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Laddok®

Postemergence Flowable Herbicide

For selective postemergence broadleaf weed control in field corn, seed corn, silage corn, sweet corn and popcorn; and in sorghum.

Active ingredients

Sodium salt of bentazon* [3-(isopropyl)-1H-2, 1, 3-benzothiadiazin-4(3H)-one, 2, 2-dioxide]	19.0%
Atrazine* (2-chloro-4-ethylamino-6-isopropylamino-s-triazine)	17.5%

Inert ingredients	63.5%
Total	100.00%

*Equivalent to 1.66 pounds per gallon each of bentazon and atrazine.

EPA Registration No. 7969-54

KEEP OUT OF REACH OF CHILDREN.

Restricted Use Pesticide (Groundwater Concerns)

For retail sale to and use only by certified applicators or persons under their direct supervision, and only for those uses covered by the certified applicator's certification.

This product is a restricted use herbicide due to groundwater concerns. Users must read and follow all precautionary statements and instructions for use in order to minimize potential for atrazine to reach groundwater.

DANGER/PELIGRO

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicada ampliamente.

SHAKE WELL BEFORE USING.

Net contents—2½ gallons

BASF Corporation
P.O. Box 13528, Research Triangle Park, NC 27709

ACCEPTED
JUN 24 1991
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 7969-54

Not intended for use in California.

Specimen Label

Precautionary Statements

HAZARDS TO HUMANS

Danger

Corrosive. Causes eye damage and skin irritation. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful if swallowed.

If in eyes, immediately flush eyes with plenty of water. Get medical attention. If on skin, immediately flush skin with plenty of water. Get medical attention if irritation persists.

Environmental hazards

Atrazine, which is present in this product, can travel (seep or leach) through soil and can enter groundwater which may be used as drinking water. Atrazine has been found in groundwater. Users are advised not to apply **Laddok® herbicide** to sand and loamy sand soils where the water table (groundwater) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

This pesticide is toxic to aquatic invertebrates. Do not apply directly to water or wetlands. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water by cleaning of equipment or disposal of wastes.

Re-entry and workers' protection statements

Users are required to wear long sleeve shirts and long pants or equivalent, chemical resistant gloves, and boots (waterproofed). In addition, persons involved in mixing/loading operations are required to use chemical resistant rubber or neoprene gloves and a face shield or goggles.

Do not apply this product in such a manner as to directly or through drift, expose workers or other persons. The area being treated must be vacated by unprotected persons. Do not enter treated areas without protective clothing until sprays have dried. Because certain states may require more restrictive re-entry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Directions for use

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

General information

Laddok® herbicide is intended for the postemergence control of a broad spectrum of broadleaf weeds. **Laddok** does not control grasses. **Laddok** is effective mainly through contact action; therefore, weeds must be thoroughly covered with spray. Large crop-and-weed leaf canopies shelter smaller weeds and prevent adequate spray coverage.

Corn and sorghum are tolerant to **Laddok** at all stages of growth. Very slight leaf speckling of corn or sorghum may occur but plants generally outgrow this condition within 10 days.

Corn types included are field, sweet and popcorn; and corn grown for seed or silage. Sorghum types include grain and forage.

Always add UAN solution, oil concentrate, or **Dash® spray adjuvant** according to the section entitled **Additive information**.

Timing of applications

Apply **Laddok** early postemergence when weeds are small and actively growing and before weeds reach the maximum size listed in the **Application rate table for corn and sorghum**. Such applications generally correspond to the crop growth stages of one to seven leaves.

Early application to weeds produces the most beneficial effect on weed control, allows use of the lower rate (depending on weed species), and makes it easier to obtain thorough spray coverage. Delay in application which permits weeds to exceed the maximum size stated will result in inadequate control.

Do not cultivate within 5 days before or after application of **Laddok** in the following states: AZ, CO, CT, ID, IL, IN, IA, KS, KY, ME, MA, MI, MN, MO, MT, NE, NV, NH, NJ, NY, ND, OH, OR, PA, RI, SD, UT, VT, WA, WV, WI, WY. A cultivation 5 or more days after application may be necessary if all weeds are not controlled or if a second flush of weeds occurs.

Water volume and spray pressure

Apply recommended rates of **Laddok** as follows:

Ground equipment: Use a minimum of 20 gallons of water per broadcast acre and a minimum of 40 psi pressure (measured at the boom, not at the pump or in the line). When crop and weed foliage is dense use up to 50 gallons of water and up to 80 psi pressure. Use standard high pressure pesticide hollow cone or flat fan nozzles spaced 20 inches apart. Do not use flood or whirl chamber nozzles.

Air equipment: Use a minimum of 5 gallons of water per acre and a maximum of 40 psi pressure. Use only diaphragm-type nozzles producing cone or fan spray patterns.

Aerial application-special directions

To obtain uniform coverage and to avoid drift hazards, the following application equipment and practices should be used:

Nozzle height: Maximum of 10 feet above crop.

Nozzle orientation: Nozzles must be oriented so as to discharge straight back with the air stream (opposite the direction of travel of the aircraft) or at some angle between straight back and straight down.

Nozzles must be located no farther out than three-fourths the distance from the center of the aircraft to the end of the wing or rotor.

Water volume and spray pressure: See **Air equipment**.

Do not apply **Laddok** by aircraft when wind is blowing at a velocity above 10 mph. Coarse sprays (larger droplets) are less likely to drift.

Do not apply **Laddok** by air within 200 feet upwind of ornamental or sensitive nontarget crops such as soybeans, peanuts, cotton, sugar beets, sunflowers or okra.

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.

Special information for irrigated areas

In irrigated areas, it may be necessary to irrigate prior to treatment with **Laddok** to ensure weeds are growing actively. Weeds growing under drought conditions usually are not satisfactorily controlled.

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Additive information

UAN solution: In corn and sorghum, UAN (Urea Ammonium Nitrate) solution may be added to **Laddok** in the place of oil concentrate or **Dash™ spray adjuvant** for most weeds, consult the **Application rate table for corn and sorghum**. UAN solution is commonly referred to as 28, 30 or 32% N. With the addition of UAN solution to **Laddok** on corn or sorghum, a slight leaf tip burn or yellowing and speckling may occur. New growth is normal and vigor is not reduced. Do not use brass or aluminum nozzles when spraying **Laddok** with UAN solution. Do not use UAN solution in combination with oil concentrate or **Dash**.

Rate of UAN solution

Ground application—1 gallon per acre.
Air application—½ gallon per acre.

Oil concentrate or Dash: If UAN solution is not used, a nonphytotoxic oil concentrate (commonly referred to as oil concentrate) or **Dash** should be added to the spray tank. Use oil concentrate if Canada thistle, yellow nutsedge or field bindweed are to be controlled. The oil concentrate must contain either a petroleum or vegetable oil base and must meet the following criteria: 1) be non-phytotoxic, 2) contain only EPA-exempt ingredients, 3) provide good mixing quality in the jar test (see below), and 4) be successful in local experience.

The exact composition of suitable oil products will vary; however, vegetable and petroleum oil concentrates should contain emulsifiers which provide good mixing quality. For vegetable oil concentrates, it has been observed that highly refined vegetable oils are more satisfactory than unrefined vegetable oils. For additional information see **Jar test for estimating suitability of mixes** at the end of this section.

Rate of oil concentrate or Dash

Ground application—2 pints/acre (maximum)
Air application—1 pint/acre (maximum)

Jar test for estimating suitability of mixes

1. **Water supply:** Use only water from intended source and at the source temperature.
2. **Amount of water in jar:**
Ground application—For 20 gals./A spray volume use 3½ cups (800 ml) of water.
Air application—For 5 gals./A spray volume use ¾ cup (200 ml) of water, or
For 10 gals./A spray volume use 1¾ cups (400 ml) of water.
For other spray volumes, adjust proportionately to above.
3. **Amount of herbicide and oil concentrate or UAN solution to add:** Add herbicide and oil concentrate or UAN solution at the rate of 1 teaspoon (5 ml) for each pint of recommended label rate.
4. **Add components in the following sequence, gently mixing between component additions:**
 1. UAN solution (if used)
 2. **Laddok**
 3. Other products (if used)
 4. Oil concentrate or **Dash** (if used)
5. **Cap jar, invert 10 cycles, let stand for 15 minutes, evaluate.**
6. **Evaluation:** An ideal tank mix combination will be uniform; thus, the suitability of the oil concentrate is questionable if any of the following are observed:
 - Free oil at the surface—film or globules
 - Flocculation—fine particles which may be suspended in the liquid or found as a precipitated layer at the bottom of the jar
 - Clabbering—thickening texture (coagulated) resembling yogurt or a curd-like texture as with cottage cheese.

Mixing/spraying

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Fill tank of a thoroughly clean sprayer half to two-thirds full with clean water. Start agitation. Add UAN solution then add **Laddok**, allow to mix thoroughly. If UAN solution is not used add oil concentrate or **Dash** and remaining volume of water. Maintain constant agitation during application. Avoid allowing the mixture to stand overnight. Always clean sprayer thoroughly immediately after use by flushing the system with water and a strong detergent. Do not allow cleaning water to contaminate wells, streams or ponds.

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Application rate table for corn and sorghum

Weeds Controlled	Application Rates For Laddok					
	2 Pints/A*		2 1/2 Pints/A*		3 1/2 Pints/A*	
	Leaf Stage	Max. Height	Leaf Stage	Max. Height	Leaf Stage	Max. Height
Beggarticks	--	--	--	--	Up to 6	6"
Bristly Starbur	--	--	--	--	Up to 4	2"
Cocklebur	2-4**	3"	2-10**	8"	2-10**	8"
Common Lambsquarters	2-6	2"	Up to 8	5"	8-12	8"
Common Ragweed	--	--	Up to 4	4"	4-7	5"
Dayflower	--	--	--	--	Up to 6	4"
Giant Ragweed	--	--	Up to 4	4"	4-6	6"
Jimsonweed	2-4	3"	Up to 6	6"	6-10	8"
Kochia	--	--	--	4"	--	4"
Ladyschumb	2-6	4"	Up to 10	10"	10-14	12"
Morningglory, Annual	--	--	Up to 4	4"	4-6	6"
Penna. Smartweed	2-6	4"	Up to 10	10"	10-14	12"
Prickly Sida or Teaweed	--	--	Up to 4	2"	Up to 6	3"
Redroot Pigweed	2-4	2"	Up to 10	6"	Up to 10	6"
Smallflower Morningglory	--	--	Up to 4	4"	4-6	6"
Smooth Pigweed	2-4	2"	Up to 10	6"	Up to 10	6"
Spurred Anoda	--	--	--	--	Up to 6	3"
Tall Waterhemp	--	--	Up to 8	2"	6-9	4"
Velvetleaf ^a	2-4	3"	Up to 8	8"	8-10	10"
Venice Mallow	--	--	Up to 8	4"	Up to 8	4"
Wild Buckwheat	--	--	Up to 4	3"	4-6	5"
Wild Mustard	--	--	Up to 6	4"	6-10	8"
Wild Sunflower	--	--	Up to 5	6"	4-6	8"
Yellow Nutsedge	See Special Directions Below					
Canada Thistle	See Special Directions Below					
Field Bindweed	See Special Directions Below					

- ^a For velvetleaf, always add UAN solution instead of oil concentrate or Dash.
 * Always add UAN solution or oil concentrate or Dash to Laddok. See section Additive information.
 ** Do not treat earlier than leaf stage shown and do not count cotyledon leaves.

Special directions for other weed problems

Postemergence application to corn and sorghum must be made before corn and sorghum reaches 18 inches in height.

Corn

Canada Thistle
 For suppression of Canada thistle apply 3 1/2 pints of Laddok per acre when Canada thistle plants are from 8-10 inches tall to the bud stage. Add oil concentrate or Dash according to sections **Additive information** and **Mixing/spraying**

Yellow Nutsedge
 A single application of Laddok at 3 1/2 pints per acre will provide suppression of yellow nutsedge. Add oil concentrate or Dash according to sections **Additive information** and **Mixing/spraying**

Field Bindweed

For suppression of field bindweed apply 3 1/2 pints of Laddok per acre when field bindweed plants are 8 to 10 inches long. Add oil concentrate or Dash according to sections **Additive information** and **Mixing/spraying**.

Sorghum

Canada Thistle
 Yellow Nutsedge
 Field Bindweed
 For suppression of these weeds, apply 3 1/2 pints of Laddok per acre when Canada thistle plants are from 8-10 inches tall up to the bud stage, field bindweed vines are 8-10 inches long or yellow nutsedge is 1-4 inches tall. Add oil concentrate or Dash according to sections **Additive information** and **Mixing/spraying**. For best results, cultivate 7-14 days after application.

Mixing with insecticides

It is permissible to tank mix an insecticide with Laddok if the proper application timing of the insecticide coincides with the application timing of Laddok according to the recommendations on this label. Insecticides that may be used are Pounce[®], Pydrin[®], Furadan[®] 4F, Asana[®], dimethoate, malathion, and Lorsban[™] 4E. The addition of an insecticide as a tank mix to Laddok may increase the potential for crop injury. Consult the respective labels for directions for use restrictions and limitations of each product. The most restrictive labeling applies in tank mixes.

Before a tank mix of Laddok plus an insecticide is mixed, a jar test should be conducted following the directions in the section **Jar test for estimating suitability of mixes**

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Tank mix of Laddok plus 2,4-D LVE for use in field and silage corn only

General and application information, restrictions and limitations

Directions for use

General information

A tank mix of **Laddok** and 2,4-D LVE (low volatile ester) may be applied for postemergence control of the following troublesome broadleaf weeds, velvetleaf, tall waterhemp, sunflower, and the perennial weeds, Canada thistle, swamp smartweed and field bindweed. The tank mix should be applied to actively growing weeds. Refer to this label and the 2,4-D LVE label to define weeds controlled and conditions of best control. The most restrictive labeling applies to tank mixtures.

Time and rate of application

A tank mix of **Laddok** + 2,4-D LVE should be applied after corn has fully emerged through the four-leaf stage of corn growth but before the fifth leaf is visible. Refer to the **Recommended rates for postemergence application table** for the rates of **Laddok** and 2,4-D LVE to use.

Spray additives

UAN solution (commonly referred to as 28%, 30% or 32% nitrogen solution) at 1 gallon per acre may be added to this tank mixture to aid in the consistency of control of some broadleaf weeds such as velvetleaf. With the addition of UAN, a slight leaf tip burn or yellow-

Restrictions and limitations

Groundwater contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

This product may not be mixed/loaded, or used within 50 feet of all wells including abandoned wells, drainage wells, and sink holes

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

Postemergence application to corn and sorghum must be made before corn and sorghum reaches 18 inches in height

The maximum application rate of atrazine for corn and sorghum is 3 lbs. a.i. per acre per calendar year

Application rates to non-crop land for industrial weed control cannot exceed a maximum of 10 lbs. active ingredient per acre per calendar year

Recommended rates for postemergence application of Laddok plus 2,4-D LVE for broadleaf weed control

Rate of Laddok	2,4-D LVE rate*	
	4 lb/gallon	6 lb/gallon
2 1/2 pints/A	1/4 pint/A or 4 ounces/A	1/2 pint/A or 2 7/8 ounces/A

*Refer to the section **Spray additives**

ing and speckling may occur. New growth is normal and vigor is not reduced. Do not use brass or aluminum nozzles when UAN is used. Do not use oil additives, surfactants or other additives not recommended by each respective label.

Water volume and spray pressure

Use a minimum of 20 gallons of total spray mixture per acre (broadcast basis) and 40 psi pressure with standard flat fan nozzles spaced 20 inches apart. Use only ground equipment to apply this tank mixture.

Mixing

Fill tank of a thoroughly clean sprayer half to two-thirds full with clean water. Start agitation of UAN solution (if used) then add **Laddok**; allow to mix thoroughly. While the agitator is running add 2,4-D LVE (Refer to **Jar test for estimating suitability of mixes**), then add the remaining quantity of water.

Do not make more than one application of **Laddok** per season. Do not use **Laddok** when crop is under stress from prolonged cold, wet weather, poor fertility, or other factors or when crop is wet and succulent from recent rainfall, as crop injury may occur.

Do not apply **Laddok** if crop shows injury (leaf phytotoxicity and/or plant stunting) produced by any other prior herbicide applications, because this injury may be enhanced and/or prolonged

Do not apply **Laddok** during prolonged periods of drought or during unseasonably cold weather, as unsatisfactory weed control may result

Seed producers should consult the seed company regarding tolerance of seed population inbred lines to **Laddok**

Do not apply to sorghum that is heading out or blooming

Restrictions and Limitations (partial list)

Refer to each respective label for restrictions and limitations. The most restrictive labeling applies in tank mixes.

For use in field and silage corn only.

Do not apply postemergence on sorghum, popcorn, sweet corn, or corn grown for seed.

Crop varieties vary in response to 2,4-D and some are injured. Apply this tank mixture only to varieties known to be tolerant to 2,4-D.

Do not apply this treatment under cold, wet weather conditions or to corn growing under stress caused by weather, insects, disease, etc. Yellowing of the corn may result from this treatment, particularly if cold, adverse growing conditions occur after application. Extended or extreme cold and wet conditions may reduce stands. Thoroughly clean sprayer immediately after spraying.

Do not graze treated area or feed treated forage to livestock for 21 days following application.

Rainfall or overhead irrigation soon after application (within 8 hours) may nullify the effectiveness of **Laddok**.

Do not mix or apply **Laddok** with any other fertilizer except as specifically recommended on this labeling

Do not plant sugar beets or sunflower the season following application

Do not plant oats the season following the application of **Laddok** in soil having a calcareous surface layer. In the intermountain region of the United States, do not plant any other crop the year following the application of **Laddok** except corn or sorghum.

Storage and disposal

Store above 15°F

Do not contaminate water, food or feed by storage or disposal. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. 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. Triple rinse container (or equivalent). Then offer for recycling or reconditioning, 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.

In case of emergency

In case of large-scale spillage regarding this product Avoid contact, isolate area and keep out animals and unprotected persons. Confine spill and call CHEMTREC 800-424-9300 BASF Corporation 800-832-HELP

In case of medical emergency regarding this product, call

1. Your local doctor for immediate treatment.
2. Your local poison control center (hospital).
3. BASF Corporation 800-832-HELP

Conditions of sale and warranty

The Directions for use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. All such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for use, subject to the inherent risks referred to above. BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL BASF OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing Conditions of sale and warranty which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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Appendix—Scientific names

Broadleaf Weeds

Common Name	Scientific Name
Beggarticks	<i>Bidens frondosa</i>
Bristly Starbur	<i>Acanthospermum hispidum</i>
Canada Thistle	<i>Cirsium arvense</i>
Cocklebur	<i>Xanthium strumarium</i>
Common Lambsquarters	<i>Chenopodium album</i>
Common Ragweed	<i>Ambrosia artemisiifolia</i>
Dayflower	<i>Commelina</i> spp
Field Bindweed	<i>Convolvulus arvensis</i>
Giant Ragweed	<i>Ambrosia trifida</i>
Jimsonweed	<i>Datura stramonium</i>
Madysthumb	<i>Polygonum persicaria</i>
Morningglory, Annual	<i>Ipomea</i> spp
Morningglory, Smallflower	<i>Jacquemontia tamnifolia</i>
Pennsylvania Smartweed	<i>Polygonum pennsylvanicum</i>
Prickly Sida or Teaweed	<i>Sida spinosa</i>
Redroot Pigweed	<i>Amaranthus retroflexus</i>
Smooth Pigweed	<i>Amaranthus hybridus</i>
Spurred Anoda	<i>Anoda cristata</i>
Tall Waterhemp	<i>Amaranthus tuberculatus</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Venice Mallow	<i>Hibiscus trionum</i>
Wild Buckwheat	<i>Polygonum convolvulus</i>
Wild Mustard	<i>Sinapis arvensis</i>
Wild Sunflower	<i>Helianthus annuus</i>
Yellow Nutsedge	<i>Cyperus esculentus</i>

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