

GROUP	6	14	HERBICIDE
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HURRICANE™ Herbicide

Soluble Liquid

COMMERCIAL - AGRICULTURAL

A post-emergence herbicide for control of certain broadleaf weeds in soybeans.

ACTIVE INGREDIENT:

Bentazon (present as the sodium salt)..... 320 g/L
Acifluorfen (present as the sodium salt)..... 160 g/L

**READ THE LABEL AND ATTACHED BOOKLET BEFORE USING.
KEEP OUT OF REACH OF CHILDREN.**

POISON



WARNING EYE AND SKIN IRRITANT

POTENTIAL SKIN SENSITIZER

REGISTRATION NO.: 32662 PEST CONTROL PRODUCTS ACT
NET CONTENTS: 1-25 L

UPL AgroSolutions Canada, Inc.
PO Box 12219
Research Triangle Park, NC 277091-800-438-6071

NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

FIRST AID

- | | |
|------------------------|---|
| If swallowed | Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. |
| If on skin or clothing | Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice. |
| If in eyes | Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice. |
| If inhaled | Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice. |

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION

Treat symptomatically

PRECAUTIONS

Harmful or Fatal if swallowed. Causes eye and skin irritation. **DO NOT** get in the eyes or on skin. Potential skin sensitizer.

Application is limited to agricultural crops only when there is low risk of drift to areas of human habitation or activity such as houses, cottages, schools and recreational areas, taking into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

During mixing, loading, application, clean-up and repair workers must wear coveralls over long-sleeved shirt, long pants, chemical-resistant gloves, socks and chemical-resistant footwear. In addition, workers must also wear goggles or a face shield during mixing and loading.

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

ENVIRONMENTAL PRECAUTIONS

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters or rinsate. Do not apply when weather conditions favor drift from target area.

TOXIC to non-target terrestrial plants. Observe buffer zones specified under

DIRECTIONS FOR USE

The use of this chemical may result in contamination of groundwater, particularly in areas where soils are permeable (e.g. sandy soil) or the water table is shallow.

DO NOT apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands), or to estuarine/marine habitats.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

To reduce runoff from treated areas into aquatic habitats, consider the characteristics and conditions of the site before treatment. Site characteristics and conditions that may lead to runoff include, but are not limited to, heavy rainfall, moderate to steep slope, bare soil, poorly draining soil (e.g., soils that are compacted, fine textured or low in organic matter such as clay).

Avoid application of this product when heavy rain is forecast.

STORAGE

This product is a reducing agent and should not be mixed or stored in close proximity to strong oxidizing agents. Do not contaminate water, food, or feed by storage or disposal. Do not store below 4°C or above 37°C. Store in a dry place away from heat or open flame.

DISPOSAL OF UNUSED, UNWANTED PRODUCT

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

CONTAINER DISPOSAL:

For recyclable containers:

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

For refillable containers:

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this container for any other purpose.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC at 1-800-424-9300

PRODUCT INFORMATION

HURRICANE Herbicide is intended for selective postemergence control of certain broadleaf weeds in soybeans. In addition, **HURRICANE** Herbicide may provide partial control of some grasses.

Crop Tolerance

Soybeans are tolerant to **HURRICANE** Herbicide at the stages of growth listed. Leaf speckling, yellowing, bronzing, or burning may occur, but plants generally outgrow this condition with 10 days. New growth is normal and crop vigor is not reduced.

Rainfast Period:

Rainfall or overhead irrigation within 4 hours after application may reduce the effectiveness of **HURRICANE** Herbicide.

DIRECTIONS FOR USE

APPLICATION INSTRUCTIONS

Apply 1.755 L of **HURRICANE** Herbicide per hectare as follows unless instructed differently in "Crop-Specific Information". Applications can be made to actively growing weeds as broadcast applications at the rate and growth stages listed. The most effective control will result from making postemergence applications of **HURRICANE** Herbicide early, when weeds are small. Early application to weeds results in improved weed control and makes thorough spray coverage easier to obtain. Delaying application permits weeds to exceed the maximum size stated and will prevent adequate control.

Spray Coverage

Weeds must be thoroughly covered with spray. Always use an adequate volume of spray solution to ensure thorough coverage. Dense leaf canopies shelter smaller weeds and can prevent adequate spray coverage.

Requirements for ground applications:

Ground Application Methods and Equipment (Broadcast)

Water Volume: Use 100-200 litres of spray solution per broadcast hectare for optimal performance. Increase water volume up to 470 litres if crop or weed foliage is dense.

Spray Pressure: Use a minimum of 275 kPa (measured at the boom, not at the pump or in the line). **Note:** When using the lower water volume (i.e. 100 litres per hectare) or when crop and weed foliage is dense, use a minimum of 414 kPa for best results.

Application Equipment

Use standard high-pressure pesticide flat fan or hollow cone nozzles spaced up to 50 cm 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.

Spray Drift Management

Use best practices to avoid drift to all other crops and non-target areas. Do not apply when conditions favor drift from target areas. The interaction of many equipment and weather-related factors determine the potential for spray drift. Avoiding spray drift at the application site is the responsibility of the applicator. The applicator must follow the most restrictive use precautions to avoid drift, including those found in this labeling as well as applicable provincial and municipal regulations and ordinances. A drift control agent may reduce drift, however, it may also decrease weed control.

Field sprayer application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. Boom height must be 60 cm or less above the crop or ground.

Buffer zones:

Use of the following spray methods or equipment **DO NOT** require a buffer zone: hand-held or backpack sprayer and spot treatment.

Method of application	Crop	Buffer Zones (metres) Required for the Protection of Terrestrial habitat:
Field sprayer	soybean	15

When tank mixes are permitted, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

Irrigation

In irrigated areas, it may be necessary to irrigate before treatment to ensure active weed growth. Weeds growing under drought conditions usually are not adequately controlled.

Cultivation

Do not cultivate within 5 days before or 7 days after applying HURRICANE Herbicide. Cultivating 7 days after treatment may help provide season-long control.

Cleaning Spray Equipment

Clean application equipment thoroughly by using a strong detergent or commercial spray cleaner according to the manufacturer's directions and then triple rinsing the equipment before and after applying this product.

ADDITIVES

To achieve consistent weed control, one of the following additives is recommended: ammonium sulfate, crop oil concentrate, or urea ammonium nitrate. 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 1 - Additive Rate Per Hectare** 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. Do not apply AMS if applied in less than 100 litres per hectare because of potential problems with precipitation in reduced volumes. Use AMS only if it has been demonstrated to be successful in local experience.

Oil Concentrate

The oil concentrate must contain either a petroleum or vegetable oil base and must meet all of the following criteria:

- be nonphytotoxic,
- provide good mixing quality in the compatibility test, and
- be successful in local experience.

The exact composition of suitable products will vary; however, vegetable and petroleum oil concentrates should contain emulsifiers to provide good mixing quality. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils. For additional information, 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. Do not use brass or aluminum nozzles when spraying UAN.

Proprietary Adjuvants and Surfactants with Tankmix Partners

These specific adjuvants, Merge Adjuvant[®], and Sure-Mix Surfactant[™], meet the adjuvant requirements for HURRICANE Herbicide and are recommended when tankmix products that require these specific adjuvants. Remember to always follow the most restrictive label when tankmixing HURRICANE Herbicide with other products.

Temperature and Relative Humidity Effects

The following standard will help determine the optimum additive rate to use. If the temperature and relative humidity exceed 100 (e.g. temperature of 29°C plus 70% relative humidity = 100), use the lower additive rates.

Table 1 – Additive Rate per Hectare

Additive	Ground Application	
AMS	2.8 kg	
Oil Concentrate	1.17 - 2.34 L	
UAN Solution	4.68 - 9.36 L	
Merge Adjuvant	0.5 - 1 L per 100 L of water, unless stated otherwise on the tankmix partner label	
Sure-Mix Surfactant	0.5 % v/v	

MIXING INFORMATION

To ensure optimum spray coverage of weeds, apply HURRICANE Herbicide to small actively growing weeds.

Mixing Order

When mixing HURRICANE with additives and/or other pesticides in a spray tank, add the products to be used in the following sequence.

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 water-soluble bags.** Place any product contained in water-soluble bags into the mixing tank. Wait until all water-soluble bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
4. **Water dispersible products** (such as dry flowables, wettable powders, suspension concentrates, or suspo-emulsions). If an inductor is used, rinse it thoroughly after the component has been added.
5. **Water-soluble products** (such as HURRICANE Herbicide). If an inductor is used, rinse it thoroughly after the component has been added.

6. **Emulsifiable concentrates** (such as oil concentrate when applicable). If an inductor is used, rinse it thoroughly after the component has been added.
7. **Water-soluble additives** (such as AMS or UAN when applicable). If an inductor is used, rinse it thoroughly after the component has been added.
8. **Remaining quantity of water.** Maintain constant agitation during application.

See **Crop-Specific Information** for more details. Read and follow the applicable **Precautions and Directions for Use** on all products involved in tank mixing. When tank mixes are permitted, read and observe all label directions, including rates and restrictions for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels.

Physical incompatibility, reduced weed control, or crop injury may result from mixing HURRICANE Herbicide with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers. Local agricultural authorities may be a source of information when using other than UPL AgroSolutions Canada, Inc. recommended tank mixes.

Compatibility Test for Mix Components

Before mixing additives and/or other pesticides, always perform a compatibility jar test. For 200 L/ha spray volume, use 800 ml of water. For other spray volumes, adjust rates accordingly. Only use water from the intended source at the source temperature.

Add components in the sequence indicated in the **Mixing Order** using 10 mL (2 teaspoons) for each kg or 5 mL (1 teaspoon) for each litre of label rate per hectare. Always cap the jar and invert 10 cycles between component additions.

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

RESTRICTIONS AND LIMITATIONS

Table 2 - Crop-Specific Restrictions and Limitations

Crop	Maximum Rate Per Hectare	REI
Soybeans	1.755 L	48 hours

- Do not apply more than a total of 2.24 kg of bentazon a.i. (from all sources) per hectare, per calendar year.
- **CAUTION:** Do not graze treated crop or cut for hay; sufficient data are not available to support such use.

- **Stress:** Do not apply to weeds or crops under stress due to lack of moisture, hail damage, flooding, herbicide injury, mechanical injury, or widely fluctuating temperatures, as unsatisfactory control may result.
- Do not apply HURRICANE Herbicide 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 apply through any type of irrigation system.

CROP-SPECIFIC INFORMATION

SOYBEANS

Apply 1.755 L of HURRICANE Herbicide per hectare postemergence to soybean in the 1-2 trifoliolate leaf stage to control susceptible weeds.

To ensure optimum spray coverage of weeds, apply **HURRICANE** Herbicide to small actively growing weeds. Refer to **Application Instructions** and **Table 4** for more information.

Soybean Tank Mixes

This product can be tank mixed with Ohm or Wave as a post emergent application for all crops. Consult the Ohm and Wave labels and observe all use directions including rates and restrictions.

HURRICANE Herbicide may be applied in a tank mix with a herbicide and adjuvant and/or fertilizer listed in Table 3.

Table 3 - Tank mix Partner, Adjuvant and Fertilizer Recommendations for use with HURRICANE Herbicide

Tank mix Partner	Adjuvant	and/or	AMS or UAN
Assure® II Herbicide	Merge Adjuvant or Sure-Mix Surfactant		
Basagran®Forte Herbicide ⁴	Oil Concentrate	or	AMS or UAN
Classic® 25 DF Herbicide or Classic Herbicide*	Non-ionic Surfactant	and	AMS or UAN
FirstRate™ WSP Herbicide or Firstrate Herbicide *	Non-ionic Surfactant	and	AMS or UAN
Pinnacle® SG Herbicide or Pinnacle Soybean SG Herbicide or Pinnacle SG Toss-N-Go Herbicide*	Non-ionic Surfactant	and	AMS or UAN
Poast® Ultra Liquid Emulsifiable Herbicide	Merge Adjuvant ¹		

products containing only imazethapyr	Non-ionic Surfactant	and	AMS or UAN
Odyssey [®] WDG Herbicide or Odyssey NXT or Odyssey NXT II*	Merge Adjuvant		
products containing only glyphosate			
Interline Herbicide, Liberty 150 SN Herbicide & Crop Desiccant MP or Liberty 200 SN Herbicide ³	Oil Concentrate		
Select [®] Emulsifiable Concentrate Post-Emergence Herbicide, Centurion [®] Emulsifiable Concentrate Post-Emergence Herbicide, Shadow [™] RTM Emulsifiable Concentrate Post-Emergence Herbicide, Co-op Patron II ⁵	Amigo Adjuvant		

* Do Not Apply by Air.

¹ Merge can be interchanged with Assist[®] Oil Concentrate.

² Only apply to glyphosate tolerant (i.e., Roundup Ready[®]) soybeans.

³ Only apply to glufosinate tolerant (i.e., Libertylink[®]) soybeans.

⁴ Do not apply more than 0.58 L/ha (i.e., 278 g a.i./ha).

⁵ Co-op Patron II must be used with Co-op Patron II Adjuvant.

Consult the tank mix partner labels for specified weed claims, application rate and timing, additives, etc. Always follow the most restrictive labels.

Sequential Applications

For best results if applying as part of a sequential weed control program with HURRICANE Herbicide, follow these guidelines:

- If the product is applied prior to the HURRICANE Herbicide application, wait 24 hours before applying HURRICANE Herbicide.
- If the product is applied following the HURRICANE Herbicide application, wait 7 days before applying.

Glyphosate Tolerant Soybean Tank Mixtures

Post-emergent applications of HURRICANE Herbicide can be applied in a tank mixture with glyphosate containing herbicides for control of glyphosate-resistant weeds. Targeted weeds must be listed on the HURRICANE Herbicide label. Refer to the HURRICANE Herbicide label for weeds controlled, application rates and application timing. Follow the directions on the glyphosate product label for rate of glyphosate and the use of spray additives in this tank mixture. It is important to follow the HURRICANE Herbicide directions for weed growth stages and application rates for effective broadleaf weed control. Apply HURRICANE Herbicide and glyphosate containing herbicides only to glyphosate tolerant soybeans or severe crop injury or plant death will occur.

Glufosinate Tolerant Soybean Tank Mixtures

Post-emergent applications of HURRICANE Herbicide can be applied in a tank mixture with glufosinate containing herbicides for control of glufosinate -resistant weeds. Targeted weeds must be listed on the HURRICANE Herbicide label. Refer to the HURRICANE Herbicide label for weeds controlled, application rates and application timing. Follow the directions on the glufosinate product label for rate of glufosinate and the use of spray additives in this tank mixture. It is important to follow the HURRICANE Herbicide directions for weed growth stages and application rates for effective broadleaf weed control. Apply HURRICANE Herbicide and glufosinate containing herbicides only to glufosinate tolerant soybeans or severe crop injury or plant death will occur.

Table 4 Weeds controlled by HURRICANE Herbicide at 1.755 L per Hectare

Weeds Controlled (including glyphosate, triazine and ALS-resistant biotypes)	Leaf Stage^a (up to)	Maximum Height (cm)
Lambsquarters, Common ^b	6	5
Morningglory	4	5
Pigweed, Palmer	6	<10
Pigweed, Redroot	6	5
Pigweed, Smooth	6	7.5
Pigweed, green	6	7.5
Ragweed, Common	6	7.5
Velvetleaf ^c	4	5
Waterhemp, Common	6	<10

^a Do not count leaves as pairs; count each leaf separately. Do not count cotyledon leaves. Do not spray weeds in the cotyledon growth stage.

^b Suppression or partial control.

^c Use AMS (or UAN) as the additive when velvetleaf is a target weed.

RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, HURRICANE Herbicide is a Group 6 and 14 herbicide. Any weed population may contain or develop plants naturally resistant to HURRICANE Herbicide and other Group 6 and 14 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance:

- Where possible, rotate the use of HURRICANE Herbicide or other Group 6 and 14 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group when such use is permitted. To delay resistance, the less resistance-prone partner should control the target weed(s) as effectively as the more resistance-prone partner.
- Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Monitor weed populations after herbicide application for signs of resistance development (for example, only one weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact UPL AgroSolutions Canada, Inc. at 1-800-438-6071.

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