Clover, bur	---	---	pre-flower	---	---	---
Dandelion, Common	---	rosette	---	bolting	---	---
Dewberry, Southern ¹	---	---	---	---	---	spring or fall
Dock, Curly	---	---	prior to bolting	---	after bolting	---
Elderberry ²	---	---	---	---	---	actively growing
Goldenrod, Missouri	---	---	---	3-15"	flower	---
Goldenweed, Common	---	---	---	---	---	actively growing
Groundsel, Texas	---	rosette	post-bolting	---	---	---
Honeysuckle, Hairy	---	---	---	---	spring or fall	---
Horsenettle, Carolina ¹	---	---	---	---	---	flower or berry
Ivy, Poison	---	---	---	after bloom	---	---
Knapweed, Black ²	---	---	---	---	---	actively growing
, Russian ²	---	---	---	---	---	actively growing
, Spotted	---	---	---	---	---	actively growing
Marshelder ⁵	---	---	---	< 12"	12"/pre bloom	---
Mesquite	---	---	---	---	---	45-90 days after bud-break
Milkweed ^{1, 5}	---	---	---	pre-flower	---	flower
Nightshade, Silverleaf ¹	---	---	---	full flower	---	---
, Black ¹	---	---	---	full flower	---	actively growing

Persimmon, Eastern ³	---	---	---	---	---	actively growing
Prickly Lettuce	---	---	---	rosette	---	actively growing
Rabbitbrush ²	---	---	---	---	---	actively growing
Ragwort, Tansy	---	---	---	rosette	---	actively growing
Redvine ²	---	---	---	---	---	actively growing
Sagebrush, Fringed ²	---	---	---	---	---	actively growing
Smartweed	---	---	---	---	---	actively growing
Sorrel, Red	---	---	rosette	bolting	flower	actively growing
Sowthistle ²	---	---	---	---	---	actively growing
Spurge, Leafy ²	---	---	---	---	---	full leaf
Tallow Tree, Chinese ^{4, 5, 6}	---	---	---	---	---	full leaf
Thistle, Bull	---	---	rosette	bolting	---	actively growing
, Canada ²	---	---	---	---	---	actively growing
, Musk	---	---	---	rosette/bolting	---	---
, Plumeless	---	---	rosette	bolting	---	---
Vetch, Hairy	---	1-4"	4-8"	8" full flower	---	---
Yankee weed	---	---	---	10-18"	---	rosette
Yellow Starthistle ¹	---	---	---	---	---	rosette

¹May require repeat applications.

²Labeled rate provides top growth suppression only.

³For improved root kill or woody species such as mesquite and eastern persimmon, spray 4 pints of Magma™ per acre each year for 3 consecutive years. For increased control of weeds such as blackberry and dewberry, Magma™ may be tank mixed with Ally® herbicide if labeled for the use site. Refer to the Ally label for specified application rates.

⁴A second application may be required the following growing season under dense populations.

⁵Not for use in California.

⁶Treat with 4 pints of Magma™ per acre after full leaf but before leaves develop a heavy cuticle (waxy covering) in periods of extreme heat or drought stress.

ADDITIVES

For improved burndown of emerged weeds, surfactants and/or low use rate of liquid fertilizers (28-0-0, 32-0-0), or crop oil concentrate may be used with Magma™ or Magma™ tank mixes applied after weeds have emerged. Crop oil concentrate is for non-food/feed crop uses only. Do not apply to tank mixes that include ammonium sulfate or crop oil concentrate to any food/feed crop use listed on this label. For food/feed crop uses, do not use liquid fertilizers that contain ammonium sulfate (AMS) as a source of nitrogen as tolerances in commodities derived from the crop may contain residues that exceed established tolerances. Consult your local United Suppliers, Inc. representative for recommendations for your area. For additional information, refer to the Compatibility Test for Mix Components section of this label.

Oil Concentrate

A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet all of the following criteria: be nonphytotoxic, contain only EPA-exempt ingredients, provide good mixing quality in the jar test and be successful in local experience.

The exact composition of suitable products will vary; however, vegetable and petroleum oil concentrates should contain emulsifiers to provide good mixing quality. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils. For additional information, refer to the Compatibility Test for Mix Components section of this label.

Mix Components

Adjuvants containing crop oil concentrates may be used for preplant, pre-emergence and between cropping applications. Do not use crop oil concentrate for postemergence applications in food/feed crops (i.e., sorghum, grass (hay or silage), pastures, rangeland, sugarcane and wheat).

Nitrogen Source

Sprayable liquid fertilizers: Use one quart of sprayable liquid fertilizers (28-0-0, 32-0-0) per acre. Do not use brass or aluminum nozzles when spraying fertilizers.

Nonionic Surfactant

The standard label recommendation is 2-4 pints of an 80% active nonionic spray surfactant per 100 gallons of water. For certain weeds, use a higher spray surfactant rate.

Additive Rate Per Acre

Additive	Rate Per Acre
Nonionic Surfactant	2-4 pints per 100 gallons
Sprayable liquid fertilizers (28-0-0, 32-0-0)	2-4 quarts
Crop Oil Concentrate	1 quart*

*Refer to the manufacturer's label for specific rate recommendations.

GENERAL TANK MIXING INFORMATION

The following products may be tank mixed with Magma™ according to the specific tank mixing instructions in this label and the respective product labels.

Aim™ (carfentrazone-ethyl)	Gramoxone® Extra (paraquat)
Ally® (metsulfuron-methyl)	Harmony® Extra (thifensulfuron + tribenuron-methyl)
Amber® (triasulfuron)	Karmex® (diuron)
Asulox® (asulam)	Kerb™ (pronamide)
Atrazine	Laddok® S-12 (bentazon + atrazine)
Albaugh Dicamba DMA Salt or Banvel® (dicamba)	Landmaster® BW (glyphosate + 2,4-D)(1)
Basagran® (bentazon)	MCPA
BROX™-M Herbicide or Bronate® (bromoxynil + MCPA)	Paramount® or QuinStar™ GT(quinclorac)
BROX™ 2EC Herbicide or Buctril® (bromoxynil)	Peak® (prosulfuron)
Canvas® (thifensulfuron + tribenuron + metsulfuron)	Permit® (halosulfuron-methyl)
Clarity® (dicamba)	Rave™ (dicamba + triasulfuron)
Curtail™ (clorpyralid + 2,4-D)(1)	Gly Star™ Plus or Roundup® Ultra (glyphosate)
Cyclone® (paraquat)	Sencor® (metribuzin)
Dakota® (fenoxaprop-p-ethyl + MCPA)	Sinbar® (terbacil)
Distinct® (diflufenzopyr)	Stinger™ (clorpyralid)
Evik® (ametryn)	Tiller® (fenoxaprop-p-ethyl + 2,4-D + MCPA)(1)
Express® (thifensulfuron + tribenuron-methyl)	Tordon™ (picloram)
Fallow Star™ or Fallowmaster® (glyphosate + dicamba)	Touchdown® (sulfosate)
Finesse® (chlorsulfuron + metsulfuron-methyl)	2,4-D(1)
Glean® (chlorsulfuron)	

(1) Magma™ contains 0.36 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed the combined total of pounds of a.e. per acre per crop cycle of 2,4-D for the use site being applied to.

Magma contains 0.125 pounds a.e. of dicamba per pint. When tank mixing with products that contain dicamba, do not exceed a combined total of 1.0 pounds of a.e. per acre per application. Refer to the Food/Feed Crop-Specific Information section for additional information. Read and follow the applicable Restrictions and Limitations and Directions For Use on all products involved in tank mixing. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

Crop injury, reduced weed control, or physical incompatibility may result when mixing Magma™ with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers. United Suppliers, Inc. does not recommend using tank mixes other than those listed on this labeling. Local agricultural authorities may be a source of information when using tank mix components other than those recommended on this label.

Compatibility Test for Mix Components

Always perform a compatibility test before mixing components. For 20 gallons per acre spray volume, use 3.3 cups (800 mL) of water. For other spray volumes, adjust accordingly. Only use water from the intended source at the source temperature. Add components in the sequence indicated in the Mixing Order using 2 teaspoons for each pound or 1 teaspoon for each pint of labeled label rate per acre. Always cap the jar and invert 10 cycles between component additions.

When the components have all been added to the jar, let the solution stand for 15 minutes. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. If the spray solution is not compatible, repeat the compatibility test with the addition of a suitable compatibility agent. If the solution is then compatible, use the compatibility agent as directed on its label. If the solution is still incompatible, do not mix the ingredients in the same tank.

Mixing Order

If an inductor is used, rinse it thoroughly after each component has been added. Maintain constant agitation during application.

1. Water* - Begin by agitating a thoroughly clean sprayer tank half full of clean water.
2. Agitation – Maintain constant agitation throughout mixing and application.
3. Products in PVA bags – Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
4. Water-dispersible products (such as dry flowables, wettable powders, suspension concentrates, or suspo-emulsions).
5. Water-soluble products (such as Magma™).
6. Emulsifiable concentrates (such as oil concentrate when applicable).
7. Water-soluble additives (such as liquid fertilizers (28-0-0, 32-0-0) when applicable).
8. Remaining quantity of water.

*If sprayable fluid fertilizer is used as the carrier, Magma™ must be diluted with a minimum of 5 parts water to 1 part Magma™. Then add 0.25-0.05% volume/volume of a nonionic surfactant to the dilution before adding it to the sprayable fluid fertilizer to reduce the concern for compatibility problems with this mix. Always perform the Compatibility Test before mixing into the spray tank. Also, when using a sprayable fluid fertilizer as the carrier, any product contained in PVA bags must first be completely dissolved in water before the contents can be added to the fertilizer mix.

RESTRICTIONS AND LIMITATIONS

	Livestock Grazing or	Aircraft Application
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Crop		
Between Crop Applications	Yes	Yes
Pasture, Hay, Silage	Yes	Yes
Sugarcane	Yes	Yes
Sorghum	Yes	Yes
Wheat	Yes	Yes
¹ Refer to the Food/Feed Crop-Specific Information section of this label for grazing and feeding restrictions.		

Preharvest Interval (PHI): Refer to the Food/Feed Crop-Specific Information section of this label.

Crop Rotational Restrictions: The interval between application and planting rotational crop is provided below. Always exclude counting days when the ground is frozen. Planting at intervals less than specified below may result in crop injury. Moisture is essential for the degradation of this herbicide in soil. If dry weather prevails, use cultivation to allow herbicide contact with moist soil.

Planting/replanting restrictions for Magma™ applications of 6 pints per acre or less: No rotational cropping restrictions apply at 120 days or more following application. Additionally, for annual crop uses in this label including sorghum, follow the preplant use directions in the Food/Feed Crop-Specific Information section of this label. For barley, oat, wheat, and other grass seedlings, the interval between application and planting is 10 days per pint per acre.

Planting/replanting restrictions for application of more than 6 pints and up to 8 pints of Magma™ per acre: Corn, sorghum, cotton (east of the Rocky Mountains) and all other crops grown in areas with 30" or more of annual rainfall may be planted 120 days or more after application. Barley, oat, wheat, and other grass seedlings, may be planted if the interval from application to planting is 10 days per pint per acre east of the Mississippi River and 15 days per pint per acre west of the Mississippi River. For all other crops in areas with less than 30" of annual rainfall, the interval between application and planting is 180 days or more.

Rainfast period: The effectiveness of Magma™ may be reduced if rainfall or irrigation occurs within 4 hours after postemergence applications.

Stress: Unsatisfactory control may result if Magma™ is applied to crops under stress such as stress due to lack of moisture, hail damage, flooding, herbicide injury, mechanical injury, or widely fluctuating temperatures.

Do not apply to crops that exhibit injury (leaf phytotoxicity or plant stunting) produced by any other prior herbicide applications, because this injury may be enhanced or prolonged by applying Magma™.

Do not apply through any type of irrigation equipment. Do not contaminate irrigation ditches or water used for domestic purposes.

This product cannot be used to formulate or reformulate any other pesticide product.

FOOD/FEED CROP-SPECIFIC INFORMATION
PASTURES, RANGELAND AND GRASS
(Hay, Silage)

Magma™ is labeled for use for pasture (including pasture grown for hay), rangeland and grass grown for hay or silage.

Refer to the ANNUAL WEEDS and BIENNIAL and PERENNIAL WEEDS Application Rate and Timing tables for rate selection based on targeted weed or brush species. Some weed species will require tank mixes for adequate control.

PASTURE & RANGELAND RESTRICTIONS:

Postemergence:

For susceptible annual and biennial broadleaf weeds: Do not exceed 2 ¾ pints per acre per application.

For moderately susceptible biennial and perennial broadleaf weeds: Do not exceed 2 ¾ to 5 ½ pints per applications.

For difficult to control weeds and woody plants: Do not exceed 5 ½ pints per acre per application.

Spot treatment: Do not exceed 5 ½ pints per acre.

Maximum of 11 pints per acre per year.

Do not cut forage for hay within 7 days of application.

Rates above 4 pints of Magma™ per acre are for spot treatments only

Do not make more than 2 applications per year.

Minimum spray interval between applications is 30 days.

If grass is to be cut for hay, Agricultural Use requirements for the Worker Protection Standard are applicable.

Dry hay and silage - Treated grasses may be harvested for dry hay or silage but do not harvest within 7 days of treatment.

Grazing and feeding restrictions - Non-lactating animals

Remove meat animals from treated areas 3 day prior to slaughter. There is no waiting period between treatment and grazing for non-lactating animals.

Grazing and feeding restrictions - Lactating animals

Do not graze lactating dairy animals within 7 days of treatment.

Magma™ contains 0.36 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

Magma™ contains 0.125 pounds a.e. of dicamba per pint. When tank mixing with products that contain dicamba, do not exceed a combined total of 1.0 pound of a.e. per acre per application.

Magma™ uses described in this situation also pertain to small grains (such as barley, corn, forage sorghum, oats, rye, sudangrass or wheat) grown for pasture, hay, and silage only. Newly seeded areas, including small grains grown for pasture or hay, may be injured if rates of Magma™ greater than 2 pints per acre are applied.

In newly established hybrid Bermudagrass, Pangolagrass, and stargrasses (*Cynodon* spp.), use up to 4 pints of Magma™ per acre broadcast to control or suppress weeds after planting vegetative propagules (stolons) of hybrid bermudagrasses. In addition to the weeds listed in the ANNUAL and BIENNIAL and PERENNIAL WEEDS tables, this rate of Magma™ will control or suppress annual sedges, broadleaf signalgrass, crabgrass, and goosegrass. Best results will be obtained if Magma™ is applied at the germinating stage of weeds. Under favorable conditions, this is usually 7-10 days after planting these grasses. Reduced control can be expected if weeds are allowed to reach 1" in height before application or if germination of weeds occurs 10 days after application.

Do not use on bentgrass, susceptible grass pastures (such as carpetgrass, buffalograss or St. Augustine grass), lespedeza, wild winter peas, vetch, clover and alfalfa pastures as injury will occur.

When perennial weeds are reaching maturity, mowing and allowing some regrowth will enhance control. Difficult to control weeds and brush may require repeat application.

For pasture renovations, wait 3 weeks per quart per acre of Magma™ used before interseeding or injury may occur.

If grasses are grown for seed or for seed-down purposes, do not apply after grass reaches the joint stage.

PASTURE AND RANGELAND Tank Mixes: Magma™ may be applied in tank mixes with one or more of the following herbicides: Ally®, Amber®, Albaugh Dicamba DMA Salt or Banvel®, Clarity®, Rave™.

SORGHUM

Rates and Timings

Apply 1 pint of Magma™ per acre to sorghum in the 3-5 leaf stage (4-8' tall). Apply Magma™ when weeds are small (less than 3" tall) for best performance.

Applications of Magma™ to sorghum during periods of rapid growth may result in temporary leaning of plants or rolling of leaves. These effects are usually outgrown within 10 to 14 days. Sorghum growing under conditions of stress such as high moisture, low fertility, and abnormal temperature may be more sensitive to applications of Magma™. Do not use surfactants or oils with postemergence applications of Magma™ on sorghum crops. Do not use Magma if the potential for sorghum injury is not acceptable.

If sorghum is grown for pasture, hay or silage, refer to the Pasture and Rangeland section of the Food/Feed Crop-Specific Information section of this label for livestock grazing and feeding restrictions.

SORGHUM Tank Mixes:

Magma™ may be applied in tank mixes with one or more of the following herbicides: Atrazine, Basagran®, BROX® 2EC Herbicide or Buctril®, Laddok® S-12, Paramount®, Peak®, or Permit®.

SORGHUM RESTRICTIONS:

Maximum of 2.7 pints per acre per application.

Do not make more than one post emergenced application per crop cycle.

Do not permit meat or dairy animals to consume treated crop as fodder or forage for 30 days following application.

Do not graze or feed treated sorghum forage or silage prior to mature grain stage.

Do not apply Magma™ to sorghum grown for seed production.

Pre-Harvest interval is 30 days

Magma™ contains 0.36 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 1.0 pounds of a.e. per acre per year.

Magma™ contains 0.125 pounds a.e. of dicamba per pint. When tank mixing with products that contain dicamba, do not exceed a combined total of 1.0 pound of a.e. per acre per application.

SUGARCANE

Applications of Magma™ can be made any time after the weeds have emerged and are actively growing but prior to the close-in stage of sugarcane. When possible, direct the spray beneath the sugarcane canopy in order to minimize the likelihood of crop injury. The use of directed sprays will also aid in maximizing spray coverage of weed foliage. Application rates and timing are given below. Use the higher level of listed rate ranges when treating dense vegetative growth.

For control of listed ANNUAL broadleaf weeds, apply 2 pints of Magma™ per treated acre.

For suppression of listed PERENNIALS, apply 2 – 5 ½ pints of Magma™ per treated acre.

SUGARCANE Tank Mixes: Magma™ may be tank mixed with one or more of the following herbicides: Asulox®, Atrazine, Evik®, Sencor®, or Sinbar®.

SUGARCANE RESTRICTIONS:

Pre-emergent Application: Do not make more than one pre-emergence application per crop cycle.

Pre-emergent Application: Do not apply more than 5 ½ pints per application.

Post-emergent Application: Do not make more than one post-emergence application per crop cycle.

Post-emergent Application: Do not apply more than 5 ½ pints per application.

Do not harvest cane prior to crop maturity.

Do not apply more than 11 pints per acre per crop cycle.

Pre-Harvest Interval is 87 days.

Magma™ contains 0.36 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

Magma™ contains 0.125 pounds a.e. of dicamba per pint. When tank mixing with products that contain dicamba, do not exceed a combined total of 1.0 pound of a.e. per acre per application.

WHEAT

(Fall and Spring-seeded)

If small grains are grown for pasture or hay only, refer to the Pastures, Rangeland and Grass (Hay, Silage) section of this label.

Do not graze or harvest for livestock feed prior to crop maturity. Do not use Magma™ in wheat underseeded to legumes.

EARLY SEASON POST-EMERGENCE APPLICATIONS (Fall and Spring-seeded):

Apply 0.5-1 pint of Magma™ per acre to wheat unless using one of the wheat specific programs below.

Early season applications to spring-seeded wheat must be made after tillering and before wheat reaches the 6-leaf stage.

Early season applications to fall-seeded wheat must be made after tillering and prior to the jointing stage. Care should be taken in staging early developing wheat varieties such as TAM 107, Madison, or Wakefield to be certain that the application occurs prior to the jointing stage.

SPECIFIC USE PROGRAMS FOR FALL-SEEDED WHEAT ONLY:

Up to 1 1/3 pints of Magma™ per acre may be applied post-emergent on fall-seeded wheat after the wheat begins to tiller for suppression of perennial weeds, such as field bindweed. Applications may be made in the fall following a frost but before a killing freeze. Periods of extending stresses such as cold and wet weather may enhance the possibility of crop injury. For fall applications only, do not use if the potential for crop injury is not acceptable.

PREHARVEST APPLICATIONS:

Magma™ can be used to control weeds that may interfere with harvest of wheat. Apply up to 1 1/3 pints of Magma™ per acre as a broadcast or spot treatment to annual broadleaf weeds when wheat is in the hard dough stage and the green color is gone from the nodes (joints) of the stem. Best results will be obtained if application can be made when weeds are actively growing but before weeds canopy.

Do not use preharvest-treated wheat for seed unless a germination test is performed on the seed with an acceptable result of 95% germination or better.

For control of additional broadleaf weeds or grasses, Magma™ may be tank mixed with other herbicides such as Ally®, Gly Star® Plus or Roundup® Ultra that are registered for preharvest use in wheat.

WHEAT Tank Mixes

For control of grasses or additional broadleaf weeds, Magma™ may be tank mixed with the herbicides listed in the table below. Read and follow the label of each tank mix product used for precautionary statements, directions for use, weeds controlled, geographic and other restrictions.

Refer to the tank mix product for specified application rates.

TANK MIX PARTNER	
Aim™	Finesse®
Ally®	Glean®
Amber®	Harmony® Extra
BROX®-M Herbicide or Bronate®	Karmex® ³
BROX® 2EC Herbicide or Buctril®	2,4-D amine
Canvas®	Sencor®, (Metribuzin ³)
Curtail™	Peak® ¹
Dakota®	Stinger™
Express®	Tiller® ²

¹Do not use low rates of sulfonylurea herbicides such as Ally®, Amber®, Canvas®, Express®, Finesse®, Glean®, Harmony® Extra, and Peak® on more mature weeds or on dense vegetative growth.

²Do not use Magma™ as a tank mix treatment with Dakota® or Tiller® in Durum wheat. Do not tank mix Tiller® if wild oat is the target weed.

³Tank mixes with Karmex® and metribuzin are for use in fall-seeded wheat only.

WHEAT RESTRICTIONS:

Postemergence: Make no more than one application per crop cycle.

Postemergence: Do not apply more than 1 1/3 pints per acre per application.

Preharvest: Make no more than one application per crop cycle.

Preharvest: Do not apply more than 1 1/3 pints per acre per application.

Pre-Harvest interval is 14 days.

⁴ Magma™ contains 0.36 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not:

Exceed a combined total of 1.25 pounds of a.e. per acre per crop cycle of 2,4-D for post emergent use.

Exceed 0.5 pounds of a.e. per acre per crop cycle of 2,4-D for pre-harvest application.

Exceed a total of 1.75 pounds of a.e. per acre per crop cycle for all uses.

Magma™ contains 0.125 pounds a.e. of dicamba per pint. When tank mixing with products that contain dicamba, do not exceed a combined total of 1.0 pound of a.e. per acre per application.

BETWEEN CROP APPLICATIONS, CONSERVATION RESERVE PROGRAMS, GENERAL FARMSTEAD AND FALLOW SYSTEMS (These uses are considered Food/Feed Crops when harvested, grazed or foraged)

NON-FOOD/FEED USE
(LAND NOT HARVESTED, GRAZED OR FORAGED – SPECIFIC INFORMATION)
BETWEEN CROP APPLICATIONS

PREPLANT DIRECTIONS (POSTHARVEST, FALLOW, CROP STUBBLE, SET-ASIDE) FOR BROADLEAF WEED CONTROL:

Magma™ can be applied either postharvest in the fall, spring, or summer during the fallow period or to crop stubble/set-aside acres. Apply Magma™ as a broadcast or spot treatment to emerged and actively growing weeds after crop harvest (postharvest) and before a killing frost or in the fallow cropland or crop stubble the following spring or summer.

Refer to the Crop Rotational Restrictions and General Restrictions and Limitations for the required interval between application and planting to prevent crop injury.

Rates and Timings:

Apply 0.5 - 5 ½ pints of Magma™ per acre. Refer to the ANNUAL WEEDS and BIENNIAL AND PERENNIAL WEEDS Application Rate and Timing tables to determine the use rates for specific targeted weed species. For best performance, apply Magma™ when annual weeds are less than 6" tall, when biennial weeds are in the rosette stage and to perennial weed regrowth in late summer or fall following a mowing or tillage treatment. The most effective control of upright perennial broadleaf weeds such as Canada thistle and Jerusalem artichoke occurs if Magma™ is applied when the majority of weeds have at least 4-6" of regrowth or for weeds such as field bindweed and hedge bindweed that are in or beyond the full bloom stage.

Avoid disturbing treated areas following application. Treatments may not kill weeds that develop from seed or underground plant parts such as rhizomes or bulblets, after the effective period for Magma™. For seedling control, a follow-up program or other cultural practices could be instituted.

BETWEEN CROP TANK MIXES

Apply 0.5-2 pints of Magma™ per acre in tank mixes with one or more of the following herbicides for control of annual weeds, or 2 – 5 ½ pints of Magma™ per acre for control of biennial and perennial weeds:

Aim™	Distinct®	Kerb™
Ally®	Fallow Star™	Landmaster® BW
Amber®	Fallowmaster®	Paramount®
Atrazine	Finesse®	Sencor®
Curtail™	Glyphosate	Tordon™ 22K
Cyclone®	Gramoxone® Extra	Touchdown®
		2,4-D ¹

BETWEEN CROP APPLICATION RESTRICTIONS:

- Do not make more than 2 applications per year.
- Do not apply more than 5 ½ pints per acre per application.
- Minimum spray interval between applications is 30 days.
- Plant only labeled crops within 120 days following application.

Magma™ contains 0.36 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

Magma™ contains 0.125 pounds a.e. of dicamba per pint. When tank mixing with products that contain dicamba, do not exceed a combined total of 1.0 pound of a.e. per acre per application.

CONSERVATION RESERVE PROGRAMS AND GENERAL FARMSTEAD

Magma™ is labeled for use for Conservation Reserve Programs, general farmstead (non-cropland only), weed and brush control, or use in State Recognized Noxious Weed areas (non-cropland areas).

Refer to the ANNUAL WEEDS and BIENNIAL AND PERENNIAL WEEDS Application Rate and Timing tables for rate selection based on targeted weed or brush species. Some weed species will require tank mixes for adequate control.

Rates above 4 pints of Magma™ per acre are for spot treatments only. Retreatments may be made as needed; however, do not exceed a total of 8 pints of Magma™ per treated acre during a growing season.

Grasses in Conservation Reserve Program Areas

Annual Broadleaf Weeds – Apply when weeds are actively growing. Use higher rates on older weeds. Excessive injury may result if applied to young grasses with fewer than 6 leaves or prior to grasses being well established.

Biennial and Perennial Broadleaf Weeds – Magma™ may be used to suppress or control biennial and perennial broadleaf weeds in established grasses. Apply to actively growing 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.

CONSERVATION RESERVE PROGRAMS RESTRICTIONS:

Do not apply more than 5 ½ pints per acre per application.

Rates above 4 pints of Magma™ per acre are for spot treatments only

Do not make more than 2 applications per year.

Minimum spray interval between applications is 30 days.

If grass is to be cut for hay, Agricultural Use requirements for the Worker Protection Standard are applicable.

The preharvest interval (PHI) is 7 days.

Consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.

Magma™ contains 0.36 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

Magma™ contains 0.125 pounds a.e. of dicamba per pint. When tank mixing with products that contain dicamba, do not exceed a combined total of 1.0 pound of a.e. per acre per application.

FARMSTEAD AND FENCEROW TREATMENT

Application Instructions

Magma™ may be applied using water or oil and water emulsions in spot application to control undesirable vegetation using handgun or similar types of application equipment. In addition to weed species listed in the ANNUAL WEEDS and BIENNIAL AND PERENNIAL WEEDS Application Rate and Timing tables, these treatments may be used to control or suppress woody plant species listed below.

The following list of trees and vines can be controlled on farmsteads and fencerows as foliar, basal, or cut surface treatments:

Alder	Dogwood	Kudzu	Rose, McCartney
Ash	Elm	Locust, Black	Rose, Multiflora
Aspen	Grape	Maple	Sagebrush, Fringe
Basswood	Greenbriar	Mesquite	Sassafras
Beech	Hawthorn (Thornapple)	Oak	Spruce
Blackberry	Hemlock	Oak, Poison	Sumac
Blackgum	Hickory	Olive, Russian	Sweetgum
Cedar	Honeylocust	Persimmon, Eastern	Sycamore
Cherry	Honeysuckle	Pine	Tarbrush
Chinquapin	Hornbeam	Plum, Sand (Wild Plum)	Willow
Cottonwood	Huckleberry	Poplar	Witchhazel
Creosotebush	Huisache	Rabbitbrush	Yaupon
Dewberry	Ivy, Poison	Redcedar, Eastern	Yucca

To prepare oil and water emulsions, mix in the order and proportions indicated below. The solution should remain milky colored without an oily layer on top when under agitation. If an oily layer forms, increase the amount of emulsifier or change to a more effective emulsifier.

1. Water: Begin by agitating a thoroughly clean sprayer tank with the desired quantity of clean water. Maintain constant agitation during complete mixing procedure.
2. Emulsifier: Add 0.5% volume to volume
3. Magma™: Add 2.5 gallons per 100 gallons of total intended solution.
4. Diesel Oil: Add 10 gallons per 100 gallons of total intended solution.

Maintain constant agitation during application. Under good agitation, the spray solution should be milky white with no oily layer on top. If an oily layer forms, increase the amount of emulsifier or change to a more effective emulsifier.

Do not exceed 30 gallons of spray solution per treated acre per application. Thirty gallons of spray solution contains 0.75 lb a.e. dicamba and 2.0 lb a.e. 2,4-D. Spray individual plants to wet. Do not allow this spray mixture to come into contact with desirable vegetation.

To control brush, briars, and weeds along fencerows surrounding pasture and ranch lands, and fallow fields, use a tank mix of 2.5% Magma™, 87.5% water, 10% diesel fuel, and sufficient emulsifier (to mix the diesel and emulsifier). The diesel oil in this tank mix will damage or kill desirable grasses and should not be used in pastures or where damage to desirable species cannot be tolerated.

For Spraying Foliar Applications

1. Spray when leaves have reached full size but have not hardened due to drought or maturity.
2. Spray individual plants to wet with handgun.
3. For larger stems (up to 3" in diameter) and hard to control species, direct spray stream to base of stems to wet the stem at soil surface in addition to wetting the foliage.
4. Do not apply under drip line of desirable trees or adjacent to desirable vegetation.

For Dormant Basal Applications

1. Increase diesel content to 15% or 15 gallons/100 gallons of total mixture.
2. Spray in late winter and early spring before plants break dormancy.
3. Spray the bottom 24" of stem to wet on all sides.
4. For larger stems (up to 3" in diameter) and hard to kill species, direct spray solution to base of stems to wet the soil at the stem/soil junction in addition to wetting the stem.
5. Do not apply under drip line of desirable trees or adjacent to desirable vegetation.

FARMSTEAD AND FENCEROW RESTRICTIONS:

- Postemergence (annual & perennial weeds): Do not make more than 2 applications per year.
- Postemergence (annual & perennial weeds): Do not apply more than 5 ½ pints per acre per application.
- Postemergence (annual & perennial weeds): Minimum spray interval between applications is 30 days.
- Postemergence (woody plants): Do not make more than 1 application per year.
- Postemergence (woody plants): Do not apply more than 11 pints per acre per application.

Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

Magma™ contains 0.36 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

Magma™ contains 0.125 pounds a.e. of dicamba per pint. When tank mixing with products that contain dicamba, do not exceed a combined total of 1.0 pound of a.e. per acre per application.

CUT SURFACE TREATMENTS

Magma™ may be applied as a cut surface treatment for control of unwanted trees and prevention of sprouts of cut trees. Use Magma™ in an undiluted state.

FRILL OR GIRDLE TREATMENTS: Make a continuous cut or a series of overlapping cuts using an axe to girdle tree trunk. Spray or paint cut surface with Magma™.

STUMP TREATMENTS: Spray or paint freshly cut surface with Magma™. The cambium layer (the layer adjacent to the bark) should be thoroughly wet. Treat stumps within 6 hours after cutting.

CUT SURFACE RESTRICTIONS:

- Do not make more than one cut surface application per year.
- Do not use more than 8 pints per 100 gallons of spray solution.

PREPLANT APPLICATION DIRECTIONS FOR BROADLEAF CONTROL IN CROPLAND ROTATED TO WHEAT (POSTHARVEST / FALLOW / STUBBLE / SET-ASIDE)

IMPORTANT

Before using this product, read and carefully observe all applicable directions, restrictions, and precautionary statements in this booklet and on the container label.

WEEDS CONTROLLED

Magma™, when applied at the labeled rates, will control the ANNUAL and BIENNIAL weeds and suppress the PERENNIAL weeds listed below.

ANNUALS		
Buckwheat, Wild	Mustards	Salsify, Western
Cockle, Cow	Nightshade, Black	Smartweed, Pennsylvania
Cocklebur, Common	Pigweed, Redroot (Carelessweed)	Sowthistle, Annual
Knotweed	Pigweed, Rough	Sunflower
Kochia	Purslane, Common	Tansymustard
Lambsquarters, Common	Ragweed, Common	Thistle, Russian
Mallow, Common	Sage, Lanceleaf	Velvetleaf
BIENNIALS		
Carrot, Wild	Starthistle, Yellow	Thistle, Musk
Ragwort, Tansy	Thistle, Bull	Thistle, Plumeless
PERENNIALS		
Bindweed, Field	Dock, Curly	Thistle, Canada

RATES AND TIMINGS

Application may be made to fallow land, wheat stubble or land to be rotated to wheat. Make application to emerged and actively growing weeds. Use higher rate when treating dense vegetative growth. Avoid disturbing treated areas for seven days following application.

Wheat injury may occur if the interval between application and planting is less than 10 days for each pint per acre of Magma™ used. Exclude days when ground is frozen.

Weed Type & Stage	Broadcast rate per Treated Acre Amount
Annual	
Small, actively growing (less than 4 inches)	1.0 – 1.5 pints
Established weed growth (greater than 4 inches)	1.5 – 3.0 pints
Biennial	
Rosette diameter (3 inches or less)	1.5 – 2.0 pints
(3 inches or more)	2.0 – 4.0 pints
Greater than 4 inches, tillering bolted or flowering	4.0 pints
Perennial	
Suppression or top growth control	2.0 – 4.0 pints
Seasonal Control	4.0 – 5 ½ pints

Add 0.5% v/v of an agriculturally approved surfactant to Magma™ when used alone or in a tank mix. The addition of a surfactant will enhance spray coverage and the herbicide’s penetration of weed foliage.

TANK MIX TREATMENTS

Magma™ may be tank mixed with one or more of the following herbicides for control of grasses or additional broadleaf weeds. Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings, weeds controlled, geographic or other restrictions. Add 0.5% v/v of an agriculturally approved surfactant to all tank mixes.

Herbicide
Atrazine
Chlorsulfuron (Glean)
Glyphosate (Gly Star® Original or Roundup)
Metribuzin
Paraquat

WHEAT PRE-PLANT RESTRICTIONS:

- Do not make more than 2 applications per year.
- Do not apply more than 5 ½ pints per acre per year.
- Minimum spray interval between applications is 30 days.
- Magma contains 0.36 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.
- Magma contains 0.125 pounds a.e. of dicamba per pint. When tank mixing with products that contain dicamba, do not exceed a combined total of 1.0 pound of a.e. per acre per application.

RIGHTS-OF-WAY
(Roadways, Utility, Railroad, Highway, Pipeline)

RATES

When used as directed, Magma will control or suppress many herbaceous broadleaf weeds (annual, biennial and perennial) as well as many unwanted woody plant and vine species. Regardless of the species to be controlled, spray volumes should be high enough to allow for good spray coverage. Make applications when weeds and brush are actively growing.

Refer to container label for complete list of weed species controlled.

The addition of surfactants can increase control. Biennials are best controlled in the rosette stage. Regrowth may occur on resistant species.

HERBACEOUS BROADLEAF WEED CONTROL: Apply 2 to 5 ½ pints of Magma in 20 to 100 gallons of water per treated acre. When using low volume application equipment, 3 to 20 gallons of water per acre is acceptable. Apply 2 to 4 pints per acre of Magma for annuals, 3 to 5 pints per acre for biennials, and 5 ½ pints per acre for established perennials.

BRUSH AND VINE CONTROL – High Volume Foliar Spot Applications: Mix 6 to 8 pints of Magma in enough water to make 100 gallons of spray mix. When using low-volume application equipment, 3 to 20 gallons of water per acre is acceptable. Spray volume applied will depend on the size and density of the brush to be treated, but do not apply more than 8 pints of product per treated acre. Direct the spray to treat all foliage, stems, and root collars to wet.

BRUSH AND VINE CONTROL – Broadcast applications with Ground Equipment: Apply 6 to 8 pints of Magma in 20 to 100 gallons of water per treated acre. When using low-volume application equipment, 3 to 20 gallons of water per acre is acceptable. Spray volume applied will depend on the size and density of the brush to be treated, but do not apply more than 8 pints of product per treated acre. Spray all foliage, stems, and root collars to wet.

AERIAL APPLICATIONS: Aerial applications may be made to control either herbaceous or woody plants. Apply 2 to 5.5 pints of Magma for herbaceous weeds or 6 to 8 pints for woody brush and vines in 5 to 40 gallons of water per acre. Coverage is important, so increase spray volume when treating dense stands of brush or weeds. Do not apply more than 8 pints of product per treated acre.

TANK MIX TREATMENTS

READ AND FOLLOW THE LABEL OF EACH TANK MIX PRODUCT USED FOR PRECAUTIONARY STATEMENTS, DIRECTIONS FOR USE, AND OTHER RESTRICTIONS. For broader spectrum control. Magma may be tank mixed with one or more of the following herbicides for non-cropland use (e.g. railroad, highway, pipeline, etc.).

Amitrole	Fosamine ammonium	Pendimethalin
Asulam	Glyphosate	Picloram
Atraton	Glufosinate	Prodiamine
Bromacil	Hexazinone	Simazine
Clorflurecol	Imazapyr	Sulfometuron methyl
Chlorsulfuron	Imazameth	Sulfosate
Clopyralid	Maleic hydrazide	Tebuthiuron
Dalapon	Mefluidide	Triclopyr
Dicamba	Metsulfuron methyl	2,4-D
Diquat	MSMA	2,4-DP
Diuron	Norflurazon	
Fenac	Paraquat	

Due to variations in formulated products and water supplies, a compatibility test is recommended prior to actual tank mixing.

All intended tank mix combinations must be used only in labeled areas on the same broadleaf weed species found on both labels. For application methods and other use specifications, use the most restricted limitations from labeling of both products.

RIGHTS-OF-WAY RESTRICTIONS:

Postemergence (annual & perennial weeds): Do not make more than 2 applications per year.

Postemergence (annual & perennial weeds): Do not apply more than 5.5 pints per acre per application.

Postemergence (annual & perennial weeds): Minimum spray interval between applications is 30 days.

Postemergence (woody plants): Do not make more than 1 application per year.

Postemergence (woody plants): Do not apply more than 8 pints per acre per application.

Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

Magma™ contains 0.36 pounds a.e. of 2,4-D per pint. When tank mixing with products that contain 2,4-D, do not exceed a combined total of 4.0 pounds of a.e. per acre per year.

Magma™ contains 0.125 pounds a.e. of dicamba per pint. When tank mixing with products that contain dicamba, do not exceed a combined total of 1.0 pound of a.e. per acre per application.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE : Store in original container in a well-ventilated area separately from fertilizer, feed and foodstuffs. Avoid cross-contamination with other pesticides. Spillage or leakage should be contained and absorbed with clay granules, sawdust, or equivalent material for disposal.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Triple rinse pesticide from containers and use rinsates in the pesticide application. 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 HANDLING: (See the Net Contents section on the container to determine if it is non-refillable or refillable.) **APPROPRIATE BOX MUST BE CHECKED.**

Non-refillable containers (1 and 2.5 gallon): Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Non-refillable containers (>5 gallon): Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Refillable containers: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

When this container is empty, replace the cap and seal all openings that have been made during usage and return the container to the point of purchase, or to an alternate location designated by the manufacturer at the time of purchase of this product. If not returned, clean the empty container and offer for recycling, if available.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

To clean the container before final disposal, empty the remaining contents from the container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or re-circulate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing process two more times.

If the container cannot be refilled, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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