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**RESTRICTED USE PESTICIDE
DUE TO GROUND AND SURFACE WATER 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 ground and surface water concerns. Users must read and follow all precautionary statements and instructions for use in order to minimize potential for atrazine to reach ground and surface water.

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Laddok[®] S-12

herbicide

For selective postemergence broadleaf weed control in corn (field, pop, seed, silage, and sweet) and sorghum (grain and forage)

Active Ingredient:

Sodium salt of bentazon* [3-(isopropyl)-1H-2,1,3-benzothiadiazin-4(3H)-one,2,2-dioxide].....	27.0%
Atrazine* (2-chloro-4-ethylamino-6-isopropylamino-s-triazine).....	25.0%
Inert Ingredients:	48.0%
Total	100.0%

*Equivalent to 2.5 pounds of bentazon and atrazine per gallon

EPA Registration Number 7969-100 EPA Establishment Number 7969-WG-01

**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.)

See inside booklet for complete **Precautionary Statements, Statement of Practical Treatment, Directions For Use, and Conditions of Sale and Warranty.**

**Mix well before using.
Made in Germany**

Net contents: 2.5 gallons (9.46 liters)

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

ACCEPTED

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Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 7969-100

Precautionary Statements

Hazards to Humans and Domestic Animals

DANGER

Corrosive. Causes irreversible eye damage. Harmful if swallowed or absorbed through the skin. Do not get in eyes or on clothing. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Statement of Practical Treatment

If in eyes: Hold eyelids open and flush with a gentle steady stream of water for 15 minutes. Get medical attention.

If swallowed: Call a doctor or get medical attention. Do not induce vomiting or give anything by mouth to an unconscious person. Drink promptly a large quantity of milk, egg whites, gelatin solution, or if these are not available, drink large quantities of water. Avoid alcohol.

Note to physician: Probable mucosal damage may contraindicate gastric lavage.

If on skin: Wash with plenty of soap and water. Get medical attention.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not re-use them. Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statement

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

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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.

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® S-12 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). Bentazon, which is present in this product is known to leach through soil into groundwater under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

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 sinkholes. This product may not be mixed or loaded within 50 feet of intermittent streams and rivers, natural or impounded lakes and reservoirs. This product may not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 feet around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66 foot buffer or set-back from runoff points must be planted to crop or seeded with grass or other suitable crop.

Tile-terraced fields containing standpipes: To ensure protection of surface water from runoff through standpipes and tile outlets in terraced fields, one of the following options may be used: (1) Do not apply this product within 66 feet of standpipes in tile-outletted terraced fields; (2) Apply this product to the entire tile-outletted terraced field under a no-till practice only when high crop residue management practices are used. High crop residue management practice is described as a crop management practice where little or no crop residue is removed from the field during or after crop harvest.

This pesticide is toxic to aquatic invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.

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 when disposing of equipment wash waters or rinsate.

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.

All applicable directions, restrictions, precautions and **Conditions of Sale and Warranty** are to be followed. This labeling must be in the user's possession during application.

Where there are state/local requirements regarding atrazine use (including lower maximum rates and/or higher setbacks) that are different from the label, the more restrictive/protective requirements apply.

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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), notification to workers, 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 **12 hours**.

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

- Coveralls
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Protective eyewear

Storage and Disposal

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

Pesticide Storage: Do not store below 10° F or above 100° F.

Pesticide 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 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 Disposal:

• **Plastic Containers:** Triple rinse (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.

• Bulk/Mini-bulk Containers:

Reusable containers should be returned to the point of purchase for cleaning and refilling because the container must be thoroughly cleaned before refilling.

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 the spill and call:

CHEMTREC 800-424-9300
BASF Corporation 800-832-HELP

In case of medical emergency regarding this product, call:

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

Steps to be taken in case material is released or spilled:

Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal. Remove contaminated clothing, and wash affected skin areas with soap and water. Wash clothing before re-use. Keep the spill out of all sewers and open bodies of water.

I. General Information

Laddok® S-12 herbicide is intended for the postemergence control of a broad spectrum of broadleaf weeds. **Laddok S-12** does not control grasses.

Mode of Action

Laddok S-12 is a non-ALS product that inhibits photosynthesis in broadleaf weeds mainly through contact action.

Crop Tolerance

Corn (field, pop, seed, silage, and sweet) and sorghum (forage and grain) are tolerant to **Laddok S-12** at all stages of growth. Leaf speckling may occur, but plants generally outgrow this condition within 10 days. New growth is normal and crop vigor is not reduced. Seed producers should consult the seed company regarding the tolerance of inbred lines of seed population to **Laddok S-12**.

Irrigation

In irrigated areas, it may be necessary to irrigate before treatment to ensure active weed growth.

Coverage

Weeds must be thoroughly covered with spray because dense leaf canopies shelter smaller weeds and can prevent adequate spray coverage.

Cultivation

Do not cultivate within 5 days before or after applying **Laddok S-12**. Cultivating 5 days after treatment may help provide season-long control.

Cleaning Spray Equipment

Clean spray equipment thoroughly using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions before and after applying this product, particularly if a product with the potential to injure crops was used.

II. Application Instructions

Apply recommended rates of **Laddok S-12** as follows unless instructed differently by section VII. **Crop-Specific Information.** Applications can be made to actively growing weeds as aerial, broadcast, band, or spot spray applications at the rates and growth stages listed in **Table 1**. The most effective control will result from making postemergence applications of **Laddok S-12** early, when weeds are small. Delaying application permits weeds to exceed the maximum size stated and will prevent adequate control. Postemergence application to corn and sorghum must be made before corn and sorghum reach 12 inches in height.

Air Application

Water Volume: Use a minimum of 5 gallons of water per acre and increase water volume to at least 10 gallons of water per acre if grass foliage or crop canopy is dense. AMS can be used provided a minimum of 10 gallons of solution is applied per acre. AMS is not recommended because of the potential precipitation problems in reduced water volumes. Use AMS only if the source has been demonstrated to be successful in local experience.

Spray Pressure: Use up to 40 psi.

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Application Equipment: Use only diaphragm-type nozzles that produce cone or fan spray patterns.
Nozzle Height: Maximum of 10 feet above crop.
Nozzle Orientation: Nozzles must be oriented 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 3/4 the distance from the center of the aircraft to the end of the wing or rotor.

Special Directions for Aerial Application
 To obtain uniform coverage and to avoid drift hazards, follow these guidelines:

Do not apply **Laddok® S-12 herbicide** by aircraft when wind is blowing more than 10 mph. Use coarse sprays (larger droplets) as they are less likely to drift. Do not apply **Laddok S-12** by air if ornamental or sensitive nontarget crops such as soybeans, peanuts, cotton, sugar beets, sunflowers, or okra are within 200 feet downwind.

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.

Ground Application (Banding)

Follow **Ground Application (Broadcast)** instructions for band applications. When applying **Laddok S-12** by banding, determine the amount of herbicide and water volume needed using the following formula:

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

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

Ground Application (Broadcast)

Water Volume: Use 10-20 gallons of spray solution per broadcast acre for optimal performance. Increase water volume up to 50 gallons if crop or weed foliage is dense.

Spray Pressure: Use a minimum of 40 psi (measured at the boom, not at the pump or in the line).

Note: When using the lower water volume (i.e., 10 gallons per acre) or when crop and weed foliage is dense, use a minimum of 60 psi for best results.

Application Equipment: Use standard high-pressure pesticide flat fan or hollow cone nozzles spaced up to 20 inches apart. Do not use flood, whirl chamber, or controlled droplet applicator (CDA) nozzles as erratic coverage can cause inconsistent weed control. Do not use selective application equipment such as recirculating sprayers or wiper applicators.

Table 1. Application Rates for Corn and Sorghum

Weeds Controlled	1.33 Pints Per Acre		1.67 Pints Per Acre		2.33 Pints Per Acre	
	Leaf Stage	Maximum Height	Leaf Stage	Maximum Height	Leaf Stage	Maximum Height
Anoda, Spurred	—	—	—	—	Up to 6	3"
Beggarticks	—	—	—	—	Up to 6	6"
Buckwheat, Wild	—	—	Up to 4	3"	4-6	5"
Burcucumber	—	—	—	—	3	3"
Cocklebur*	2-4*	3"	2-10*	8"	2-10*	8"
Dayflower	—	—	—	—	Up to 6	4"
Devilsclaw	—	—	—	—	Up to 6	3"
Groundsel ^b , Common	—	—	Up to 4	2"	Up to 6	4"
Jimsonweed	2-4	3"	Up to 6	6"	6-10	8"
Kochia	—	—	—	4"	—	4"
Ladysthumb	2-6	4"	Up to 10	10"	10-14	12"
Lambsquarters ^b , Common	2-6	2"	Up to 8	5"	8-12	8"
Mallow, Venice	—	—	Up to 8	4"	Up to 8	4"
Morningglory, Annual	—	—	Up to 4	4"	4-6	6"
Smallflower	—	—	Up to 4	4"	4-6	6"
Mustard, Wild	—	—	Up to 6	4"	6-10	8"
Nightshade, Black	—	—	2-4	1"	2-4	1"
Eastern Black	—	—	2-4	1"	2-4	1"
Pigweed, Redroot ^b	2-4	2"	Up to 10	6"	Up to 10	6"
Smooth ^b	2-4	2"	Up to 10	6"	Up to 10	6"
Ragweed, Common	—	—	Up to 4	4"	4-7	5"
Giant	—	—	Up to 4	4"	4-6	6"
Sida, Prickly (Teaweed)	—	—	Up to 4	2"	Up to 6	3"
Smartweed, Pennsylvania	2-6	4"	Up to 10	10"	10-14	12"
Starbur, Bristly	—	—	—	—	Up to 4	2"
Sunflower, Wild	—	—	Up to 5	6"	4-6	8"
Velvetleaf ^c	2-4	3"	Up to 6 ^c	5"	Up to 8 ^c	8"
Waterhemp, Common	—	—	Up to 8	2"	6-9	4"
Tall	—	—	Up to 8	2"	6-9	4"
Bindweed, Field ^{d,e} Nutsedge, Yellow ^{d,e} Thistle, Canada ^{d,e}					8-10" long 6-8" tall 8" tall to bud stage	

* Do not treat earlier than leaf stage shown, and do not count cotyledon leaves.
^b Triazine-resistant biotypes of Amaranthus (pigweeds), common lambsquarters, and common groundsel can be controlled with **Laddok S-12**.
^c Adding UAN or AMS will control velvetleaf at the 8-leaf stage or 8 inch maximum height using 1.67 pints per acre, or at the 10-leaf stage or 10-inch maximum height using 2.33 pints per acre.
^d Add oil concentrate or **Dash® HC spray adjuvant** according to **Additive Information**. For best results in corn for Canada thistle and yellow nutsedge, follow with a second application of **Basagran® herbicide** 7-10 days later, or cultivate 7-14 days after application in corn and sorghum.
^e For suppression only.

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Table 2. Laddok S-12 Application Rate Conversion Chart

Use the chart below to calculate the amount of **Laddok® S-12 herbicide** required to treat the acreage listed. Select the rate of **Laddok S-12** required to control weeds according to the **Application Rate Table (Table 1)**. To calculate the number of gallons required to treat a specified acreage, multiply the number of acres by the multiplier listed below. The multiplier is equivalent to the number of gallons required to treat 1 acre.

Laddok S-12 Rate per Acre	Gallons of Laddok S-12					
	Multiplier	5 Acres	10 Acres	50 Acres	100 Acres	Your Acreage
1.33 pints	0.166	0.83	1.66	8.3	16.6	
1.67 pints	0.208	1.04	2.08	10.40	20.8	
2.33 pints	0.291	1.45	2.91	14.55	29.1	

III. Additives

To achieve consistent weed control, one of the following additives are needed: ammonium sulfate, **Dash® HC spray adjuvant**, crop oil concentrate, or urea ammonium nitrate. AMS (or UAN) should be used when velvetleaf is the primary target weed. Additives may cause some leaf burn, but new growth is normal and crop vigor is not reduced. The potential for leaf burn is increased when relative humidity and temperature are high. See **Table 3 Additive Rate Per Acre** for additive rates.

Ammonium Sulfate (AMS)

AMS is a dry, granular nitrogen-source fertilizer. Use only fine feed-grade or spray-grade AMS because inferior grades of AMS do not dissolve adequately and can plug spray nozzles. BASF does not recommend applying AMS if applied in less than 10 gallons per acre because of potential problems with precipitation in reduced volumes. Use AMS only if it has been demonstrated to be successful in local experience. Refer to **Air Application Instructions** for AMS use recommendations.

Dash HC or 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.

Dash HC may be substituted as an oil concentrate, however, for some crops and tank mixes, **Dash HC** is not recommended. For additional information, see **Compatibility Test for Mix Components**.

Some oil concentrates cause excessive leaf burn. Refer to your supplier for information concerning successful local experience before purchasing any oil concentrate.

Urea Ammonium Nitrate (UAN)

Commonly referred to as 28%, 30% or 32% nitrogen solution, UAN may be added in place of other spray additives to improve weed control. Because most nitrogen solutions are mildly corrosive to galvanized, mild steel, and brass spray equipment, rinse the entire spray system with water soon after use. Do not use brass or aluminum nozzles when spraying UAN.

Oil Concentrate + Nitrogen Solution

A nonphytotoxic oil concentrate (as referred to above) plus a nitrogen solution (UAN or AMS) can be added to the spray tank with **Laddok S-12**.

Table 3. Additive Rate Per Acre

Additive	Ground Application	Air Application
AMS	2.5 pounds	2.5 pounds
Dash HC	1 pint	0.5 pint
Oil Concentrate	2 pints	1 pint
UAN Solution	4-8 pints	4 pints
Oil Concentrate + Nitrogen	0.5-1 pint + 2-4 pints of UAN or 1-2 pounds of AMS	—

Compatibility Test for Mix Components

Add components to a jar in the following sequence using 2 teaspoons for each pound or 1 teaspoon for each pint of recommended label rate per acre.

- 1) **Water:** — For 20 gallons per acre spray volume, use 3.3 cups (800 ml) of water. For other spray volumes, adjust rates accordingly. Use only water from the intended source at the source temperature.
- 2) **Products in PVA bags (if applicable):** — Cut an opening in the water-soluble PVA bag just large enough to use a teaspoon for measuring purposes. Use the opened water-soluble PVA bag first when preparing spray solution. Cap the jar and invert 10 cycles.
- 3) **Water-dispersible products:** — such as **Laddok S-12**, dry flowables, wettable powders, suspension concentrates, or suspo-emulsions. Cap the jar and invert 10 cycles.
- 4) **Water-soluble products:** — Cap the jar and invert 10 cycles.
- 5) **Emulsifiable concentrates:** — (**Dash HC** or oil concentrate when applicable) Cap the jar and invert 10 cycles.
- 6) **Water-soluble additives:** — (AMS or UAN when applicable) Cap the jar and invert 10 cycles.
- 7) Let the solution stand for 15 minutes.
- 8) **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. Do not use any spray solution that could clog spray nozzles.

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IV. Mixing Order

- 1) **Water:** Begin by agitating a thoroughly clean sprayer tank three-quarters full of clean water.
- 2) **Agitation:** Maintain constant agitation throughout mixing and application.
- 3) **Products in PVA bags:** Rinse the tank before adding any material in PVA bags. Wait until all water-soluble PVA bags have fully dissolved and the herbicide is evenly mixed in the spray tank before continuing. If an inductor is used, rinse it thoroughly after the component has been added.
- 4) **Water-dispersible products: (Laddok® S-12 herbicide, dry flowables, wettable powders, suspension concentrates, or suspo-emulsions).** If an inductor is used, rinse it thoroughly after the component has been added.
- 5) **Water-soluble products:** If an inductor is used, rinse it thoroughly after the component has been added.
- 6) **Emulsifiable concentrates: (Dash® HC spray adjuvant or oil concentrate when applicable)** If an inductor is used, rinse it thoroughly after the component has been added.
- 7) **Water-soluble additives:** (AMS or UAN when applicable). If an inductor is used, rinse it thoroughly after the component has been added.
- 8) Remaining quantity water

For more information, refer to section **V. General Tank Mixing Information.**

V. General Tank Mixing Information

See section **VII. Crop-Specific Information** for more details. Read and follow the applicable **Restrictions and Limitations** and **Directions For Use** on all products involved in tank mixing. The most restrictive labeling applies to tank mixes.

Tank Mix Partners/Components

The following products may be tank mixed with **Laddok S-12** according to the specific tank mixing instructions in this label and respective product labels.

- **Asana® XL**
- **Atrazine**
- **Banvel®**
- **Bladex® 90**
- **Clarity®**
- **Dimethoate**
- **Furadan® 4F**
- **Lorsban® 4E**
- **Malathion**
- **Poast®**
- **Poast HC**
- **Poast Plus®**
- **Pounce®**
- **Stinger®**
- **2,4-D LVE**

Mixing with Insecticides

It is permissible to tank mix an insecticide with **Laddok S-12** if the proper application timing of the insecticide coincides with the application timing for **Laddok S-12**. Adding an insecticide as a tank mix to **Laddok S-12** may increase the potential for crop injury.

Physical incompatibility, reduced weed control, or crop injury may result from mixing **Laddok S-12** with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers. BASF does not recommend using tank mixes other than those listed on BASF labeling. Local agricultural authorities may be a source of information when using other than BASF recommended tank mixes.

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VI. General Restrictions and Limitations - All Crops

- **Maximum seasonal use rate:** Do not apply more than a **total of 2 pounds of bentazon a.i.** from all sources per acre, per calendar year. For postemergence applications, if there has been no previous soil application to that crop, the maximum rate of atrazine from all sources is 2 pounds of active ingredient per acre. If there has been a previous soil application to that crop, do not apply more than a total of 2.5 pounds of atrazine a.i. from all sources per acre, per calendar year.
- Do not make more than one application of **Laddok® S-12 herbicide** per season.
- **Restricted Entry Interval (REI): 12 hours.**
- **Crop Rotation Restriction:** Do not plant sugar beets or sunflowers the season following application. Do not plant oats the season following application of **Laddok S-12** in soil with 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 S-12** except corn or sorghum.
- **Rainfast period:** Rainfall or overhead irrigation soon after application may reduce the effectiveness of **Laddok S-12**.
- **Stress:** Do not apply to weeds or crops under stress such as stress due to lack of moisture, unseasonable cold weather, hail damage, flooding, herbicide injury, mechanical injury, or widely fluctuating temperatures, or when crop is wet and succulent from recent rainfall as crop injury or unsatisfactory control may result.
- Do not apply to crops that show **injury** (leaf phytotoxicity or plant stunting) produced by any other prior herbicide applications, because this injury may be enhanced or prolonged.
- Do not mix or apply **Laddok S-12** with any other fertilizer except as specifically recommended on this label.
- Do not use **selective application equipment** such as recirculating sprayers, wiper applicators, or **shielded applicators**.
- Do not apply this product through any type of **irrigation** system.

Table 4. Crop-Specific Restrictions and Limitations

Crop	Maximum Rate Per Acre Per Application	Maximum Rate Per Acre Per Season	Livestock Grazing or Feeding	Aircraft Application
Corn	2.33 pints	2.33 pints	Yes*	Yes
Sorghum	2.33 pints	2.33 pints	Yes*	Yes

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

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VII. Crop-Specific Information

Corn

Corn Tank Mixes

Laddok S-12 + Atrazine

Laddok S-12: 1.33-2.33 pints

Atrazine: 0.75-1 pound

Oil Concentrate: 1 pint

Adding atrazine will provide residual weed control and suppress giant, green, and yellow foxtail. Atrazine products compatible with **Laddok® S-12 herbicide** include **AAtrex® 4L** and **AAtrex® Nine-O herbicides** as well as other similar generic formulations containing atrazine.

Table 5. Tank Mix Rates for Laddok S-12 + Atrazine

Laddok S-12	Atrazine ¹
1.33 pints	1 pound
1.67 pints	1 pound
2.33 pints	0.75 pound

¹See section VI. General Restrictions and Limitations for maximum amounts of atrazine allowable per season.

SWEET CORN:

Consult your local agricultural extension specialist for information on sweet corn varieties that are tolerant to this tank mix.

Laddok S-12 + Banvel®

Laddok S-12: 1.33-2.33 pints

Banvel: up to 16 ounces (0.5 pound a.i.)

UAN Solution: 4 pints

or **AMS:** 2.5 pounds

For use on field corn only. This tank mix may be applied for additional or improved control of bindweed (field and hedge), Canada thistle, honeyvine milkweed, common lambsquarters, morningglories, pigweed (redroot and smooth), ragweed (common and giant), waterhemp (common and tall), and wild sunflower.

Restrictions and Limitations for Laddok S-12 + Banvel

Do not add other additives to this tank mix.

Follow the application procedures on the **Banvel** label if applying near sensitive crops.

Do not apply this tank mix at more than 40 psi.

Laddok S-12 + Bladex® 90 DF

Laddok S-12: 1.33-2.33 pints

Bladex: 1.67 pounds

For use on field and silage corn only to control major troublesome broadleaf weeds and small annual grasses and to reduce the potential triazine carryover into rotational crops. Annual grasses controlled by a **Laddok S-12 + Bladex 90 DF** tank mix include: crabgrass, fall panicum, giant foxtail, goosegrass, green foxtail, stinkgrass (Indian lovegrass), witchgrass, and yellow foxtail. Refer to **Table 1** for rate and timing for broadleaf weed control. Refer to the **Bladex 90 DF** label to determine the best conditions for annual grass control.

Yellowing of the corn may result from this treatment, particularly if cold or adverse growing conditions occur after application. Extended or extreme cold and wet conditions may reduce stands.

Application Rate and Timing

A tank mix of **Laddok S-12** plus **Bladex 90 DF** should be applied after corn has fully emerged but before the fifth leaf is visible. For adequate control, annual grasses must not exceed 1.5 inches in height. Refer to **Table 1** for rate and timing for broadleaf weed control.

Spray Additives

In dry, arid conditions with low humidity and the absence of dew formation at night, add a nonionic surfactant (NIS) or an emulsifiable vegetable oil suitable for use on growing corn. **Do not use petroleum-based crop oils.** Adding an NIS or EV oil is not recommended in moist, rainy conditions or when dew forms at night as injury may occur.

Restrictions and Limitations for Laddok S-12 + Bladex 90 DF Tank Mix

Do not use this tank mix on sand, loamy sand, or sandy loam soils that have 1% or less organic matter. Do not apply to corn if the fifth leaf is visible.

Plant only corn, peanuts, sorghum, or soybeans the year following application of this tank mix. Small grains may be planted 15 months after application, and all other crops may be planted after 18 months.

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

Do not use liquid fertilizer as a carrier for this tank mix; use only water.

Do not apply this tank mix by aerial equipment.

Add **Bladex 90 DF** to the mix before **Laddok S-12**.

Laddok S-12 + Clarity®

Laddok S-12: 1.33-2.33 pints

Clarity: up to 16 ounces (0.5 pound a.i.)

UAN Solution: 4 pints

or **AMS:** 2.5 pounds

For use on field corn only. This tank mix may be applied for additional or improved control of bindweed (field and hedge), Canada thistle, honeyvine milkweed, common lambsquarters, morningglories, pigweed (redroot and smooth), ragweed (common and giant), waterhemp (common and tall), and wild sunflower.

Restrictions and Limitations for Laddok S-12 + Clarity

Do not add other additives to this tank mix.

Follow the application procedures on the **Clarity** label if applying near sensitive crops.

Do not apply this tank mix at more than 40 psi.

Laddok S-12 + Poast®

Laddok S-12: 1.33-2.33 pints

Poast: 1-1.5 pints

Oil concentrate: 1-2 pints

UAN Solution: 2-4 pints

or **AMS:** 1-2 pounds

Laddok S-12 may be tank mixed with **Poast** for postemergence applications in **Poast Protected™ field corn** and corn grown for **Poast Protected** seed. This tank mix may be applied postemergence for additional control of annual and perennial grass weeds in **Poast Protected field corn**. Refer to the **Poast** label for complete labeling instructions. Use only **Poast Protected field corn** hybrids with a **Poast Protected** (or **SR® sethoxydim-resistant field corn**) designation on the seed label. Severe crop injury will occur to corn hybrids not designated as **Poast Protected field corn**.

Restrictions and Limitations for Laddok S-12 + Poast

Do not apply this tank mix to corn hybrids not designated as **Poast Protected field corn** (or **SR[®] sethoxydim-resistant field corn**) because severe crop injury will occur.
Do not apply this tank mix within 60 days of harvest of corn grain or fodder.
Do not apply this tank mix within 45 days of harvest of corn forage/silage.

Laddok S-12 + Poast[®] HC

Laddok S-12: 1.33-2.33 pints
Poast HC: 7-10.5 fluid ounces
Oil concentrate: 1-2 pints
UAN Solution: 2-4 pints
or **AMS:** 1-2 pounds

Laddok S-12 may be tank mixed with **Poast HC** for postemergence applications in **Poast Protected[™] field corn** and corn grown for **Poast Protected** seed. This tank mix may be applied postemergence for additional control of annual and perennial grass weeds in **Poast Protected field corn**. Refer to the **Poast HC** label for complete labeling instructions. Use only **Poast Protected field corn** hybrids with a **Poast Protected** (or **SR[®] sethoxydim-resistant field corn**) designation on the seed label. Severe crop injury will occur to corn hybrids not designated as **Poast Protected field corn**.

Restrictions and Limitations for Laddok S-12 + Poast HC

Do not apply this tank mix to corn hybrids not designated as **Poast Protected field corn** (or **SR[®] sethoxydim-resistant field corn**) because severe crop injury will occur.
Do not apply this tank mix within 60 days of harvest of corn grain or fodder.
Do not apply this tank mix within 45 days of harvest of corn forage/silage.

Laddok S-12 + Poast Plus[®]

Laddok S-12: 1.33-2.33 pints
Poast Plus: 1.5-2.25 pints
Oil concentrate: 1 pint
UAN Solution: 2-4 pints
or **AMS:** 1-2 pounds

Laddok[®] S-12 herbicide may be tank mixed with **Poast Plus** for postemergence applications in **Poast Protected[™] field corn** and corn grown for **SR** seed. This tank mix may be applied postemergence for additional control of annual and perennial grass weeds in **Poast Protected field corn**. Refer to the **Poast Plus** supplemental label for complete labeling instructions. Use only **Poast Protected field corn** hybrids with a **Poast Protected** (or **SR[®] sethoxydim-resistant field corn**) designation on the seed label. Severe crop injury will occur to corn hybrids not designated as **Poast Protected field corn**.

Restrictions and Limitations for Laddok S-12 + Poast Plus

Do not apply this tank mix to corn hybrids not designated as **Poast Protected field corn** (or **SR[®] sethoxydim-resistant field corn**) because severe crop injury will occur.
Do not apply this tank mix within 60 days of harvest of corn grain or fodder.
Do not apply this tank mix within 45 days of harvest of corn forage/silage.

Laddok S-12 + Stinger[®]

Laddok S-12: 1.67-2.33 pints
Stinger: up to 0.33 pint

Apply this tank mix when Canada thistle is at least 4 inches in diameter or height (when the majority of the basal leaves have emerged but before the bud stage). Do not cultivate before application. Wait 14-20 days after application before cultivating.

Laddok S-12 + 2,4-D LVE

Laddok S-12: 1.33-2.33 pints
2,4-D LVE: 4 ounces (4 pounds a.i. per gallon formulation)
or
2.7 ounces (6 pounds a.i. per gallon formulation)
UAN Solution: 4 pints
or **AMS:** 2.5 pounds

For use on field and silage corn only. A tank mix of **Laddok S-12** and 2,4-D LVE (low volatile ester) may be applied for postemergence control of the following troublesome broadleaf weeds: velvetleaf, waterhemp (common and tall), sunflower, and perennial weeds (Canada thistle, swamp smartweed, and field bindweed). The amine formulation of 2,4-D may be substituted for the LVE formulation. Refer to this label and the 2,4-D LVE label to determine which weeds can be controlled and the best conditions for control. Crop varieties vary in response to 2,4-D LVE and some can be injured. Apply this tank mix only to varieties known to be tolerant to 2,4-D LVE. Contact your seed supplier for information on 2,4-D LVE susceptibility. Yellowing of the corn may result from this treatment, particularly if cold or adverse growing conditions occur after application. Extended or extreme cold and wet conditions may reduce stands.

Application Timing

A tank mix of **Laddok S-12 + 2,4-D LVE** should be applied after corn has fully emerged through the four-leaf stage of corn growth out before the fifth leaf is visible.

Restrictions and Limitations for Laddok S-12 + 2,4-D LVE Tank Mix

Do not apply on sorghum, popcorn, sweet corn, or corn grown for seed.
Do not add other additives to this tank mix.
Do not apply this tank mix at more than 40 psi.

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Sorghum

Do not apply to sorghum that is heading out or blooming.

Sorghum Tank Mixes

Laddok S-12 + Atrazine

Laddok S-12: 1.33-2.33 pints

Atrazine: 0.75-1 pound

Oil Concentrate: 1 pint

Adding atrazine will provide residual weed control and suppress giant, green, and yellow foxtail. Atrazine products compatible with Laddok® S-12 herbicide include AAtrex® 4L and AAtrex® Nine-O herbicides as well as other similar generic formulations containing atrazine.

Table 6. Tank Mix Rates for Laddok S-12 + Atrazine

Laddok S-12	Atrazine ¹
1.33 pints	1 pound
1.67 pints	1 pound
2.33 pints	0.75 pound

¹See section VI. General Restrictions and Limitations for maximum amounts of atrazine allowable per season.

PM 23

7969-100

11-6-97

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**RESTRICTED USE PESTICIDE
DUE TO GROUND AND SURFACE WATER 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 ground and surface water concerns. Users must read and follow all precautionary statements and instructions for use in order to minimize potential for atrazine to reach ground and surface water.

BASF

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Headline® B

herbicide

Postemergence Flowable Herbicide

For selective postemergence broadleaf weed control in SR™ sethoxydim-resistant field corn, seed corn, and silage corn.

Active Ingredient

Sodium salt of bentazon* [3-(isopropyl)-1H-2,1,3-benzothiadiazin-4(3H)-one-2,2-dioxide]	27.0%
Atrazine* (2-chloro-4-ethylamino-6-isopropylamino-s-triazine)	25.0%
Inert Ingredients:	48.0%
Total	100.0%

*Equivalent to 2.5 pounds per gallon each of bentazon and atrazine.

EPA Reg. No. 7969-100

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.)

Statement of Practical Treatment

If in eyes: Hold eyelids open and flush with a gentle steady stream of water for 15 minutes. Get medical attention.

If swallowed: Call a doctor or get medical attention. Do not induce vomiting or give anything by mouth to an unconscious person. Drink promptly a large quantity of milk, egg whites, gelatin solution, or if these are not available, drink large quantities of water. Avoid alcohol.

Note to physician: Probable mucousal damage may contraindicate gastric lavage.

If on skin: Wash with plenty of soap and water. Get medical attention.

See inside booklet for complete **Precautionary Statements, Directions For Use, and Conditions of Sale and Warranty.**

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the **Directions For Use** section for information about this standard.

Mix well before using.

Net contents:

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

ACCEPTED

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Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 7969-100

Specimen Label

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**Precautionary Statements
Hazards to Humans (and
Domestic Animals)**

DANGER. Corrosive. Causes irreversible eye damage. Harmful if swallowed or absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Protective eyewear

Discard clothing and 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 or washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statement

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

Environmental Hazards

Atrazine, which is present in this product, can travel (seep or leach) through soil and can enter ground-

**User Safety Recommendations
Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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.

water which may be used as drinking water. Atrazine has been found in groundwater. Users are advised not to apply **Headline B** 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.

Bentazon, which is present in this product is known to leach through soil into groundwater under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

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. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. 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 when disposing of equipment washwaters or rinsate.

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

Directions For Use —

Headline® B and G herbicides

(Hereafter referred to as **Headline**) 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. **Headline B must be used in combination with Headline G.**

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 12 hours.

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

- Coveralls
- Chemical-resistant gloves such as barrier laminate, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, or viton ≥14 mils
- Chemical-resistant footwear plus socks
- Protective eyewear

Storage and Disposal

Store above 10° 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 the **Duplex™ II** 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. Do not re-use the empty container.

General Information

Headline may be applied postemergence to control annual and perennial grasses and broadleaf weeds in **SR™ sethoxydim-resistant field corn** or corn grown for **SR** seed. Applications should be made when weeds are small and actively growing.

Only SR field corn hybrids are tolerant to Headline applications.

Severe crop injury will occur to corn hybrids not labeled as SR field corn.

Essentially, all grass crops such as sorghum, non-**SR** corn and small grain, as well as ornamental grasses such as turf, are susceptible to **Headline**; therefore, avoid all direct or indirect contact with any grass crop.

Duplex™ II System Operating Procedure

Duplex™ II Mixing

- 1) Fill tank of a thoroughly clean sprayer three-quarters full with clean water. Start agitation.
- 2) Add nitrogen fertilizer.
- 3) Add tank mix partner (if applicable). Allow to mix thoroughly.
- 4) Add **Headline B** to the spray tank, add the remaining volume of water to the spray tank, then add **Headline G**. Allow to mix thoroughly. Do not attempt to pour the contents of the **Duplex II** container system (**Headline B** and **Headline G**) into the tank simultaneously or poor mixing will result.
- 5) Add oil concentrate or **Dash® HC spray adjuvant** as recommended.

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- 6) Allow to mix thoroughly.
 - 7) Maintain constant agitation during application.
 - 8) After dispensing **Headline B** and **Headline G** from the **Duplex II System** into the spray tank, spray within 48 hours.

Mode of Action:

Headline is effective through postemergence contact and systemic activity. Weeds must be thoroughly covered with spray. Large crop-and-weed-leaf canopies shelter smaller weeds and prevent adequate spray coverage.

Time and Rate of Application

Apply **Headline** at 3-3.5 pints per acre (1.5-1.75 pints of **Headline B** per acre + 1.5-1.75 pints of **Headline G** per acre) early post emergence to actively growing weeds before they reach the maximum size listed in **Table 1**. **Headline** can be applied at a maximum total rate of 3.5 pints per acre. An additional 2.9 pints of **Basagran® herbicide** per acre may be applied after a single application of **Headline**. Up to an additional 2.75 pints of **Poast Plus® herbicide** per acre may be applied after a single application of **Headline**.

Do not apply to grass and broadleaf weeds under stress due to lack of moisture, herbicide injury, mechanical injury, or cold temperature, as unsatisfactory control may result. Thorough spray coverage of grass and broadleaf weeds foliage is essential.

Water Volume and Spray Pressure

Ground Application: Use a minimum of 10 gallons of water per broadcast acre at 60 psi (measured at the boom, not at the pump or in the line) to ensure adequate spray coverage. When crop and weed foliage is dense, use up to 20 gallons of water at 40-60 psi. Use standard high-pressure hollow cone or flat fan nozzles spaced 20 inches apart. Do not use flood or whirl chamber nozzles. Brass nozzles are not recommended because of the corrosive effects of nitrogen additives. At lower volumes (e.g., 10 gallons of spray volume per acre) use a minimum nozzle size of 8002 or equivalent to minimize spray drift.

Air Application: Use a minimum of 5 gallons of water per acre and a maximum of 40 psi pressure. To obtain uniform coverage and to avoid drift hazards, the following

application equipment and practices should be used:

Nozzle type: Use only diaphragm-type nozzles producing cone or fan spray patterns.

Nozzle height: Maximum of 10 feet above the crop.

Nozzle orientation: Nozzles must be oriented 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 than $\frac{3}{4}$ the distance from the center of the aircraft to the end of the wing or rotor. Do not apply tank mixes by aircraft within 200 feet upwind of ornamental or sensitive nontarget crops. Applicator must follow the most restrictive use precautions to avoid drift hazards and must follow labeling as well as applicable state and local regulations and ordinances. Delayed application that permits weeds to exceed the maximum size will result in inadequate control.

Always read and follow all label directions when using any pesticide alone or in tank mix combinations. The most restrictive labeling applies when using a tank mix. Physical incompatibility, reduced weed control, or crop injury may result from mixing **Headline® herbicide** with pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers. BASF does not recommend the use of tank mixes with **Headline** other than those listed on BASF labels, supplemental labeling, or technical bulletins. Local agricultural authorities may be a source of information when using other than BASF recommended combinations. Do not apply **Headline** with other pesticides whose labels caution against their use with oil adjuvants.

Directed Spray or Layby

Treatments: When the crop is tall and grass and broadleaf weeds are below the crop canopy, drop nozzles should be used to direct the spray mixture onto the weeds.

Band Application: Banding may be used to control annual grass and broadleaf weeds. Grass and broadleaf weeds that are not covered or only partly covered by **Headline** will not be adequately controlled. All recommendations are on a broadcast basis. When banding, rates of **Headline**, additives, and water should be reduced in proportion to the area sprayed.

Cultivation Information

Do not cultivate within 5 days prior to application of **Headline** or within 7 days following application. A timely cultivation after 7 days may aid in providing season-long control.

Additives

Always use 1-2 quarts of UAN solution or 1-2 pounds of AMS when applying **Headline** in addition to 1 pint of **Dash HC** or 1 pint of crop oil concentrate per acre except where noted with specific tank mixes (see page 6).

Nitrogen Solution

UAN solution is commonly referred to as 28%, 30%, or 32% nitrogen, and is a water solution of urea and ammonium nitrate. Because most nitrogen solutions are corrosive to galvanized steel and brass spray equipment, rinse the entire spray system with water after use.

Note about ammonium sulfate:

Use high-quality ammonium sulfate (AMS) to avoid plugging of spray nozzles. The AMS must be readily soluble in water and contain no insoluble materials. Local sources of high-quality, spray-grade AMS are recommended. Low-quality AMS may contain material that will not readily dissolve which could result in nozzle tip plugging. To determine quality, perform a jar test adding $\frac{1}{2}$ cup of AMS to 1 gallon of water and agitate for 1 minute. If any undissolved sediment is observed, predissolve the AMS in water and filter it before adding the AMS to the spray tank. If AMS can be added directly to the spray tank, add it slowly with agitation. Adding AMS too quickly may clog outlet lines. Ensure that the AMS is completely dissolved in the spray tank before adding other products. AMS is not recommended for aerial applications because of potential precipitation problems.

Jar Test for Estimating

Suitability of Oil Concentrate

- 1. Water supply:** Use only water from intended source and at the source temperature.
- 2. Amount of water in jar:** For 20 gallons per acre spray volume, use $3\frac{1}{2}$ cups (800 ml) of water. For 10 gallons per acre spray volume, use $1\frac{1}{2}$ cups (400 ml) of water. For other spray volumes, adjust proportionately to above.
- 3. Amount of herbicide and oil concentrate to add:** Add herbicide and oil concentrate at the rate of 1 teaspoon (5 ml) for each pint of recommended label rate.
- 4. Add components in following sequence,** gently mixing between component additions:
 - a) Headline B**
 - b) Headline G** (and other emulsifiable concentrates when applicable)
 - c) oil concentrate, Dash HC, UAN, or AMS**
- 5. Cap jar,** invert 10 cycles, let stand for 15 minutes, evaluate.
- 6. Evaluation:** An ideal tank mix 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.

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Table 1: Maximum Weed Heights Controlled by Headline® Herbicide

Weeds Controlled	3 Pints Per Acre (1.5 Pints of Headline B + 1.5 Pints of Headline G)		3.5 Pints Per Acre (1.75 Pints of Headline B + 1.75 Pints of Headline G)	
	Maximum Adjuvant Rate (per acre)			
	1 pint of crop oil concentrate or Dash HC + 1-2 quarts of UAN Solution ⁴			
	Leaf Stage	Maximum Height	Leaf Stage	Maximum Height
Broadleaves				
Black Nightshade	—	—	2-4	1"
Cocklebur ¹	2-6	5"	2-10	8"
Common Groundsel	—	—	Up to 4	2"
Common Lambsquarters	Up to 6	3"	Up to 8	5"
Common Ragweed	Up to 4	2"	Up to 4	4"
Eastern Black Nightshade	—	—	2-4	1"
Giant Ragweed	Up to 4	2"	Up to 4	4"
Jimsonweed	Up to 4	4"	Up to 6	6"
Kochia	—	2"	—	4"
Ladysthumb	Up to 6	6"	Up to 10	10"
Morningglory, Annual	—	—	Up to 4	4"
Pennsylvania Smartweed	Up to 6	6"	Up to 10	10"
Prickly Sida or Teaweed	—	—	Up to 4	2"
Redroot Pigweed	Up to 8	4"	Up to 10	6"
Smallflower Morningglory	—	—	Up to 4	4"
Smooth Pigweed	Up to 8	4"	Up to 10	6"
Velvetleaf	Up to 5	4"	Up to 6	5"
Venice mallow	Up to 4	2"	Up to 8	4"
Waterhemp, Common	Up to 4	2"	Up to 6	3"
, Tall	Up to 4	2"	Up to 6	3"
Wild Buckwheat	Up to 3	2"	Up to 4	3"
Wild Mustard	Up to 4	2"	Up to 6	4"
Wild Sunflower	Up to 4	3"	Up to 5	6"
Grasses				
Barryardgrass	—	2"	—	4"
Broadleaf Signalgrass	—	2"	—	4"
Crabgrass, Large	—	2"	—	4"
, Smooth	—	2"	—	4"
Foxtail, Giant	—	4"	—	6"
, Green	—	4"	—	6"
, Yellow	—	4"	—	6"
Goosegrass	—	2"	—	4"
Johnsongrass (seedling)	—	—	—	6"
Junglerice	—	—	—	4"
Panicum, Browntop	—	2"	—	4"
, Fall	—	2"	—	4"
, Texas	—	2"	—	4"
Red Sprangletop	—	—	—	4"
Ryegrass, Annual	—	—	—	4"
Shattercane ²	—	—	—	4"
Volunteer Corn ⁵	—	8"	—	12"
Wild Oats	—	—	—	2"
Wild Proso Millet	—	6"	—	8"
Witchgrass	—	2"	—	4"
Woolly Cupgrass ²	—	2"	—	4"
Perennials				
Canada Thistle ³	—	—	—	bud stage
Johnsongrass (Rhizome) ³	—	—	—	6"
Quackgrass ²	—	—	—	4"
Wirestem Muhly ²	—	—	—	4"
Yellow Nutsedge ³	—	—	—	6"

¹ Do not treat earlier than 2-leaf stage (not counting cotyledon leaves).

² For regrowth or new germination, a follow-up application of **Poast Plus® herbicide** may be necessary. Refer to **Poast Plus** label.

³ For regrowth or new germination, follow up 7-10 days later with **Basagran® herbicide**. Refer to **Basagran** label.

⁴ AMS can be substituted at 1-2 pounds per acre.

⁵ Volunteer corn must be non-SR. **Headline** and **Poast Plus** will not control volunteer SR field corn.

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Procedure for Cleaning

Equipment

Attention! Clean sprayer thoroughly before and after applying **Headline® herbicide**.

Clean sprayer thoroughly prior to application of **Headline**, particularly if a herbicide was used which has the potential to injure the crop sprayed with **Headline**.

Consult the label of previously used herbicides for cleaning instructions. If no instructions are available, these steps listed below are suggested for cleaning of spray equipment prior to or following applications of **Headline**.

1. Hose down thoroughly the inside as well as the outside of equipment while filling the spray tank half full of water. Flush by operating sprayer until the system is purged of this rinse water.
2. Refill tank with water while adding 1 gallon household ammonia or 1 pint household dishwashing detergent per 100 gallons of water, or add a commercial sprayer cleaner according to the manufacturer's directions. Operate the pump to circulate the detergent solution through the sprayer system for 5 to 10 minutes and discharge a small amount of solution through the boom and nozzles. Let the solution stand for 24 hours.
3. Flush the detergent solution out of the spray tank through the boom.
4. Remove the nozzles and screens and flush the system with two tankfuls of water.

Restrictions and Limitations

Do not apply **Headline** to corn hybrids which are not specifically labeled as **SR™ sethoxydim-resistant field corn** because severe crop injury will occur.

Over-the-top applications of **Headline** in **SR** field corn may be made before corn reaches 12 inches in height.

Do not apply **Headline** more than once per season.

Do not apply **Headline** to **SR** field corn within 60 days of harvest of corn grain or fodder.

Do not apply **Headline** to **SR** field corn within 45 days of harvest of corn forage/silage.

Ground water 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.

This product may not be mixed or loaded within 50 feet of intermittent streams or rivers, natural or impounded lakes or reservoirs. This product may not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams or rivers or within 200 feet around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66 foot buffer or set-back from runoff points must be planted to crop or seeded with grass or other suitable crop.

Tile-terraced fields containing standpipes: To ensure protection of surface water from runoff through standpipes and tile outlets in terraced fields, one of the following options may be used: (1) Do not apply this product within 66 feet of standpipes in tile-outletted terraced fields; (2) Apply this product to the entire tile-outletted terraced field under a no-till practice only when high crop residue management practices are used. High crop residue management practice is described as a crop management practice where little or no crop residue is removed from the field during or after crop harvest. This pesticide is toxic to aquatic invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.

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 when disposing of equipment wash waters or rinsate.

Where there are state and/or local requirements regarding atrazine use (including lower maximum rates and/or higher set-backs) which are different from the label, the more restrictive requirements apply.

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

For postemergence applications, if there has been no previous soil application, the maximum rate of atrazine from all sources is 2 pounds of active ingredient per acre. If there has been a previous soil application to that crop, do not exceed a total of 2.5 pounds of active ingredient per acre, per calendar year.

Do not apply more than a total of 4.5 pints of **Poast Plus® herbicide** per acre per crop season.

Do not apply more than 2 pounds of bentazon a.i. (from all sources) per acre, per calendar year.

Do not apply **Headline** if rainfall or irrigation is expected within 1 hour following application as weed control will probably be unsatisfactory.

Do not apply **Headline** if crop has been subjected to stressful conditions or crop injury produced by prior herbicide applications, hail damage, flooding, drought, unseasonable cold, or widely fluctuating temperatures as injury or unsatisfactory control may result.

If stress conditions are present, delay application to give plants a chance to recover.

Do not plant sugar beets or sunflowers the season following application.

Do not plant oats the season following the application of **Headline** in soil with a calcareous surface layer.

In the intermountain region of the United States, do not plant any other crop the year following the application of **Headline** except corn or sorghum.

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Table 2. Headline® Herbicide Tank Mix Partners

The following herbicides can be tank mixed with Headline .
Atrazine Banvel® Clarity® Dual® Dual II® Frontier® Harness® Prowl® Surpass® 2,4-D (LVE)

Tank Mix Restrictions and Limitations (partial list)

Always read and follow all label directions when using any pesticide alone or in tank mixes. The most restrictive labeling applies.

Do not apply these tank mixes to corn that has been subjected to stress conditions such as drought, flooding, frost or hail damage, high temperature stress or wilt, injury from herbicides or excess fertilizer or soil salts, wind injury, widely fluctuating temperatures, stress symptoms from disease, nematodes or insects, or cold temperatures when maximum daily temperature is below 70° F or soil temperature is below 60° F because weeds will not be actively growing and control may be reduced.

Avoid drift to all other crops and non-target areas.

Follow rotational restrictions as provided on each herbicide's respective labeling.

Thoroughly clean sprayer before and immediately after applying these tank mixes.

Tank Mixes

• Headline + Atrazine

The tank mix of **Headline** plus atrazine may be applied for post-emergence control of broadleaf weeds at the proper growth stage as specified on this label. Adding atrazine will enhance overall post-emergent weed control as well as provide residual weed control.

This tank mix is effective through contact action, therefore, weeds must be thoroughly covered with spray. Large crop and weed canopies shelter smaller weeds and prevent adequate spray coverage. Atrazine products compatible with **Headline** include **AAtrex® 4L** and **AAtrex® Nine-O herbicides** as well as other similar generic formulations containing atrazine. Refer to the respective atrazine labels for additional directions and limitations.

Application Rate and Timing

Apply the tank mix of **Headline** plus atrazine early postemergence to actively growing weeds before they reach the maximum size listed in **Table 1** of the **Headline** label. Apply the recommended amount of **Headline** according to the **Application Rate Chart for Headline + Atrazine (Table 3)**.

Table 3. Application Chart for Headline + Atrazine Tank Mix (per acre)

Headline	Atrazine ¹
3.0 pints	up to 1.5 pounds
3.5 pints	up to 1.4 pounds

¹ See **Restrictions and Limitations** for maximum amounts of atrazine allowable per season. Use 1-2 quarts of UAN in addition to 1 pint of **Dash® HC spray adjuvant** or 1 pint of crop oil concentrate per acre.

• Headline + Dual, Dual II, Frontier, Harness, Prowl, or Surpass.

A tank mix of **Headline** with these products is recommended for residual grass control. Refer to each label for specific rates, corn size limitations, and other restrictions.

• Headline + Banvel or Clarity

A tank mix of **Headline** plus **Banvel** or **Clarity** is recommended for additional or improved control of bindweed (field and hedge), Canada thistle, honeyvine milkweed, common lambsquarters, morningglories, pigweed (redroot and smooth), ragweed (common and giant), waterhemp (common and tall), and wild sunflower.

Rate: Use 3.0-3.5 pints of **Headline** mixed with up to 8 ounces of **Banvel** or **Clarity** per acre.

Additives:

A tank mix of **Headline** plus **Banvel** or **Clarity** requires the use of 1-2 quarts of UAN or 1-2 pounds of AMS per acre.

Do not add oil concentrate or **Dash HC** with this tank mix as severe crop injury may occur.

• Headline + 2,4-D LVE

A tank mix of **Headline** plus 2,4-D LVE is recommended for additional or improved control of bindweed (field and hedge), Canada thistle, common lambsquarters, morningglories, ragweed (common and giant), and wild sunflower.

Rate: Use 3.0-3.5 pints of **Headline** mixed with up to 8 ounces of 2,4-D LVE (0.25 pounds a.i.) per acre.

Additives:

A tank mix of **Headline** plus 2,4-D LVE requires the use of 1-2 quarts of UAN or 1-2 pounds of AMS per acre. Do not add oil concentrate or **Dash HC** with this tank mix as severe crop injury may occur.

Appendix

The following are scientific names for the weeds listed in this section. For specific recommendations on control of these weeds, refer to the

Application Rate Table.

Broadleaf Weeds

Common Name	Scientific Name
Barnyardgrass	<i>Echinochloa crus-galli</i>
Bindweed, Field	<i>Convolvulus arvensis</i>
Buckwheat, Wild	<i>Polygonum convolvulus</i>
Canada Thistle	<i>Cirsium arvense</i>
Cocklebur	<i>Xanthium strumarium</i>
Crabgrass, Large	<i>Digitaria sanguinalis</i>
, Smooth	<i>Digitaria ischaemum</i>
Cupgrass, Woolly	<i>Eriochloa villosa</i>
Foxtail, Giant	<i>Setaria faberi</i>
, Green	<i>Setaria viridis</i>
, Yellow	<i>Setaria glauca</i>
Goosegrass	<i>Eleusine indica</i>
Jimsonweed	<i>Datura stramonium</i>
Johnsongrass	<i>Sorghum halepense</i>
Junglerice	<i>Echinochloa colonum</i>
Kochia	<i>Kochia scoparia</i>
Ladysthumb	<i>Polygonum persicaria</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Mallow, Venice	<i>Hibiscus trionum</i>
Millet, Wild Proso	<i>Panicum miliaceum</i>
Morningglory, Annual	<i>Ipomea spp.</i>
, Smallflower	<i>Jacquemontia tamnifolia</i>
Muhly, Wirestem	<i>Muhlenbergia frondosa</i>
Mustard, Wild	<i>Sinapis arvensis</i>
Nightshade, Black	<i>Solanum nigrum</i>
, Eastern Black	<i>Solanum ptycanthum</i>
Nutsedge, Yellow	<i>Cyperus esculentus</i>
Panicum, Brown top	<i>Panicum fasciculatu</i>
, Fall	<i>Panicum dichotomiflorum</i>
, Texas	<i>Panicum texanum</i>
Pennsylvania Smartweed	<i>Polygonum pennsylvanicum</i>
Pigweed, Redroot	<i>Amaranthus retroflexus</i>
, Smooth	<i>Amaranthus hybridis</i>
Quackgrass	<i>Agropyron repens</i>
Ragweed, Common	<i>Ambrosia artemisiifolia</i>
, Giant	<i>Ambrosia trifida</i>
Shattercane/Wildcane	<i>Sorghum bicolor</i>
Sida, Prickly or Teaweed	<i>Sida spinosa</i>
Signalgrass, Broadleaf	<i>Brachiaria platyphylla</i>
Sprangletop, Red	<i>Leptochloa filiformis</i>
Sunflower, Wild	<i>Helianthus annuus</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Waterhemp, Common	<i>Amaranthus rudis</i>
, Tall	<i>Amaranthus tuberculatus</i>
Witchgrass	<i>Panicum capillare</i>

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.

Basagran is a registered trademark of BASF AG.

Duplex and *SR* are trademarks and *Dash*, *Headline*, and *Poast Plus* are registered trademarks of BASF Corporation.

AAtrex, *Dual*, and *Dual II* are registered trademarks of Ciba-Geigy Corporation.

Banvel, *Clarity*, and *Frontier* are registered trademarks of Sandoz AG.

Harness is a registered trademark of Monsanto Company.

Prowl is a registered trademark of American Cyanamid Company.

Surpass is a registered trademark of Zeneca, Inc.

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

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Supplemental Labeling

RT: 10-30-97
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Headline

Laddok[®] S-12

herbicide

Tank mix with Poast Plus[®] herbicide for use in SR[™] sethoxydim-resistant field corn or corn grown for SR seed using Duplex[™] II System

EPA Reg. No 7969-100

All applicable directions, restrictions, precautions and **Conditions of Sale and Warranty** on the EPA-registered label are to be followed. This labeling must be in the possession of the user at the time of herbicide application.

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.

Storage and Disposal

Store above 10° 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 the **Duplex[™] II** 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. Do not re-use the empty container.

General Information

Laddok S-12 + Poast Plus may be applied postemergence to control annual and perennial grasses and broadleaf weeds in **SR[™]**

sethoxydim-resistant field corn or corn grown for **SR** seed. Applications should be made when weeds are small and actively growing.

Only SR field corn hybrids are tolerant to Laddok S-12 + Poast Plus applications.

Severe crop injury will occur to corn hybrids not labeled as SR field corn.

Essentially, all grass crops such as sorghum, non-SR corn and small grain, as well as ornamental grasses such as turf, are susceptible to **Laddok S-12 + Poast Plus**; therefore, avoid all direct or indirect contact with any grass crop.

Duplex[™] II System Operating Procedure

Duplex[™] II Mixing

- 1) Fill tank of a thoroughly clean sprayer three-quarters full with clean water. Start agitation.
- 2) Add nitrogen fertilizer.
- 3) Add tank mix partner (if applicable). Allow to mix thoroughly.
- 4) Add **Laddok S-12** to the spray tank, add the remaining volume of water to the spray tank, then add **Poast Plus**. Allow to mix thoroughly. Do not attempt to pour the contents of the **Duplex II** container system (**Laddok S-12** and **Poast Plus**) into the tank simultaneously or poor mixing will result.
- 5) Add oil concentrate or **Dash[®] HC spray adjuvant** as recommended.
- 6) Allow to mix thoroughly.
- 7) Maintain constant agitation during application.
- 8) After dispensing **Laddok S-12** and **Poast Plus** from the **Duplex II System** into the spray tank, spray within 48 hours.

Mode of Action:

Laddok S-12 + Poast Plus are effective through postemergence contact and systemic activity. Weeds must be thoroughly covered with spray. Large crop-and-weed-leaf canopies shelter smaller weeds and prevent adequate spray coverage.

Time and Rate of Application

Apply **Laddok S-12 + Poast Plus** at 3-3.5 pints per acre (1.5-1.75 pints of **Laddok S-12** per acre + 1.5-1.75 pints of **Poast Plus** per acre) early post emergence to actively growing weeds before they reach the maximum size listed in **Table 1**.

Laddok S-12 + Poast Plus can be applied at a maximum total rate of 3.5 pints per acre.

An additional 2.9 pints of **Basagran[®] herbicide** per acre may be applied after a single application of **Laddok S-12 + Poast Plus**. Up to an additional 2.75 pints of **Poast Plus** per acre may be applied after a single application of **Laddok S-12 + Poast Plus**.

Do not apply to grass and broadleaf weeds under stress due to lack of moisture, herbicide injury, mechanical injury, or cold temperature, as unsatisfactory control may result. Thorough spray coverage of grass and broadleaf weeds foliage is essential.

Water Volume and Spray Pressure

Ground Application: Use a minimum of 10 gallons of water per broadcast acre at 60 psi (measured at the boom, not at the pump or in the line) to ensure adequate spray coverage. When crop and weed foliage is dense, use up to 20 gallons of water at 40-60 psi. Use standard high-pressure hollow cone

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Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 7969-100

Agricultural Products

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or flat fan nozzles spaced 20 inches apart. Do not use flood or whirl chamber nozzles. Brass nozzles are not recommended because of the corrosive effects of nitrogen additives. At lower volumes (e.g., 10 gallons of spray volume per acre) use a minimum nozzle size of 8002 or equivalent to minimize spray drift.

Air Application: Use a minimum of 5 gallons of water per acre and a maximum of 40 psi pressure. To obtain uniform coverage and to avoid drift hazards, the following application equipment and practices should be used:

Nozzle type: Use only diaphragm-type nozzles producing cone or fan spray patterns.

Nozzle height: Maximum of 10 feet above the crop.

Nozzle orientation: Nozzles must be oriented 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 than $\frac{1}{4}$ the distance from the center of the aircraft to the end of the wing or rotor. Do not apply tank mixes by aircraft within 200 feet upwind of ornamental or sensitive nontarget crops. Applicator must follow the most restrictive use precautions to avoid drift hazards and must follow labeling as well as applicable state and local regulations and ordinances. Delayed application that permits weeds to exceed the maximum size will result in inadequate control. Always read and follow all label directions when using any pesticide alone or in tank mix combinations. The most restrictive labeling applies when using a tank mix.

Physical incompatibility, reduced weed control, or crop injury may result from mixing **Laddok® S-12 + Poast Plus®** herbicides with pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers. BASF does not recommend the use of tank mixes with **Laddok S-12 + Poast Plus** other than those listed on BASF labels, supplemental labeling, or technical bulletins. Local agricultural authorities may be a source of information when using other than BASF recommended combinations. Do not apply **Laddok S-12 + Poast Plus** with other pesticides whose labels caution against their use with oil adjuvants.

Directed Spray or Layby

Treatments: When the crop is tall and grass and broadleaf weeds are below the crop canopy, drop nozzles should be used to direct the spray mixture onto the weeds.

Band Application: Banding may be used to control annual grass and broadleaf weeds. Grass and broadleaf weeds that are not covered or only partly covered by **Laddok S-12 + Poast Plus** will not be adequately controlled. All recommendations are on a broadcast basis. When banding, rates of **Laddok S-12 + Poast Plus**, additives, and water should be reduced in proportion to the area sprayed.

Cultivation Information

Do not cultivate within 5 days prior to application of **Laddok S-12 + Poast Plus** or within 7 days following application. A timely cultivation after 7 days may aid in providing season-long control.

Additives

Always use 1-2 quarts of UAN solution or 1-2 pounds of AMS when applying **Laddok S-12 + Poast Plus** in addition to 1 pint of **Dash® HC spray adjuvant** or 1 pint of crop oil concentrate per acre except where noted with specific tank mixes (see page 6).

Nitrogen Solution

UAN solution is commonly referred to as 28%, 30%, or 32% nitrogen, and is a water solution of urea and ammonium nitrate. Because most nitrogen solutions are corrosive to galvanized steel and brass spray equipment, rinse the entire spray system with water after use.

Note about ammonium sulfate:

Use high-quality ammonium sulfate (AMS) to avoid plugging of spray nozzles. The AMS must be readily soluble in water and contain no insoluble materials. Local sources of high-quality, spray-grade AMS are recommended. Low-quality AMS may contain material that will not readily dissolve which could result in nozzle tip plugging. To determine quality, perform a jar test adding $\frac{1}{2}$ cup of AMS to 1 gallon of water and agitate for 1 minute. If any undissolved sediment is observed, predissolve the AMS in water and filter it before adding the AMS to the spray tank. If AMS can be added directly to the spray tank, add it slowly with agitation. Adding AMS too quickly may clog outlet lines. Ensure that the AMS is completely dissolved in the spray tank before adding other products. AMS is not recommended for aerial applications because of potential precipitation problems.

Jar Test for Estimating Suitability of Oil Concentrate

- 1. Water supply:** Use only water from intended source and at the source temperature.
- 2. Amount of water in jar:** For 20 gallons per acre spray volume, use $3\frac{1}{2}$ cups (800 ml) of water. For 10 gallons per acre spray volume, use $1\frac{1}{2}$ cups (400 ml) of water. For other spray volumes, adjust proportionately to above.
- 3. Amount of herbicide and oil concentrate to add:** Add herbicide and oil concentrate at the rate of 1 teaspoon (5 ml) for each pint of recommended label rate.
- 4. Add components in following sequence, gently mixing between component additions:**
 - a) **Laddok S-12**
 - b) **Poast Plus** (and other emulsifiable concentrates when applicable)
 - c) oil concentrate, **Dash HC**, UAN, or AMS
- 5. Cap jar, invert 10 cycles, let stand for 15 minutes, evaluate.**
- 6. Evaluation:** An ideal tank mix 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.

Procedure for Cleaning Equipment

Attention! Clean sprayer thoroughly before and after applying **Laddok® S-12 + Poast Plus® herbicides**.

Clean sprayer thoroughly prior to application of **Laddok S-12 + Poast Plus**, particularly if a herbicide was used which has the potential to injure the crop sprayed with **Laddok S-12 + Poast Plus**.

Consult the label of previously used herbicides for cleaning instructions. If no instructions are available, these steps listed below are suggested for cleaning of spray equipment prior to or following applications of **Laddok S-12 + Poast Plus**.

1. Hose down thoroughly the inside as well as the outside of equipment while filling the spray tank half full of water. Flush by operating sprayer until the system is purged of this rinse water.
2. Refill tank with water while adding 1 gallon household ammonia or 1 pint household dishwashing detergent per 100 gallons of water, or add a commercial sprayer cleaner according to the manufacturer's directions. Operate the pump to circulate the detergent solution through the sprayer system for 5 to 10 minutes and discharge a small amount of solution through the boom and nozzles. Let the solution stand for 24 hours.
3. Flush the detergent solution out of the spray tank through the boom.
4. Remove the nozzles and screens and flush the system with two tankfuls of water.

Restrictions and Limitations

Do not apply **Laddok S-12 + Poast Plus** to corn hybrids which are not specifically labeled as **SR™ sethoxydim-resistant field corn** because severe crop injury will occur.

Over-the-top applications of **Laddok S-12 + Poast Plus** in **SR** field corn may be made before corn reaches 12 inches in height.

Do not apply **Laddok S-12 + Poast Plus** more than once per season.

Do not apply **Laddok S-12 + Poast Plus** to **SR** field corn within 60 days of harvest of corn grain or fodder.

Do not apply **Laddok S-12 + Poast Plus** to **SR** field corn within 45 days of harvest of corn forage/silage.

Ground water 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.

This product may not be mixed or loaded within 50 feet of intermittent streams or rivers, natural or impounded lakes or reservoirs. This product may not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams or rivers or within 200 feet around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66 foot buffer or set-back from runoff points must be planted to crop or seeded with grass or other suitable crop.

Tile-terraced fields containing standpipes: To ensure protection of surface water from runoff through standpipes and tile outlets in terraced fields, one of the following options may be used: (1) Do not apply this product within 66 feet of standpipes in tile-outletted terraced fields; (2) Apply this product to the entire tile-outletted terraced field under a no-till practice only when high crop residue management practices are used. High crop residue management practice is described as a crop management practice where little or no crop residue is removed from the field during or after crop harvest. This pesticide is toxic to aquatic invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.

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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 when disposing of equipment wash waters or rinsate.

Where there are state and/or local requirements regarding atrazine use (including lower maximum rates and/or higher set-backs) which are different from the label, the more restrictive requirements apply.

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

For postemergence applications, if there has been no previous soil application, the maximum rate of atrazine from all sources is 2 pounds of active ingredient per acre. If there has been a previous soil application to that crop, do not exceed a total of 2.5 pounds of active ingredient per acre, per calendar year.

Do not apply more than a total of 4.5 pints of **Poast Plus® herbicide** per acre per crop season.

Do not apply more than 2 pounds of bentazon a.i. (from all sources) per acre, per calendar year.

Do not apply **Laddok S-12 + Poast Plus** if rainfall or irrigation is expected within 1 hour following application as weed control will probably be unsatisfactory.

Do not apply **Laddok S-12 + Poast Plus** if crop has been subjected to stressful conditions or crop injury produced by prior herbicide applications, hail damage, flooding, drought, unseasonable cold, or widely fluctuating temperatures as injury or unsatisfactory control may result.

If stress conditions are present, delay application to give plants a chance to recover.

Do not plant sugar beets or sunflowers the season following application.

Do not plant oats the season following the application of **Laddok S-12 + Poast Plus** in soil with 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 S-12 + Poast Plus** except corn or sorghum.

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Table 1: Maximum Weed Heights Controlled by Laddok® S-12 + Poast Plus® Herbicides

Weeds Controlled	3 Pints Per Acre (1.5 Pints of Laddok S-12 + 1.5 Pints of Poast Plus)		3.5 Pints Per Acre (1.75 Pints of Laddok S-12 + 1.75 Pints of Poast Plus)	
	Maximum Adjuvant Rate (per acre)			
	1 pint of crop oil concentrate or Dash HC + 1-2 quarts of UAN Solution [†]			
	Leaf Stage	Maximum Height	Leaf Stage	Maximum Height
Broadleaves				
Black Nightshade	—	—	2-4	1"
Cocklebur ¹	2-6	5"	2-10	8"
Common Groundsel	—	—	Up to 4	2"
Common Lambsquarters	Up to 6	3"	Up to 8	5"
Common Ragweed	Up to 4	2"	Up to 4	4"
Eastern Black Nightshade	—	—	2-4	1"
Giant Ragweed	Up to 4	2"	Up to 4	4"
Jimsonweed	Up to 4	4"	Up to 6	6"
Kochia	—	2"	—	4"
Ladysthumb	Up to 6	6"	Up to 10	10"
Morningglory, Annual	—	—	Up to 4	4"
Pennsylvania Smartweed	Up to 6	6"	Up to 10	10"
Prickly Sida or Teaweed	—	—	Up to 4	2"
Redroot Pigweed	Up to 8	4"	Up to 10	6"
Smallflower Morningglory	—	—	Up to 4	4"
Smooth Pigweed	Up to 8	4"	Up to 10	6"
Velvetleaf	Up to 5	4"	Up to 6	5"
Venice mallow	Up to 4	2"	Up to 8	4"
Waterhemp, Common	Up to 4	2"	Up to 6	3"
Tall	Up to 4	2"	Up to 6	3"
Wild Buckwheat	Up to 3	2"	Up to 4	3"
Wild Mustard	Up to 4	2"	Up to 6	4"
Wild Sunflower	Up to 4	3"	Up to 5	6"
Grasses				
Barnyardgrass	—	2"	—	4"
Broadleaf Signalgrass	—	2"	—	4"
Crabgrass, Large	—	2"	—	4"
Smooth	—	2"	—	4"
Foxtail, Giant	—	4"	—	6"
Green	—	4"	—	6"
Yellow	—	4"	—	6"
Goosegrass	—	2"	—	4"
Johnsongrass (seedling)	—	—	—	6"
Junglerice	—	—	—	4"
Panicum, Browntop	—	2"	—	4"
Fall	—	2"	—	4"
Texas	—	2"	—	4"
Red Sprangletop	—	—	—	4"
Ryegrass, Annual	—	—	—	4"
Shattercane ²	—	—	—	4"
Volunteer Corn ⁵	—	8"	—	12"
Wild Oats	—	—	—	2"
Wild Proso Millet	—	6"	—	8"
Witchgrass	—	2"	—	4"
Woolly Cupgrass ²	—	2"	—	4"
Perennials				
Canada Thistle ³	—	—	—	bud stage
Johnsongrass (Rhizome) ²	—	—	—	6"
Quackgrass ²	—	—	—	4"
Wirestem Muhly ²	—	—	—	4"
Yellow Nutsedge ³	—	—	—	6"

[†] Do not treat earlier than 2-leaf stage (not counting cotyledon leaves).

² For regrowth or new germination, a follow-up application of **Poast Plus®** herbicide may be necessary. Refer to **Poast Plus** label.

³ For regrowth or new germination, follow up 7-10 days later with **Basagran®** herbicide. Refer to **Basagran** label.

⁴ AMS can be substituted at 1-2 pounds per acre.

⁵ Volunteer corn must be non-SR. **Poast Plus + Laddok S-12** and **Poast Plus** will not control volunteer SR field corn.

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Table 2. Poast Plus + Laddok S-12 Tank Mix Partners

The following herbicides can be tank mixed with Poast Plus + Laddok S-12 .
Atrazine Banvel® Clarity® Dual® Dual II® Frontier® Harness® Prowl® Surpass® 2,4-D (LVE)

Tank Mix Restrictions and Limitations (partial list)

Always read and follow all label directions when using any pesticide alone or in tank mixes. The most restrictive labeling applies.

Do not apply these tank mixes to corn that has been subjected to stress conditions such as drought, flooding, frost or hail damage, high temperature stress or wilt, injury from herbicides or excess fertilizer or soil salts, wind injury, widely fluctuating temperatures, stress symptoms from disease, nematodes or insects, or cold temperatures when maximum daily temperature is below 70° F or soil temperature is below 60° F because weeds will not be actively growing and control may be reduced.

Avoid drift to all other crops and non-target areas.

Follow rotational restrictions as provided on each herbicide's respective labeling.

Thoroughly clean sprayer before and immediately after applying these tank mixes.

Tank Mixes

• Laddok® S-12 + Poast Plus® herbicides + Atrazine

The tank mix of **Laddok S-12 + Poast Plus** plus atrazine may be applied for postemergence control of broadleaf weeds at the proper growth stage as specified on this label. Adding atrazine will enhance overall postemergent weed control as well as provide residual weed control.

This tank mix is effective through contact action, therefore, weeds must be thoroughly covered with spray. Large crop and weed canopies shelter smaller weeds and prevent adequate spray coverage. Atrazine products compatible with **Laddok S-12 + Poast Plus** include **AAtrex® 4L** and **AAtrex® Nine-O** herbicides as well as other similar generic formulations containing atrazine. Refer to the respective atrazine labels for additional directions and limitations.

Application Rate and Timing

Apply the tank mix of **Laddok S-12 + Poast Plus** plus atrazine early postemergence to actively growing weeds before they reach the maximum size listed in **Table 1** of the **Laddok S-12 + Poast Plus** label. Apply the recommended amount of **Laddok S-12 + Poast Plus** according to the **Application Rate Chart for Laddok S-12 + Poast Plus + Atrazine (Table 3)**.

Table 3. Application Chart for Poast Plus + Laddok S-12 + Atrazine Tank Mix (per acre)

Poast Plus + Laddok S-12	Atrazine ¹
3.0 pints	up to 1.5 pounds
3.5 pints	up to 1.4 pounds

¹ See **Restrictions and Limitations** for maximum amounts of atrazine allowable per season. Use 1-2 quarts of UAN in addition to 1 pint of **Dash® HC** spray adjuvant or 1 pint of crop oil concentrate per acre.

• Laddok S-12 + Poast Plus + Dual, Dual II, Frontier, Harness, Prowl, or Surpass.

A tank mix of **Laddok S-12 + Poast Plus** with these products is recommended for residual grass control. Refer to each label for specific rates, corn size limitations, and other restrictions.

• Laddok S-12 + Poast Plus + Banvel or Clarity

A tank mix of **Laddok S-12 + Poast Plus** plus **Banvel** or **Clarity** is recommended for additional or improved control of bindweed (field and hedge), Canada thistle, honeyvine milkweed, common lambsquarters, morningglories, pigweed (redroot and smooth), ragweed (common and giant), waterhemp (common and tall), and wild sunflower.

Rate: Use 3.0-3.5 pints of **Laddok S-12 + Poast Plus** mixed with up to 8 ounces of **Banvel** or **Clarity** per acre.

Additives:

A tank mix of **Laddok S-12 + Poast Plus** plus **Banvel** or **Clarity** requires the use of 1-2 quarts of UAN or 1-2 pounds of AMS per acre.

Do not add oil concentrate or **Dash HC** with this tank mix as severe crop injury may occur.

• Laddok S-12 + Poast Plus + 2,4-D LVE

A tank mix of **Laddok S-12 + Poast Plus** plus 2,4-D LVE is recommended for additional or improved control of bindweed (field and hedge), Canada thistle, common lambsquarters, morningglories, ragweed (common and giant), and wild sunflower.

Rate: Use 3.0-3.5 pints of **Laddok S-12 + Poast Plus** mixed with up to 8 ounces of 2,4-D LVE (0.25 pounds a.i.) per acre.

Additives:

A tank mix of **Laddok S-12 + Poast Plus** plus 2,4-D LVE requires the use of 1-2 quarts of UAN or 1-2 pounds of AMS per acre.

Do not add oil concentrate or **Dash HC** with this tank mix as severe crop injury may occur.

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Appendix

The following are scientific names for the weeds listed in this label. For specific recommendations on control of these weeds, refer to the major and/or tank mix sections.

Common Name	Scientific Name
Barnyardgrass	<i>Echinochloa crus-galli</i>
Bindweed, Field	<i>Convolvulus arvensis</i>
Buckwheat, Wild	<i>Polygonum convolvulus</i>
Canada Thistle	<i>Cirsium arvense</i>
Cocklebur	<i>Xanthium strumarium</i>
Crabgrass, Large	<i>Digitaria sanguinalis</i>
, Smooth	<i>Digitaria ischaemum</i>
Cupgrass, Woolly	<i>Eriochloa villosa</i>
Foxtail, Giant	<i>Setaria faberi</i>
, Green	<i>Setaria viridis</i>
, Yellow	<i>Setaria glauca</i>
Goosegrass	<i>Eleusine indica</i>
Jimsonweed	<i>Datura stramonium</i>
Johnsongrass	<i>Sorghum halepense</i>
Junglerice	<i>Echinochloa colonum</i>
Kochia	<i>Kochia scoparia</i>
Ladysthumb	<i>Polygonum persicaria</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Mallow, Venice	<i>Hibiscus trionum</i>
Millet, Wild Proso	<i>Panicum miliaceum</i>
Morningglory, Annual	<i>Ipomea spp.</i>
, Smallflower	<i>Jacquemontia tamnifolia</i>
Muhly, Wirestem	<i>Muhlenbergia frondosa</i>
Mustard, Wild	<i>Sinapis arvensis</i>
Nightshade, Black	<i>Solanum nigrum</i>
, Eastern Black	<i>Solanum ptycanthum</i>
Nutsedge, Yellow	<i>Cyperus esculentus</i>
Panicum, Browntop	<i>Panicum fasciculatu</i>
, Fall	<i>Panicum dichotomiflorum</i>
, Texas	<i>Panicum texanum</i>
Pennsylvania Smartweed	<i>Polygonum pennsylvanicum</i>
Pigweed, Redroot	<i>Amaranthus retroflexus</i>
, Smooth	<i>Amaranthus hybridis</i>
Quackgrass	<i>Agropyron repens</i>
Ragweed, Common	<i>Ambrosia artemisiifolia</i>
, Giant	<i>Ambrosia trifida</i>
Shattercane/Wildcane	<i>Sorghum bicolor</i>
Sida, Prickly or Teaweed	<i>Sida spinosa</i>
Signalgrass, Broadleaf	<i>Brachiaria platyphylla</i>
Sprangletop, Red	<i>Leptochloa filiformis</i>
Sunflower, Wild	<i>Helianthus annuus</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Waterhemp, Common	<i>Amaranthus rudis</i>
, Tall	<i>Amaranthus tuberculatus</i>
Witchgrass	<i>Panicum capillare</i>

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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.

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