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PRODUCT LABELS FOR

HEAT COMPLETE:

HEAT LQ

+

ZIDUA SC HERBICIDE

+

MERGE ADJUVANT

Container Label

GROUP

14

HERBICIDE

HEAT® LQ

Water-based suspension concentrate herbicide

COMMERCIAL (AGRICULTURAL)

FOR SALE FOR USE IN THE PRAIRIE PROVINCES AND
INTERIOR OF BRITISH COLUMBIA (INCLUDING THE PEACE RIVER REGION) ONLY

ACTIVE INGREDIENT: Saflufenacil342 g/L

Warning, contains the allergen soy

Contains 1,2-benzisothiazolin-3-one and 2-methyl-4-isothiazolin-3-one,
each at 0.0043% **OR** 0.0113%, as preservatives

OR

Contains 2-bromo-2-nitropropane-1,3-diol at 0.024%, 1,2-benzisothiazolin-3-one at 0.04%,
5-chloro-2-methyl-4-isothiazolin-3-one at 0.0011% and 2-methyl-4-isothiazolin-3-one
at 0.00037%, as preservatives

REGISTRATION NO. 31468

PEST CONTROL PRODUCTS ACT

POTENTIAL SKIN SENSITIZER

READ THE LABEL AND BOOKLET BEFORE USING

KEEP OUT OF REACH OF CHILDREN

**IN CASE OF EMERGENCY ENDANGERING LIFE OR PROPERTY
INVOLVING THIS PRODUCT, CALL DAY OR NIGHT
1-800-454-2673**

NET CONTENTS: 0.5 L – 1000 L, Bulk

BASF Canada Inc.
100 Milverton Drive, 5th Floor
Mississauga, ON L5R 4H1
1-877-371-2273

HEAT is a registered trademark of BASF SE, used with permission by BASF Canada Inc.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

POTENTIAL SKIN SENSITIZER.

DO NOT take internally. Harmful if swallowed.

Avoid contact with skin, eyes or clothing.

Avoid inhalation of vapor or spray. Use with adequate ventilation.

Wash exposed areas of skin thoroughly after handling and before eating, drinking or smoking or going to the washroom. Take a shower immediately after work.

Wear a long-sleeved shirt, long pants, coveralls, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. In addition, wear goggles or face shield during mixing/loading. Gloves are not required during application within a closed cab.

If clothing becomes contaminated, remove immediately and wash. Store and wash all protective clothing separately from household laundry. Wash in detergent and hot water before reuse. Wear freshly laundered clothes daily.

Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

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 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.

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.

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

TOXICOLOGICAL INFORMATION

Treat symptomatically.

ENVIRONMENTAL PRECAUTIONS

TOXIC to non-target terrestrial plants.

STORAGE

Protect from freezing. If this product has been stored where freezing temperatures have occurred, thaw the product completely at room temperature, then shake well before use.

DO NOT ship or store the product near food, feed, seed or fertilizers.

Store in original container with the lid tightly closed, in a cool, secure, well-ventilated area.

DISPOSAL

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 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.

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.

HEAT® LQ

Water-based suspension concentrate herbicide for pre-seed, pre-emergent and chemfallow application for control of broadleaf weeds, for pre-harvest weed management in wheat, barley, and triticale, and for harvest aid in canola, dry common beans, chickpeas, red lentil varieties, dry field peas, faba beans, flax, mustard, soybeans and sunflowers

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OR

Contains 2-bromo-2-nitropropane-1,3-diol at 0.024%, 1,2-benzisothiazolin-3-one at 0.04%,
5-chloro-2-methyl-4-isothiazolin-3-one at 0.0011% and 2-methyl-4-Isouthiazolin-3-one
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1.0 GENERAL INFORMATION

HEAT LQ is a water-based suspension concentrate herbicide for broadleaf weed control.

HEAT LQ is rapidly absorbed by root and foliar uptake; once absorbed it exhibits mobility in plants. **HEAT LQ** is a potent inhibitor of protoporphyrinogen oxidase (PPO). Cell membrane damage induced by inhibition of PPO leads to plant death. Susceptible weeds develop injury symptoms within hours of application under active growing conditions; plant death occurs within 3 to 5 days depending upon growing conditions.

HEAT LQ is recommended for pre-seed and pre-emergent applications. **HEAT LQ** may also be applied in fallow crop lands and post-harvest and as a pre-harvest weed management treatment and as a harvest aid in registered crops.

HEAT LQ does not control grass weeds. **HEAT LQ** should always be tank mixed with glyphosate for broad spectrum weed control.

HEAT LQ is a broad spectrum weed resistance management tool for activity on a range of broadleaf weeds.

2.0 PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

POTENTIAL SKIN SENSITIZER.

DO NOT take internally. Harmful if swallowed.

Avoid contact with skin, eyes or clothing.

Avoid inhalation of vapor or spray. Use with adequate ventilation.

Wash exposed areas of skin thoroughly after handling and before eating, drinking or smoking or going to the washroom. Take a shower immediately after work.

Wear a long-sleeved shirt, long pants, coveralls, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. In addition, wear goggles or face shield during mixing/loading. Gloves are not required during application within a closed cab.

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Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

3.0 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.

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

TOXICOLOGICAL INFORMATION

Treat symptomatically.

4.0 ENVIRONMENTAL PRECAUTIONS

TOXIC to non-target terrestrial plants. Observe buffer zones specified under Section 14 (Restrictions and Limitations).

5.0 STORAGE

Protect from freezing. If this product has been stored where freezing temperatures have occurred, thaw the product completely at room temperature, then shake well before use.

DO NOT ship or store the product near food, feed, seed or fertilizers.

Store in original container with the lid tightly closed, in a cool, secure, well-ventilated area.

6.0 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.

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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.

Returnable-Refillable Containers

For disposal, this empty 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 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.

7.0 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.

8.0 REGISTERED CROPS

8.1 PRE-SEED OR PRE-EMERGENT

HEAT LQ is registered for use prior to the following crops as a pre-seed or pre-emergent application.

• Barley
• Canary seed
• Chickpeas
• Creeping red fescue, timothy and brome grass, seedling (seed production, forage and hay)
• Faba beans
• Lentils*
• Oats
• Peas (dried field)
• Wheat (spring, winter and durum)
• Corn
• Soybeans*

* Rate restrictions apply. Refer to crop specific section for details.

8.2 CHEMFALLOW

8.3 HARVEST AID

HEAT LQ is registered for use as a desiccant in the following crops:

• Canola (all types)
• Chickpeas
• Dry common beans
• Faba beans
• Flax
• Lentils (red lentil varieties only) ¹
• Mustard ²
• Peas (dried field)
• Soybeans
• Sunflower

¹ Always tank mix **HEAT LQ** with glyphosate when applying as a desiccant to red lentils.

² All classes, including brown, oriental, canola quality *Brassica juncea*, *Brassica juncea* varieties with the **Clearfield®** trait, and yellow mustard.

8.4 PREHARVEST WEED MANAGEMENT

HEAT LQ is registered for use as a pre-harvest treatment to improve dry down of volunteer canola (all types including Roundup Ready), common ragweed, Canada fleabane, redroot pigweed and wild buckwheat in the following crops:

• Barley (including feed varieties)
• Triticale
• Wheat (including durum, spring and winter wheat)

9.0 DIRECTIONS FOR USE

9.1 CROP USE RATES – HEAT LQ

For all **HEAT LQ** solo applications applied pre-seed, pre-emergent or as a chemfallow treatment, use MERGE® Adjuvant at 0.5 – 1 L/ha.

9.1.1 PRE-SEED OR PRE-EMERGENT

Crop	Use Rate (mL/ha)
Lentils ¹	53
Soybean ²	53 – 73
Barley	53 – 146
Canary seed	53 – 146
Chickpea Kabuli	53 – 146
Creeping red fescue, timothy and brome grass, seedling ³	53 – 146
Corn (field, sweet ⁴)	53 – 146
Faba beans	53 – 146
Oats	53 – 146
Peas (dried field)	53 – 146
Wheat (spring, durum, winter)	53 – 146
Chemfallow	53 – 146

¹ Rate restrictions apply. Do not use rates higher than 53 mL/ha or injury could result. See crop specific section for additional details.

² Rate restrictions apply. Do not use rates higher than 73 mL/ha or injury could result. See crop specific section for additional details. Some soybeans cultivars may be more sensitive to saflufenacil and injury might occur.

³ For seed production, forage and hay. **HEAT LQ** should not come into contact with the seed. Ensure adequate soil coverage for pre-emergent applications to forage grasses and grass grown for seed.

⁴ Some sweet corn hybrids may be more sensitive to saflufenacil and injury might occur.

9.1.2 CHEMFALLOW

Crop	Use Rate (mL/ha)	Application Timing
Chemfallow	53 – 146	Post-emergence in fallow croplands and post-harvest.

9.1.3 HARVEST AID

HEAT LQ may be used as a harvest aid to accelerate the rate of crop dry down and improve crop uniformity to facilitate direct combining. Early application may result in yield and/or seed quality loss.

The dry down of crops will be best under favorable environmental conditions like warm temperatures, good moisture conditions and low humidity.

Harvesting of crops can be done when plant material is dry and seed moisture level allows efficient harvesting. Under ideal conditions, harvest can normally commence within 7-14 days after desiccation when applied at the appropriate crop stage recommendation. Adverse weather conditions such as rainfall, cool temperatures, shorter day length and high humidity may slow the plant desiccation and keep seed moisture levels high which can delay commencement of harvest after the **HEAT LQ** application. Consult your BASF representative for further information on the timing of harvest after a pre-harvest application.

Crop	Use Rate (mL/ha)	Application Timing
Canola (all types), faba beans, chickpeas, dry common beans, flax, lentils ¹ , mustard ² , peas (dried field), soybeans, and sunflower	106	Harvest aid

¹ Apply only to red lentil varieties.

² All classes, including brown, oriental, canola quality *Brassica juncea*, *Brassica juncea* varieties with the **Clearfield** trait, and yellow mustard.

Aerial Application

HEAT LQ can be used for aerial application when used as a harvest aid or a pre-harvest weed management (see section 9.1.4) in the registered crops.

Avoid application of this product when winds are gusty. DO NOT apply when wind speed is greater than 16 km/h at flying height at the site of application. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium classification. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length MUST NOT exceed 65% of the wing- or rotor-span.

Ensure thorough coverage of foliage. Consult nozzle manufacturer's recommendation for spray pressures for specific nozzles.

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Do not apply during periods of dead calm.

Observe buffer zones specified under Section 14 (Restrictions and Limitations).

Use Precautions

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the National Aerial Pesticide Manual, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides.

Operator Precautions

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

The field crew and the mixer/loaders must wear chemical resistant gloves, a long-sleeved shirt, long pants, coveralls, shoes plus socks, and goggles or face shield during mixing/loading, cleanup and repair. Applicators must wear long-sleeved shirt, long pants, and shoes plus socks. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.

All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

HARVEST AID - CROP SPECIFIC RECOMMENDATIONS STAND-ALONE

See Section 9.1.3, above, for further use instructions.

9.1.3.1 DESICCATION - DRY COMMON BEANS / SOYBEANS

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground; 50 L/ha aerial
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	Apply when stems are green to brown in colour and pods are mature (yellow – brown) and 80 – 90% of the original leaves have dropped.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Directions for Use – Aerial	For aerial application, use a minimum water volume of 50 L/ha. Please see above for aerial application use and operator precautions.
Remarks	Do not graze or feed treated hay or straw to livestock.

9.1.3.2 DESICCATION - CHICKPEAS

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground; 50 L/ha aerial
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	For Desi type, apply at the time swathing would normally commence, when the majority of plants are yellow and most pods are mature and seeds have turned from green to yellow or brown. Upper part of plant may still be green. For Kabuli type, apply when the majority of plants and pods are ripe and dry with seeds turned from green to white or tan, and detached from the pods. Dry down is less complete in Kabuli type due to its thick pod wall.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Directions for Use – Aerial	For aerial application use a minimum water volume of 50 L/ha. Please see above for aerial application use and operator precautions.
Remarks	Do not graze or feed treated hay or straw to livestock.

9.1.3.3 DESICCATION – FIELD PEAS

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground; 50 L/ha aerial
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	Apply when the majority of pods are brown (70 – 80%).
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.

Directions for Use – Aerial	For aerial application use a minimum water volume of 50 L/ha. Please see above for aerial application use and operator precautions.
Remarks	Desiccation treated pea vines may be grazed or fed to livestock.

9.1.3.4 DESICCATION – SUNFLOWER

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground; 50 L/ha aerial
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	Apply when the backs of the heads and bracts are turning yellow, and seed moisture is 20 – 30%.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Directions for Use – Aerial	For aerial application use a minimum water volume of 50 L/ha. Please see above for aerial application use and operator precautions.

9.1.3.5 DESICCATION – CANOLA (ALL TYPES) AND MUSTARD¹

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground; 50 L/ha aerial
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	Apply when 65 – 80% of seeds have changed colour.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Directions for Use – Aerial	For aerial application use a minimum water volume of 50 L/ha. Please see above for aerial application use and operator precautions.
Remarks	<p>It is recommended that the application of HEAT LQ as a desiccant in canola and mustard be made to shatter resistant varieties.</p> <p>Under ideal conditions, harvest can normally commence within 14-21 days after desiccation when applied at the appropriate crop stage recommendation. Adverse weather conditions such as rainfall, cool temperatures, shorter day length and high humidity may slow the plant desiccation and keep seed moisture levels high which can delay commencement of harvest after the HEAT LQ application.</p>

¹ All classes, including brown, oriental, canola quality *Brassica juncea*, *Brassica juncea* varieties with the **Clearfield** trait, and yellow mustard.

9.1.3.6 DESICCATION – FLAX

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground; 50 L/ha aerial
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	Apply when 75% of bolls have turned colour.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Directions for Use – Aerial	For aerial application use a minimum water volume of 50 L/ha. Please see above for aerial application use and operator precautions.

9.1.3.7 DESICCATION – FABA BEANS

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground; 50 L/ha aerial
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	Apply when 80% of lower pods have turned black, middle pods have turned yellow/tan, and top green pods have firm seed.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Directions for Use – Aerial	For aerial application use a minimum water volume of 50 L/ha. Please see above for aerial application use and operator precautions.
Remarks	Do not graze or feed treated hay or straw to livestock.

9.1.4 PRE-HARVEST WEED MANAGEMENT

HEAT LQ may be used as a pre-harvest treatment in wheat (including durum, spring, and winter wheat), barley (including feed varieties) and triticale to improve dry down of volunteer canola (all types including Roundup Ready), common ragweed, Canada fleabane, redroot pigweed and wild buckwheat and to facilitate direct combining. Early application may result in yield loss.

HEAT LQ when used alone as a pre-harvest treatment will not affect the seed germination if applied according to label recommendations.

WHEAT, BARLEY AND TRITICALE

Rate	73 – 106 mL/ha of HEAT LQ + adjuvant
Water Volume	100 – 200 L/ha ground; 50 L/ha aerial
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.

Application Timing	Hard dough stage; a thumbnail impression remains on seed; less than 30% moisture.
Weeds Controlled	Improved dry down of volunteer canola (all types including Roundup Ready), common ragweed, Canada fleabane, redroot pigweed and wild buckwheat.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Directions for Use – Aerial	For aerial application use a minimum water volume of 50 L/ha. Please see above for aerial application use and operator precautions.
Remarks	Treated barley, wheat and triticale straw may be grazed or fed to livestock. Use higher water volume for dense crop stands and higher weed pressure.

9.2 WEEDS CONTROLLED

HEAT LQ can be applied pre-seed or pre-emergence to the crop to control weeds listed below.

HEAT LQ should always be applied in combination with glyphosate for broad spectrum weed control including grassy weeds.

For Rapid Burndown (Pre-seed or Pre-emergent)

Use Rate: 53 mL/ha

Weed	Maximum Weed Stage
Kochia	15 cm
Canada fleabane	8 leaf
Cleavers	4-whorl stage
Lamb's-quarters	8 leaf
Narrow-leaved hawk's beard	8 cm
Redroot pigweed	8 leaf
Round-leaved mallow	8 leaf
Stinkweed	8 leaf
Volunteer canola (all types including Roundup Ready)	8 leaf
Wild buckwheat	8 leaf
Wild mustard	8 leaf

Use Rate: 73 mL/ha

HEAT LQ applied pre-seed or pre-emergence at 73 mL/ha will provide rapid burndown control of the following weeds in addition to those listed above:

Weed	Maximum Weed Stage
Common ragweed	8 leaf
Giant ragweed	8 leaf
Lady's-thumb	6 leaf
Perennial sow-thistle (top growth burndown control)	8 leaf
Prickly lettuce (top growth only)	9 leaf
Shepherd's-purse	Full flower

For Rapid Burndown and Suppression of Secondary Weed Flushes (Pre-seed or Pre-emergent)

Use Rate: 106 - 146 mL/ha

Weed	Maximum Weed Stage
Cleavers	4-whorl stage
Redroot pigweed	8 leaf
Stinkweed	8 leaf
Volunteer canola (all types including Roundup Ready)	8 leaf
Wild buckwheat	8 leaf
Wild mustard	8 leaf

9.3 TANK MIXES – PRE-SEED, PRE-EMERGENT AND CHEMFALLOW

9.3.1 HEAT LQ + GLYPHOSATE

For broad spectrum weed control, **HEAT LQ** should always be tank mixed with glyphosate present as isopropylamine salt, di-ammonium salt or potassium salt. **HEAT LQ** is compatible with all liquid glyphosate formulations in which glyphosate is present as isopropylamine salt, di-ammonium salt or potassium salt.

Tank mixing **HEAT LQ** with glyphosate will provide control of all weeds controlled by glyphosate in addition to the broadleaf weeds listed on the **HEAT LQ** label. Consult the glyphosate label for a complete list of weeds controlled by glyphosate.

Tank mixing is a recognized strategy to delay herbicide resistance as well as improve the weed spectrum controlled.

TANK MIX CROP USE RATES

HEAT LQ + Glyphosate Use Rate (360 g/L equivalent) 1.25 – 2.5 L/ha

Crop	HEAT LQ Use Rate (mL/ha)
Lentils ¹	53
Soybean ²	53 – 73
Barley	53 – 146
Canary seed	53 – 146
Chickpea Kabuli	53 – 146
Creeping red fescue, timothy and brome grass, seedling ³	53 – 146
Corn (field, sweet ⁴)	53 – 146
Faba beans	53 – 146
Oats	53 – 146
Peas (dried field)	53 – 146
Wheat (spring, durum, winter)	53 – 146
Chemfallow	53 – 146

¹ Rate restrictions apply. Do not use rates higher than 53 mL/ha or crop injury may result. See crop specific section for additional details.

² Rate restrictions apply. Do not use rates higher than 73 mL/ha or crop injury may result. See crop specific section for additional details. Some soybeans cultivars may be more sensitive to saflufenacil and injury might occur.

³ For seed production, forage and hay. **HEAT LQ** should not come into contact with the seed. Ensure adequate soil coverage for pre-emergent applications to forage grasses and grass grown for seed.

⁴ Some sweet corn hybrids may be more sensitive to saflufenacil and injury might occur.

For tank mix applications of **HEAT LQ** with glyphosate, use MERGE Adjuvant or Amigo® at 0.5 – 1 L/ha.

Do not apply tank mix combinations using aerial application equipment.

When applied as a tank-mix combination, read and observe all label directions, including rates, personal protective equipment, restrictions and precautions for each product used in the tank-mix. Always use in accordance with the most restrictive label restrictions and precautions.

When a tank mix is used, consult the labels of the tank mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarse spray (ASAE) category indicated on the labels for those tank mix partners.

TANK MIX WEEDS CONTROLLED

Rapid Burndown (Pre-seed or Pre-emergent)

HEAT LQ when tank mixed with glyphosate will provide rapid burndown of the following weeds in addition to those weeds listed under **HEAT LQ** applied alone.

Use Rate: 53 mL/ha

Weed	Maximum Weed Stage
Dandelion (top growth burndown control only)	15 cm
Flixweed	8 leaf

9.4 CROP SPECIFIC RECOMMENDATIONS - PRE-SEED OR PRE-EMERGENT

9.4.1 CHICKPEAS, FABA BEANS AND PEAS (dried field)

Timing	Pre-seed or Pre-emergent
Rate	53 – 146 mL/ha of HEAT LQ + 1.25 – 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	50 – 100 L/ha
Surfactant/Adjuvant	Add MERGE Adjuvant or Amigo at a rate of 0.5 – 1 L/ha.
Weeds Controlled	See Section 9.2 for a complete list of weeds controlled by HEAT LQ . Refer to the glyphosate label for weeds controlled in addition to those controlled by HEAT LQ .

9.4.2 CEREALS – BARLEY, CANARY SEED, OATS AND WHEAT (spring, durum, winter)

Timing	Pre-seed or Pre-emergent
Rate	53 – 146 mL/ha of HEAT LQ + 1.25 – 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	50 – 100 L/ha
Surfactant/Adjuvant	Add MERGE Adjuvant or Amigo at a rate of 0.5 – 1 L/ha
Weeds Controlled	See Section 9.2 for a complete list of weeds controlled by HEAT LQ . Refer to the glyphosate label for weeds controlled in addition to those controlled by HEAT LQ .

9.4.3 SEEDLING FORAGE GRASSES AND GRASS GROWN FOR SEED (seedling creeping red fescue, timothy, brome grass)

HEAT LQ may be applied for weed control in seedling creeping red fescue, timothy and brome grass grown for seed production, forage and hay.

Timing	Pre-seed or Pre-emergent
Rate	53 – 146 mL/ha of HEAT LQ + 1.25 – 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	50 – 100 L/ha
Surfactant/Adjuvant	Add MERGE Adjuvant or Amigo at a rate of 0.5 – 1 L/ha
Weeds Controlled	See Section 9.2 for a complete list of weeds controlled by HEAT LQ . Refer to the glyphosate label for weeds controlled in addition to those controlled by HEAT LQ .
Remarks	HEAT LQ should not come into contact with the seed. Ensure adequate soil coverage for pre-emergent applications to forage grasses and grass grown for seed.

9.4.4 SOYBEANS

Timing	Pre-seed or Pre-emergent
Rate	53 – 73 mL/ha of HEAT LQ + 1.25 – 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	50 – 100 L/ha
Surfactant/Adjuvant	Add MERGE Adjuvant or Amigo at a rate of 0.5 – 1 L/ha.
Weeds Controlled	See Section 9.2 for a complete list of weeds controlled by HEAT LQ . Refer to the glyphosate label for weeds controlled in addition to those controlled by HEAT LQ .
Remarks	Some soybean cultivars may be more sensitive to saflufenacil and injury might occur. When applying 73 mL/ha pre-emergent to soybeans, DO NOT apply to coarse textured soils with less than 2% organic matter. When applying pre-emergent to soybeans, apply prior to when the soybeans cause the ground to crack and no more than 3 days after planting.

9.4.5 LENTILS (including Clearfield® Lentils)

Timing	Pre-seed or Pre-emergent
Rate	53 mL/ha of HEAT LQ + 1.25 – 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	50 – 100 L/ha

Surfactant/Adjuvant	Add MERGE Adjuvant or Amigo at a rate of 0.5 – 1 L/ha.
Weeds Controlled	See Section 9.2 for a complete list of weeds controlled by HEAT LQ . Refer to the glyphosate label for weeds controlled in addition to those controlled by HEAT LQ .
Remarks	Rainfall shortly after product application can result in slight injury to the crop. Lentils will be more susceptible to injury on coarse texture and low organic matter soils. Injury will usually appear as leaf tissue necrosis on the outer edges of the leaves. Lentils will grow out of injury symptoms, and yield will not be impacted at recommended rates. The user should contact BASF before applying any other soil applied herbicide with, before, or after applications of HEAT LQ + glyphosate. The addition of other soil applied herbicides may increase the sensitivity of lentils to HEAT LQ and injury may result.

9.4.6 CORN (field, sweet)

Timing	Pre-seed or Pre-emergent
Rate	53 – 146 mL/ha of HEAT LQ + 1.25 – 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	50 – 100 L/ha
Surfactant/Adjuvant	Add MERGE Adjuvant or Amigo at a rate of 0.5 – 1 L/ha.
Weeds Controlled	See Section 9.2 for a complete list of weeds controlled by HEAT LQ . Refer to the glyphosate label for weeds controlled in addition to those controlled by HEAT LQ .
Remarks	Some sweet corn hybrids may be more sensitive to saflufenacil and injury might occur.

9.5 CHEMFALLOW

Timing	Chemfallow
Rate	53 – 146 mL/ha of HEAT LQ + 1.25 – 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	50 – 100 L/ha
Surfactant/Adjuvant	Add MERGE Adjuvant or Amigo at a rate of 0.5 – 1 L/ha.
Weeds Controlled	See Section 9.2 for a complete list of weeds controlled by HEAT LQ . Refer to the glyphosate label for weeds controlled in addition to those controlled by HEAT LQ .
Remarks	Apply to actively growing weeds less than 15 cm in height. Better coverage of the product results in enhanced control of weeds. For application to larger weeds or dense weed infestations, use minimum water volume of 100 L per hectare.

9.6 HARVEST AID - TANK-MIX CROP SPECIFIC RECOMMENDATIONS

HEAT LQ may be used as a harvest aid to accelerate the rate of crop dry down and improve crop uniformity to facilitate direct combining. Early application may result in yield and/or seed quality loss.

The dry down of crops will be best under favorable environmental conditions like warm temperatures, good moisture conditions and low humidity.

Harvesting of crops can be done when plant material is dry and seed moisture level allows efficient harvesting. Under ideal conditions, harvest can normally commence within 7-14 days after desiccation when applied at the appropriate crop stage recommendation. Adverse weather conditions such as rainfall, cool temperatures, shorter day length and high humidity may slow the plant desiccation and keep seed moisture levels high which can delay commencement of harvest after the **HEAT LQ** application. Consult your BASF representative for further information on the timing of harvest after a pre-harvest application.

HEAT LQ may be applied in tank mix with glyphosate for additional pre-harvest weed control.

9.6.1 DESICCATION - DRY COMMON BEANS*/ SOYBEANS

Timing	Desiccation of DRY COMMON BEANS* / SOYBEANS
Rate	106 mL/ha of HEAT LQ + 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	100 – 200 L/ha ground
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Remarks	*Consult glyphosate label or BASF representative for information on the use on specific varieties of dry common beans.
Application Timing	Apply when stems are green to brown in colour and pods are mature (yellow – brown) and 80 – 90% of the original leaves have dropped.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Remarks	Do not graze or feed treated hay or straw to livestock. See Section 9.6 for detailed use pattern. Consult the label of the tank mix partner product for further use instructions, precautions and restrictions. The most restrictive labeling applies to tank mixes.

9.6.2 DESICCATION - CHICKPEAS

Timing	Desiccation of CHICKPEAS
Rate	106 mL/ha of HEAT LQ + 900 g a.e/ha glyphosate (1.67 L/ha of 540 g/L glyphosate formulation) + adjuvant
Water Volume	100 – 200 L/ha ground
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	For Desi type, apply at the time swathing would normally commence, when the majority of plants are yellow and most pods are mature and seeds have turned from green to yellow or brown. Upper part of plant may still be green. For Kabuli type, apply when the majority of plants and pods are ripe and dry with seeds turned from green to white or tan, and detached from the pods. Dry down is less complete in Kabuli type due to its thick pod wall.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Remarks	Do not graze or feed treated hay or straw to livestock. See Section 9.6 for detailed use pattern. Consult the label of the tank mix partner product for further use instructions, precautions and restrictions. The most restrictive labeling applies to tank mixes.

9.6.3 DESICCATION - RED LENTIL VARIETIES

Timing	Desiccation of RED LENTIL VARIETIES
Rate	106 mL/ha of HEAT LQ + 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	100 – 200 L/ha ground
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	Apply when lowermost pods (bottom 15%) are brown and rattle when shaken.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Remarks	Apply only to red lentil varieties. Do not graze or feed treated hay or straw to livestock. See Section 9.6 for detailed use pattern. Consult the label of the tank mix partner product for further use instructions, precautions and restrictions. The most restrictive labeling applies to tank mixes.

9.6.4 DESICCATION – FIELD PEAS

Timing	Desiccation of FIELD PEAS
Rate	106 mL/ha of HEAT LQ + 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant

Water Volume	100 – 200 L/ha ground
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	Apply when the majority of pods are brown (70–80%).
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Remarks	See Section 9.6 for detailed use pattern. Consult the label of the tank mix partner product for further use instructions, precautions and restrictions. The most restrictive labeling applies to tank mixes.

9.6.5 DESICCATION – CANOLA (ALL TYPES) AND MUSTARD¹

Timing	Desiccation of CANOLA (all types) and MUSTARD
Rate	106 mL/ha of HEAT LQ + 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	100 – 200 L/ha ground
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	Apply when 65 – 80% of seeds have changed colour.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Remarks	<p>It is recommended that the application of HEAT LQ as a desiccant in canola and mustard be made to shatter resistant varieties. See Section 9.6 for detailed use pattern. Consult the label of the tank mix partner product for further use instructions, precautions and restrictions. The most restrictive labeling applies to tank mixes.</p> <p>Under ideal conditions, harvest can normally commence within 14-21 days after desiccation when applied at the appropriate crop stage recommendation. Adverse weather conditions such as rainfall, cool temperatures, shorter day length and high humidity may slow the plant desiccation and keep seed moisture levels high which can delay commencement of harvest after the HEAT LQ application.</p>

¹ All classes, including brown, oriental, canola quality *Brassica juncea*, *Brassica juncea* varieties with the **Clearfield** trait, and yellow mustard.

9.6.6 DESICCATION – FLAX

Timing	Desiccation of FLAX
Rate	106 mL/ha of HEAT LQ + 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	100 – 200 L/ha ground
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	Apply when 75% of bolls have turned colour.

Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Remarks	See Section 9.6 for detailed use pattern. Consult the label of the tank mix partner product for further use instructions, precautions and restrictions. The most restrictive labeling applies to tank mixes.

9.6.7 DESICCATION - FABA BEANS

Timing	Desiccation of FABA BEANS
Rate	106 mL/ha of HEAT LQ + 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	100 – 200 L/ha ground
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	Apply when 80% of lower pods have turned black, middle pods have turned yellow/tan, and top green pods have firm seed.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Remarks	Do not graze or feed treated hay or straw to livestock. See Section 9.6 for detailed use pattern. Consult the label of the tank mix partner product for further use instructions, precautions and restrictions. The most restrictive labeling applies to tank mixes.

9.7 PRE-HARVEST WEED MANAGEMENT – TANK MIX CROP SPECIFIC RECOMMENDATIONS

HEAT LQ may be used as a pre-harvest treatment in wheat (including durum, spring and winter wheat), barley (including feed varieties) and triticale to improve dry down of volunteer canola (all types including Roundup Ready), common ragweed, Canada fleabane, redroot pigweed and wild buckwheat. Tank mixing **HEAT LQ** with glyphosate will provide additional pre-harvest weed management to the crop dry down provided by glyphosate.

The tank mix with glyphosate may affect the seed germination. Tank mixing with glyphosate is not recommended when harvested grain is to be used for seed.

WHEAT AND BARLEY

Rate	73 – 106 mL/ha of HEAT LQ + 2.5 L/ha of glyphosate (360 g/L equivalent) + adjuvant
Water Volume	100 – 200 L/ha ground
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	Hard dough stage; a thumbnail impression remains on seed; less than 30% moisture.

Weeds Controlled	Improved dry down of volunteer canola (all types including Roundup Ready), common ragweed, Canada fleabane, redroot pigweed and wild buckwheat. Consult the glyphosate label regarding additional pre-harvest weed control.
Directions for Use – Ground	Ground application may be done with a standard boom sprayer.
Remarks	See Section 9.6 for detailed use pattern. Consult the label of the tank mix partner product for further use instructions, precautions and restrictions. The most restrictive labeling applies to tank mixes. Use higher water volume for dense crop stands and higher weed pressure. Tank mixing with glyphosate is not recommended when harvested grain is to be used for seed.

10.0 MIXING INSTRUCTIONS

1. When using **HEAT LQ**, always start with a clean sprayer. Thoroughly clean the sprayer by flushing the system with water containing detergent. Refer to previously applied product labels for specific cleaning instructions.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add **HEAT LQ** first and continue to agitate until thoroughly mixed.
4. When tank mixing, add tank-mix partner and continue agitation.
5. Add the correct amount of MERGE Adjuvant or Amigo.
6. Continue agitation while filling the remainder of the tank with water necessary to fill the spray tank.
7. Continue to agitate or run the by-pass system.
8. After any break in spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to remix the spray materials. Do not allow the mixture to sit overnight.
9. If a white residue starts to build up in the tank, drain it and clean the tank with strong detergent solution.
10. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

Dispose of all rinsings in accordance with provincial regulations.

11.0 PRE-HARVEST INTERVAL (PHI)

The following pre-harvest intervals should be observed for respective crops when **HEAT LQ** is used as a pre-seed or pre-emergent application.

Crop	PHI (days)
Barley	60
Canary seed	60
Chickpea	60
Corn (field, sweet)	60
Faba beans	60
Lentils	60
Oats	60
Peas (dried field)	60
Soybean	60
Wheat (spring, winter, durum)	60

Creeping red fescue, timothy and brome grass - forage and hay can be used as feed or grazed immediately after application of **HEAT LQ**.

The following pre-harvest intervals should be observed for respective crops when **HEAT LQ** is used as a harvest aid or a pre-harvest treatment for weed management.

Crop	PHI (days)
• Barley	3
• Canola	3
• Chickpeas	2
• Dry common beans	2
• Faba beans	2
• Flax	3
• Lentils	3
• Mustard	3
• Peas (dried field)	3
• Soybeans	3
• Sunflower	7
• Triticale	3
• Wheat	3

12.0 FOLLOW CROPPING

The crops listed can be safely grown after a spring application of **HEAT LQ**.

Plant Back Crops In case of crop failure, the following crops can be planted in the same season ¹	Rotational Crops The following crops can be planted anytime in the following season
Barley Canary seed Chickpeas Corn (field and sweet) Lentils* Oats Dry field peas Soybean* Wheat (spring, winter & durum)	Barley (spring, winter, malting) Canary seed Canola Chickpeas Corn (field and sweet) Dry common beans Flax Lentils Mustard Oats Dry field peas Soybean Triticale Wheat (spring, winter & durum)
* Rate restrictions apply. Lentils and soybeans can only be grown as plant back crops provided that a maximum product use rate of 53 mL/ha and 73 mL/ha, respectively, was used in the previous crop.	

¹ A second application of **HEAT LQ** cannot be made in the rescue crop.

The crops listed below can be safely grown after a fall application of **HEAT LQ**.

Rotational crops that can be planted in the following spring after application	Rotational crops that can be planted in the second spring after application
Barley Canary seed Canola Chickpeas Corn (field and sweet) Flax Lentils Oats Dry field peas Soybeans Wheat (spring, winter, and durum)	All crops

13.0 SPRAYING INSTRUCTIONS

Water volume and spray pressure

Conventional ground application

Use sprayers equipped with standard flat nozzles. The use of 80°-110° stainless steel flat fan nozzle is recommended for optimum spray coverage with nozzles tilted 45° forward to ensure better coverage.

Thoroughly clean all screens to prevent nozzle clogging. Apply in a water volume of 50-100 L/ha and at a pressure of 240 kPa. For applications to dense weed infestations and thick canopies, use a higher water volume at pressures of 275 kPa.

Better coverage of the product results in enhanced control of weeds.

14.0 RESTRICTIONS AND LIMITATIONS

1. Wash sprayer thoroughly after use to avoid damage to the next crop sprayed.
2. DO NOT APPLY USING AERIAL APPLICATION EQUIPMENT, unless specified otherwise.
3. DO NOT enter or allow worker entry into treated areas for 12 hours after application.
4. Field corn – Corn forage and silage can be harvested, used as feed or grazed 60 or more days after application of **HEAT LQ**.
5. Legume forage (chickpeas, faba beans, field peas and lentils) may be used as feed or grazed 60 or more days after application of **HEAT LQ**. Desiccation-treated pea vines may be grazed or fed to livestock.
6. Small grains (wheat, barley and oats) – forage and hay can be used as feed or grazed 30 or more days after application of **HEAT LQ**. Pre-harvest treated barley, wheat and triticale straw may be grazed or fed to livestock.
7. Creeping red fescue, timothy and brome grass - forage and hay can be used as feed or grazed immediately after application of **HEAT LQ**.
8. Soybeans may be used as feed or grazed 60 or more days after application of **HEAT LQ**.
9. Soybeans, chickpeas and dry common beans – Do not graze or feed treated hay or straw to livestock when **HEAT LQ** is used as a harvest aid.
10. DO NOT apply directly to water. DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.
11. To reduce runoff from treated areas into aquatic habitats, avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

12. As this product is not registered for the control of pests in aquatic systems, **DO NOT** use to control aquatic pests.
13. In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to: reduced pest efficacy or increased host crop injury. The user should contact BASF at 1-877-371-2273 or www.agsolutions.ca for information before mixing any pesticide or fertilizer that is not specifically recommended on this label.

Buffer zones

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) medium classification. Boom height must be 60 cm or less above the crop or ground.

Aerial application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 16 km/h at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium classification. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotor-span.

Spot treatments using hand-held equipment **DO NOT** require a buffer zone.

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands).

Method of application	Crop	Buffer zones (metres) required for the protection of terrestrial habitats
Field sprayer*	Lentils (pre-seed or pre-emergent)	3
	Soybean (pre-seed or pre-emergent)	4
	Barley, canary seed, chickpea, corn, faba beans, oats, dried field peas, forage grasses (seedling creeping red fescue, timothy, brome grass), wheat (pre-seed or pre-emergent); Chemfallow; Canola, faba beans, flax, lentil, chickpea, soybean, mustard, dried field peas, sunflower, dry common beans, wheat, barley, triticale (harvest aid)	10

Method of application	Crop		Buffer zones (metres) required for the protection of terrestrial habitats
Aerial	Canola, faba beans, flax, lentil, chickpea, mustard, soybean, dried field peas, sunflower, dry common bean, wheat, barley, triticale (harvest aid)	Fixed wing	175
		Rotary wing	150

*For field sprayer application, buffer zones can be reduced with the use of drift reducing spray shields. When using a spray boom fitted with a full shield (shroud, curtain) that extends to the crop canopy, the labeled buffer zone can be reduced by 70%. When using a spray boom where individual nozzles are fitted with cone-shaped shields that are no more than 30 cm above the crop canopy, the labeled buffer zone can be reduced by 30%.

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) 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.

15.0 RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, **HEAT LQ** is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to **HEAT LQ** and other Group 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 **HEAT LQ** or other Group 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 BASF at 1-877-371-2273 or at www.agsolutions.ca.

®All other products listed are registered trademarks of their respective companies.

Container Label

GROUP

15

HERBICIDE

ZIDUA® SC

HERBICIDE

SUSPENSION CONCENTRATE

COMMERCIAL (AGRICULTURAL)

ACTIVE INGREDIENT: Pyroxasulfone..... 500 g/L

Contains 1,2-benzisothiazolin-3-one and 2-methyl-4-isothiazolin-3-one, each at 0.0043%, as preservatives

OR

Contains 1,2-benzisothiazolin-3-one at 0.03800%, 5-chloro-2-methyl-4-isothiazolin-3-one at 0.00111%, 2-methyl-4-isothiazolin-3-one at 0.00037% and 2-bromo-2-nitropropane-1,3-diol at 0.02400%, as preservatives

REGISTRATION NO. 32542

PEST CONTROL PRODUCTS ACT

**IN CASE OF EMERGENCY ENDANGERING LIFE OR PROPERTY
INVOLVING THIS PRODUCT, CALL DAY OR NIGHT,
1-800-454-2673**

WARNING, contains the allergen soy

READ THE LABEL AND BOOKLET BEFORE USING

KEEP OUT OF REACH OF CHILDREN

NET CONTENTS: 0.1 L to 1000 L

BASF Canada Inc.
100 Milverton Drive, 5th Floor
Mississauga, ON L5R 4H1
1-877-371-2273

ZIDUA is a registered trade-mark of BASF SE, used with permission by BASF Canada Inc.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

Avoid contact with skin, eyes or clothing.

Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. Gloves are not required during application within a closed cab.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

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.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Apply only to agricultural crops when the potential for drift to areas of human habitation and human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

DO NOT apply using aerial application equipment.

Do not handle or apply more than 66 L of product per day.

[Optional statement for smaller container sizes]

Please refer to the booklet for the complete list of precautions.

Avoid contact with skin, eyes or clothing.

DO NOT apply using aerial application equipment.

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 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.

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.

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

TOXICOLOGICAL INFORMATION

Treat symptomatically.

ENVIRONMENTAL PRECAUTIONS

TOXIC to aquatic organisms and to non-target terrestrial plants. Observe buffer zones specified under **DIRECTIONS FOR USE**.

This product demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of **ZIDUA SC** in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE S572.1) category indicated on the labels for those tank mix partners.

STORAGE

Store in original container in cool, dry, well-ventilated location.

To prevent contamination, store this product away from food or feed.

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 rinsing 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 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.

Returnable–Refillable Containers

For disposal, this empty 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 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.

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 Product Act* to use this product in a way that is inconsistent with the directions on the label.

ZIDUA® SC

HERBICIDE

SUSPENSION CONCENTRATE

COMMERCIAL (AGRICULTURAL)

ACTIVE INGREDIENT: Pyroxasulfone.....500 g/L

Contains 1,2-benzisothiazolin-3-one and 2-methyl-4-isothiazolin-3-one, each at 0.0043%, as preservatives

OR

Contains 1,2-benzisothiazolin-3-one at 0.03800%, 5-chloro-2-methyl-4-isothiazolin-3-one at 0.00111%, 2-methyl-4-isothiazolin-3-one at 0.00037% and 2-bromo-2-nitropropane-1,3-diol at 0.02400%, as preservatives

REGISTRATION NO. 32542

PEST CONTROL PRODUCTS ACT

**IN CASE OF EMERGENCY ENDANGERING LIFE OR PROPERTY
INVOLVING THIS PRODUCT, CALL DAY OR NIGHT,
1-800-454-2673**

WARNING, contains the allergen soy

READ THE LABEL AND BOOKLET BEFORE USING

KEEP OUT OF REACH OF CHILDREN

NET CONTENTS: 0.1 L to 1000 L

BASF Canada Inc.
100 Milverton Drive, 5th Floor
Mississauga, ON L5R 4H1
1-877-371-2273

ZIDUA is a registered trade-mark of BASF SE, used with permission by BASF Canada Inc.

GENERAL INFORMATION

ZIDUA SC is a suspension concentrate herbicide for the control of labelled annual grasses and annual broadleaf weeds in corn, soybeans, sunflowers, lentils, chickpeas, dry field peas, potatoes, and mint; and as a post-harvest treatment.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

Avoid contact with skin, eyes or clothing.

Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. Gloves are not required during application within a closed cab.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

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.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Apply only to agricultural crops when the potential for drift to areas of human habitation and human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

DO NOT apply using aerial application equipment.

Do not handle or apply more than 66 L of product per day.

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 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.

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.

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

TOXICOLOGICAL INFORMATION

Treat symptomatically.

ENVIRONMENTAL PRECAUTIONS

TOXIC to aquatic organisms and to non-target terrestrial plants. Observe buffer zones specified under **DIRECTIONS FOR USE**.

This product demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of **ZIDUA SC** in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE S572.1) category indicated on the labels for those tank mix partners.

STORAGE

Store in original container in cool, dry, well-ventilated location.

To prevent contamination, store this product away from food or feed.

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 rinsing 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 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.

Returnable–Refillable Containers

For disposal, this empty 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 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.

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 Product Act* to use this product in a way that is inconsistent with the directions on the label.

DIRECTIONS FOR USE

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.

WEEDS CONTROLLED

ZIDUA SC may be applied to corn or soybeans at a rate of 250 – 493 mL/ha for the control of the following weeds:

Annual grasses	Annual Broadleaf Weeds
Barnyard grass	Common waterhemp
Crabgrass (large)	Redroot pigweed
Foxtail (green, yellow, giant)	
Ryegrass (Italian)	

Application rates of **ZIDUA SC** may vary depending on soil texture. Refer to the table below for soil texture groups used in the rate tables throughout this label unless a specific soil texture is mentioned. The table below includes a complete listing of soil textures included in each of the soil texture groupings.

Soil Textures

Coarse	Medium	Medium-Fine	Fine
Sand Loamy sand Sandy loam	Loam Silt loam Silt	Sandy clay loam Sandy clay Silty clay loam	Silty clay Clay loam Clay

WEEDS SUPPRESSED - Early season residual suppression

ZIDUA SC may be applied to lentils at a rate of 120 – 180 mL/ha, or to corn, soybeans, sunflowers, chickpeas, dry field peas, and potatoes at a rate of 120 – 240 mL/ha for the early season residual suppression of the weeds listed below when an in-crop application of another registered herbicide is planned. Application rates are for all soil types. Use the higher rate in the listed rate range for longer residual and under heavier weed populations.

Annual grasses	Annual Broadleaf Weeds
Foxtail (green and yellow)	Common waterhemp
Wild oat	Kochia
	Lamb's quarters
	Redroot pigweed

WEEDS CONTROLLED – POST- HARVEST TREATMENT

ZIDUA SC may be applied as a post-harvest treatment at a rate of 120 – 240 mL/ha for the control of weeds listed below. Application rates are for all soil types. Use the higher rate in the listed rate range for longer residual and under heavier weed populations.

Annual grasses
Bluegrass, annual

APPLICATION INFORMATION

Moisture is necessary to activate the active ingredient pyroxasulfone in soil for weed control. Dry weather following applications of **ZIDUA SC** may reduce effectiveness. However, when adequate moisture is received after dry conditions, **ZIDUA SC** will control susceptible germinating weeds. **ZIDUA SC** may not control weeds that germinate after application but before an activating rainfall / irrigation, or weeds that germinate through cracks resulting from dry soil. When adequate moisture is not received after **ZIDUA SC** application, weed control may be improved by irrigation.

When applying **ZIDUA SC** with glyphosate as a tank mix partner, use glyphosate present as isopropylamine, potassium, or diammonium salt.

DO NOT use flood irrigation to activate or incorporate **ZIDUA SC**.

DO NOT use on peat or muck soils and soils with 7% or more organic matter content.

DO NOT apply using aerial application equipment.

DO NOT apply through any type of irrigation system.

DO NOT contaminate irrigation ditches or water used for domestic purposes.

DO NOT apply **ZIDUA SC** or **ZIDUA SC** tank mixtures when environmental conditions may result in drift to non-target sites.

Drift of this product may be harmful to non-target plants near the treatment area.

DO NOT apply during periods of gusty winds.

Apply in a minimum water volume of 100 L/ha in Eastern Canada. Apply in a water volume of 50 to 100 L/ha in Western Canada.

Consult nozzle manufacturer's recommendation for spray pressures for specific nozzles.

Applications to crops under stress due to either inadequate or excess of moisture for normal crop development, cool and hot temperatures, sodic soils, poorly drained soils, hail damage, flooding, pesticide injury, mechanical injury or widely fluctuating temperatures may result in crop injury.

When applied as a tank mix combination, read and observe all label directions, including rates, personal protective equipment, restrictions and precautions for each product used in the tank-mix. Always use in accordance with the most restrictive label restrictions and precautions.

FIELD CORN

ZIDUA SC can be applied as a pre-plant surface, pre-emergence or early post-emergence treatment to field corn up to the 4 leaf stage of corn. Crop seeds must be planted a minimum 2.5 cm deep.

ZIDUA SC must be applied and activated prior to weed seedling emergence.

Application timing	Product	Rate / ha by soil texture			
Pre-plant (up to 30 days before planting) or Pre-emergent or Early post-emergent (up to 4 leaf stage of corn)	ZIDUA SC alone	Coarse	Medium - Fine soil		Fine
			OM ≤ 3%	3% < OM < 7%	
		250 mL/ha	332 mL/ha	417 mL/ha	493 mL/ha

Tank Mix Options

ZIDUA SC may also be applied in tank mix with the following products for the control of weeds in addition to those on the **ZIDUA SC** label.

Application timing	Product	Rate / ha
Pre-plant (up to 30 days before planting) or Pre-emergent	ZIDUA SC	See Application rate table for ZIDUA SC applied alone.
	+ glyphosate	Refer to glyphosate label for weeds controlled and registered rates.
Pre-plant (up to 30 days before planting) or Pre-emergent or Early post-emergent	ZIDUA SC	See Application rate table for ZIDUA SC applied alone.
	+ Aatrex Liquid 480	2.1 – 3.1 L

FIELD CORN – Early season residual suppression

ZIDUA SC can be applied as a pre-plant surface, pre-emergence or early post-emergence treatment to field corn up to the 4 leaf stage of corn. Crop seeds must be planted a minimum 2.5 cm deep.

ZIDUA SC must be applied and activated prior to weed seedling emergence.

Application timing	Product	Rate
Pre-plant (up to 30 days before planting) or Pre-emergent or Early post-emergent (up to 4 leaf stage of corn)	ZIDUA SC	120 – 240 mL/ha

Tank Mix Option

ZIDUA SC may also be applied in tank mix for the control of weeds in addition to those on the **ZIDUA SC** label. For all tank mixes, apply **ZIDUA SC** at 120 – 240 mL/ha. Tank mix products and rates are detailed in the following table.

Application timing	Product	Rate
Pre-plant (up to 30 days before planting) or Pre-emergent	Glyphosate	Refer to glyphosate label for weeds controlled and registered rates.
	Aatrex Liquid 480	2.1 – 3.1 L/ ha
	ERAGON LQ + MERGE Adjuvant + glyphosate	146 – 292 mL/ha 1 L/ha 2.5 L/ha (360 g/L equivalent)
	HEAT LQ + MERGE Adjuvant + glyphosate	53 – 146 mL/ha 0.5 – 1 L/ha 1.25 – 2.5 L/ha (360 g/L equivalent)
	INTEGRITY + glyphosate	0.73 – 1.1 L/ha ^{1,2} 2.5 L/ha (360 g/L equivalent)

¹ For pre-plant application, use 1.1 L/ha rate only.

² When applying 1.1 L/ha as pre-plant or pre-emergent treatment, DO NOT apply to field corn grown on coarse soils with a Cation Exchange Capacity (CEC) less than or equal to 15 MEQ/100 g, as injury may occur.

Application timing	Product	Rate
Early post- emergent ^{1,2}	Glyphosate	Refer to glyphosate label for weeds controlled and registered rates.
	Aatrex Liquid 480	2.1 – 3.1 L/ ha
	Marksman Herbicide + glyphosate	2.5 – 3.7 L/ha 2.5 L/ha (360 g/L equivalent)
	Armezon herbicide + glyphosate ³	37 mL/ha 2.5 L/ha (360 g/L equivalent)

¹ Apply glyphosate on glyphosate tolerant field corn varieties only.

² Apply post-emergent application up to 4 leaf stage of corn when tank mixing with glyphosate, Marksman Herbicide or Armezon herbicide.

³ Glyphosate present as isopropylamine salt or potassium salt

SOYBEANS

ZIDUA SC can be applied as a pre-plant surface or pre-emergence treatment to soybeans. Crop seeds must be planted a minimum 4 cm deep.

The use of **ZIDUA SC** may result in temporary growth suppression if extreme conditions of high rainfall and extended periods of water-saturated soil occur during soybean germination or early seedling development. These suppressions have not resulted in reduced soybean yield potential.

ZIDUA SC must be applied and activated prior to weed seedling emergence.

Application timing	Product	Rate / ha by soil texture			
Pre-plant (up to 30 days before planting) or Pre-emergent	ZIDUA SC alone	Coarse	Medium - Fine soil		Fine
			OM ≤ 3%	3% < OM < 7%	
		250 mL/ha	332 mL/ha	417 mL/ha	493 mL/ha

Tank Mix Option

ZIDUA SC may also be applied in tank mix with glyphosate for the control of weeds in addition to those on the **ZIDUA SC** label.

Application timing	Product	Rate / ha
Pre-plant (up to 30 days before planting) or Pre-emergent	ZIDUA SC	See Application rate table for ZIDUA SC applied alone.
	+ glyphosate	Refer to glyphosate label for weeds controlled and registered rates.

SOYBEANS – Early season residual suppression

ZIDUA SC can be applied as a pre-plant surface, pre-emergence or early post-emergence treatment to soybeans up to and including third trifoliolate leaf stage and prior to flowering. Crop seeds must be planted a minimum 4 cm deep.

The use of **ZIDUA SC** may result in temporary growth suppression if extreme conditions of high rainfall and extended periods of water-saturated soil occur during soybean germination or early seedling development. These suppressions have not resulted in reduced soybean yield potential.

ZIDUA SC must be applied and activated prior to weed seedling emergence.

Application timing	Product	Rate
Pre-plant (up to 30 days before planting) or Pre-emergent and/or Post-emergent (from emergence up to and including the third trifoliate leaf stage and prior to flowering)	ZIDUA SC	120 – 240 mL/ha

Sequential Application

If a sequential application program of **ZIDUA SC** is used (e.g. pre-emergent application followed by post-emergent application), the maximum seasonal rate of **ZIDUA SC** that may be applied is 250 mL/ha on coarse soils and 493 mL/ha on medium to fine soils.

Tank Mix Option

ZIDUA SC may also be applied in tank mix for the control of weeds in addition to those on the **ZIDUA SC** label. For all tank mixes, apply **ZIDUA SC** at 120 – 240 mL/ha. Tank mix products and rates are detailed in the following table.

Application timing	Product	Rate
Pre-plant ¹ or Pre-emergent	Glyphosate	Refer to glyphosate label for weeds controlled and registered rates.
	ERAGON LQ ^{2,3} + MERGE Adjuvant + glyphosate	73 mL/ha 1 L/ha 2.5 L/ha (360 g/L equivalent)
	HEAT LQ + MERGE Adjuvant + glyphosate	53 – 73 mL/ha 0.5 – 1 L/ha 1.25 – 2.5 L/ha (360 g/L equivalent)
	ENGENIA ^{4,5} + glyphosate ⁶	0.480 – 1 L/ha 900 g ae/ha
	INTEGRITY ^{2,3} + MERGE Adjuvant + glyphosate	0.37 L/ha 1 L/ha Refer to glyphosate label for weeds controlled and registered rates.
Post-emergent ⁷ (from emergence up to and including the third trifoliate leaf stage and prior to flowering)	Glyphosate	Refer to glyphosate label for weeds controlled and registered rates.
	ENGENIA ^{4,5} + glyphosate ⁶	0.480 – 1 L/ha 900 g ae/ha

¹ Apply pre-plant up to 30 days before planting when tank mixing with glyphosate alone or with ENGENIA

² Apply pre-plant up to 21 days before planting

³ For Pre-emergent timing, apply prior to when the soybeans cause the ground to crack and no more than three days after planting. DO NOT apply to coarse textured soils with less than 2% organic matter.

⁴ Apply ENGENIA only to Roundup Ready 2 Xtend Soybeans. SOYBEAN VARIETIES WHICH ARE NOT DESIGNATED AS DICAMBA TOLERANT WILL BE DAMAGED OR DESTROYED BY THIS TREATMENT.

- ⁵ The 1 L/ha rate of ENGENTIA is to be used only once in a season and should be used pre-plant, pre-emergence or in-crop early post-emergence. 1.96 L/ha of ENGENTIA is the maximum total to be applied in a single growing season.
- ⁶ Only use glyphosate products present as an isopropylamine or potassium salt registered for use in soybeans. Do not tank-mix ENGENTIA with glyphosate products where glyphosate is present as an ammonium salt.
- ⁷ Apply glyphosate herbicides on glyphosate tolerant soybean varieties only.

SUNFLOWERS – Early season residual suppression

ZIDUA SC can be applied as a pre-plant surface or pre-emergence treatment to sunflowers. Do not apply **ZIDUA SC** if sunflowers have emerged.

The use of **ZIDUA SC** may result in temporary growth suppression if extreme conditions of high rainfall and extended periods of water-saturated soil occur during sunflower germination or early seedling development. These suppressions have not resulted in reduced sunflower yield potential.

ZIDUA SC must be applied and activated prior to weed seedling emergence.

Application timing	Product	Rate
Pre-plant (up to 30 days before planting) or Pre-emergent	ZIDUA SC	120 – 240 mL/ha

Tank Mix Option

ZIDUA SC may also be applied in tank mix for the control of weeds in addition to those on the **ZIDUA SC** label. For all tank mixes, apply **ZIDUA SC** at 120 – 240 mL/ha. Tank mix products and rates are detailed in the following table.

Application timing	Product	Rate
Pre-plant (up to 30 days before planting) or Pre-emergent	Glyphosate	Refer to glyphosate label for weeds controlled and registered rates.

LENTILS, CHICKPEAS AND DRY FIELD PEAS – Early season residual suppression

Apply **ZIDUA SC** as a pre-seed or pre-emergent treatment to lentils, chickpeas and dry field peas. Do not apply **ZIDUA SC** to lentils at a rate greater than 180 mL/ha or crop injury may result. Crop seeds must be planted a minimum 2.5 cm deep. **ZIDUA SC** must be applied and activated prior to weed seedling emergence or in a tank mixture that controls the emerged weeds such as HEAT LQ and glyphosate.

Crop	Application timing	Rate
Lentils	Pre-seed or pre-emergent	120 – 180 mL/ha ¹
Dry field peas	Pre-seed or pre-emergent	120 – 240 mL/ha
Chickpeas	Pre-seed or pre-emergent	120 – 240 mL/ha

¹ Do not apply **ZIDUA SC** at a rate greater than 180 mL/ha or crop injury may result.

Tank Mix Option

For rapid burndown control of broadleaf and grass weeds in addition to those labelled on the **ZIDUA SC** label, **ZIDUA SC** may be applied as a pre-seed or pre-emergent treatment in tank mix combination with glyphosate or HEAT LQ and glyphosate. For the tank mix combination of HEAT LQ and glyphosate, apply in 50 – 100 L/ha of water with MERGE® Adjuvant at a rate of 0.5 – 1.0 L/ha. Consult the HEAT LQ and glyphosate labels for a complete list of weeds controlled by HEAT LQ and glyphosate.

Use only glyphosate products registered for pre-seed application to dry field peas, chickpeas and lentils.

For all tank mixes applied to lentils, use **ZIDUA SC** at 120 – 180 mL/ha. For all tank mixes applied to dry field peas and chickpeas, use **ZIDUA SC** at 120 – 240 mL/ha. Tank mix products and rates are detailed in the following table.

Application timing	Product	Rate
Pre-seed or Pre-emergent	Glyphosate	1.25 – 2.5 L/ha (360 g/L equivalent) ¹
	HEATLQ	53 – 146 mL/ha ²
	+ MERGE Adjuvant + glyphosate	0.5 – 1 L/ha 1.25 – 2.5 L/ha (360 g/L equivalent) ¹

¹ Other glyphosate formulations may require a rate calculation adjustment according to active ingredient concentration. Refer to the glyphosate label for rate and weeds controlled.

² Rate restrictions apply for lentils. DO NOT use HEAT LQ at a rate higher than 53 mL/ha for lentils or crop injury may result.

LENTILS – Fall Application

ZIDUA SC is to be applied as a late fall (prior to ground freeze) residual application prior to lentils being planted the following spring. For the fall application, make one application only. In the following spring, a preplant or preemergent application of a registered herbicide is to be applied.

For planned herbicide treatments in the spring, **DO NOT** apply any herbicide or pest control product that contains the active ingredient pyroxasulfone (e.g. **ZIDUA SC**, FOCUS Herbicide, Heat Complete, etc.).

The application of **ZIDUA SC** as labelled will provide residual preemergence suppression of weeds listed under the “**WEEDS SUPPRESSED – Early season residual suppression**” list. Application rates are for all soil types. Use the higher rate in the listed rate range for longer residual and under heavier weed populations.

Application timing	Product	Rate
Fall / winter application (prior to ground freeze)	ZIDUA SC	180 – 240 mL/ha

Tank Mix Option

For the control of emerged weeds germinating in the fall/winter, **ZIDUA SC** may be applied in tank mix combination with glyphosate. Consult the glyphosate label for a complete list of weeds controlled by glyphosate.

For tank mix combination with glyphosate, use **ZIDUA SC** at 180 – 240 mL/ha.

Application timing	Product	Rate
Fall / winter application (prior to ground freeze)	Glyphosate	1.25 – 2.5 L/ha (360 g/L equivalent) ¹

¹ Other glyphosate formulations may require a rate calculation adjustment according to active ingredient concentration. Only use glyphosate products present as isopropylamine, potassium, or di-ammonium salt. Only use glyphosate products registered for post-harvest application. Refer to the glyphosate label for rate and weeds controlled.

MINT (PEPPERMINT AND SPEARMINT) – Dormant Season Application: Prairie Provinces only

ZIDUA SC can be applied as a dormant application to mint (peppermint and spearmint tops) in the early spring prior to active green growth for early season residual suppression of common waterhemp, kochia, lamb's-quarters, redroot pigweed, foxtail (green and yellow) and wild oat. Before applying to mint, verification of varietal tolerance must be confirmed with your local seed company or supplier to avoid potential injury to sensitive varieties. Do not apply **ZIDUA SC** if mint has broken dormancy (new growth emerging).

The use of **ZIDUA SC** may result in temporary growth suppression if extreme conditions of high rainfall and extended periods of water-saturated soil occurs. These suppressions have not resulted in reduced mint yield potential.

Crop Specific Restrictions and Limitation

Apply to mint grown in Prairie Provinces only.

Do not apply if roots and rhizomes of mint are weak, thinned or damaged.

Do not use roots from **ZIDUA SC** treated plants for human consumption. Roots treated with **ZIDUA SC** can be used for root propagation.

Do not apply **ZIDUA SC** to newly planted mint.

Do not use **ZIDUA SC** between cuttings of mint.

Do not apply **ZIDUA SC** to mint that has broken dormancy. Application to mint that is near dormancy break can result in crop injury. Risk of crop injury increases the closer application is to mint dormancy break.

Do not apply to soils that are classified as a “sand”.

Apply only to stands that in the previous year were healthy and vigorous.

Application timing	Product	Rate
A single application at the dormant physiological stage	ZIDUA SC	180 mL/ha

POTATOES – Early season residual suppression

Apply **ZIDUA SC** as a broadcast spray to the soil surface after planting or drag-off, but before crop emergence. Where “drag off” is practiced, DO NOT apply **ZIDUA SC** until the “drag off” process is complete and there is a minimum of 5 cm (2 inches) of soil covering the vegetative portion of the potato plants, or **ZIDUA SC** may be applied after hilling but prior to potato or weed emergence, or **ZIDUA SC** may be applied where potato hills are harrowed and re-hilled and sprayed, but application must be prior to potato and weed emergence. There should be 5 cm (2 inches) of soil covering the seed piece and/or sprout/vegetation. Care must be exercised so that “drag off” implements do not injure the plants. Efficacy will be reduced if later cultural practices expose untreated soil. Apply **ZIDUA SC** only to a uniform seedbed which is firm and free of clods and cracks.

The seedbed must be prepared to ensure good seed piece row closure and soil coverage of the seed pieces.

Before applying to potato, verify with your local seed company (supplier) the selectivity of **ZIDUA SC** on your variety to avoid potential injury.

The use of **ZIDUA SC** may result in temporary growth suppression in potato under stressful conditions, such as, inadequate or excessive moisture or rainfall, cool and hot temperatures, compacted or crusted soils, improper planting depth, injury from other pesticides, disease or other pest damage, mechanical injury, nutrient imbalances, or other conditions known to cause plant stress.

Crop Specific Restrictions and Limitation

DO NOT apply **ZIDUA SC** more than once per year in potato.

DO NOT apply **ZIDUA SC** prior to planting potato seed pieces.

DO NOT apply **ZIDUA SC** to emerging or emerged potato as severe crop injury will occur.

DO NOT apply **ZIDUA SC** in soils classified as a Sand.

Application timing	Product	Rate
Pre-emergent to potato after planting or following drag-off or hilling	ZIDUA SC	120 – 240 mL/ha

Tank Mix Option

ZIDUA SC may also be applied in tank mix for the control of weeds in addition to those on the **ZIDUA SC** label. For all tank mixes, apply **ZIDUA SC** at 120 – 240 mL/ha. Tank mix products are detailed in the following table.

Application timing	Product	Rate
Pre-emergent to potato after planting or following drag-off or hilling	Glyphosate	Refer to glyphosate label for weeds controlled and registered rates.
	SENCOR 480 F Herbicide*	Refer to SENCOR 480 F Herbicide label for weeds controlled and registered rates.
	Glyphosate +	Refer to glyphosate label for weeds controlled and registered rates.
	SENCOR 480 F Herbicide*	Refer to SENCOR 480 F Herbicide label for weeds controlled and registered rates.

*EASTERN CANADA or UNDER IRRIGATED CONDITIONS IN WESTERN CANADA

POST-HARVEST

ZIDUA SC can be applied as a post-harvest treatment for the control of labelled weeds at the following rates:

Product	Rate
ZIDUA SC	120 – 240 mL/ha

DO NOT graze or feed treated hay or forage to livestock.

Tank Mix Option

ZIDUA SC may also be applied in tank mix for the control of weeds in addition to those on the **ZIDUA SC** label. For all tank mixes, apply **ZIDUA SC** at 120 – 240 mL/ha. Tank mix products and rates are detailed in the following table.

Application timing	Product	Rate	Weeds controlled in addition to those controlled by ZIDUA SC
Post-harvest	Glyphosate	Refer to glyphosate label for registered rates.	Refer to glyphosate label for a complete list of weeds controlled by glyphosate.
	Glyphosate* + ENGENIA	Refer to glyphosate label for registered rates. 2 L/ha	Refer to glyphosate label for a complete list of weeds controlled by glyphosate. Field bindweed English daisy Curled dock (top growth) Goldenrod Tansy ragwort Perennial sow thistle Canada thistle

* Only use glyphosate products registered for post-harvest use and refer to glyphosate label for adjuvant recommendations. Do not tank-mix ENGENIA with glyphosate products where glyphosate is present as ammonium salt.

PEANUTS ON MINERAL SOIL
<p>The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than BASF Canada under the User Requested Minor Use Label Expansion program. For these uses, BASF Canada has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.</p>
<p>ZIDUA SC can be applied as an early postemergence (“at-cracking” stage to first true leaf stage through beginning of pod development stage) to peanuts grown on mineral soil.</p> <p>Before applying to peanut, verify with your local seed company (supplier) the selectivity of ZIDUA SC on your variety to avoid potential injury.</p> <p>ZIDUA SC must be applied and activated prior to weed seedling emergence. Weeds that are already emerged at the time of application must be controlled with cultivation, or sequential application of another herbicide labelled for postemergence control of the target weeds in peanut. Apply in a minimum water volume of 100 L/ha.</p> <p>Application to emerged peanut may result in temporary leaf burn and stunting, but a reduction in peanut yield is unexpected. Depending upon growing conditions, recovery from this injury begins immediately but may take several weeks for the injury to dissipate entirely.</p> <p>ZIDUA SC applied early postemergence (“at-cracking” through first leaf stage) may result in temporary growth suppression in peanut if extreme conditions of high rainfall and extended periods of water-saturated soil occur during peanut germination or early seedling development.</p> <p>Maximum 1 application per year.</p>

Feeding/Grazing Restriction: DO NOT graze or feed treated hay to livestock.

Application Timing	Product	Rate
Early postemergence ("at-cracking" stage to first true leaf stage through beginning of pod development stage)	Zidua SC	120 – 240 mL/ha*

* Use the higher rate in the listed rate range for longer residual and under heavier weed populations.

ZIDUA SC applied as directed will provide early season residual suppression of the following weeds:

Annual grasses	Annual Broadleaf Weeds
Foxtail (green and yellow)	Common waterhemp
Kochia	Lamb's-quarters
Wild oat	Redroot pigweed

SEED CORN

The **DIRECTIONS FOR USE** for the uses described in this section of the label were developed by persons other than BASF Canada under the User Requested Minor Use Label Expansion program. For these uses, BASF Canada has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

ZIDUA SC can be applied as a pre-plant surface or pre-emergence treatment to seed corn. Crop seeds must be planted a minimum 2.5 cm deep. Apply in a minimum water volume of 100 L/ha in Eastern Canada. Apply in a water volume of 50 to 100 L/ha in Western Canada. DO NOT make more than one application per season.

Some seed corn hybrids may be more sensitive to pyroxasulfone and injury might occur. Before applying to seed corn, verify with your local seed company (supplier) the selectivity of **ZIDUA SC** on your variety to avoid potential injury.

ZIDUA SC must be applied and activated prior to weed seedling emergence. Weeds germinated at time of treatment will not be controlled and a post-emergent herbicide will be needed to control germinated weeds.

Application Timing	Product	Rate / ha by soil texture			
		Coarse	Medium-Fine Soil		Fine
			OM ≤ 3%	3% < OM < 7%	
Pre-plant (up to 30 days before planting) or Pre-emergent	ZIDUA SC	250 mL/ha	332 mL/ha	417 mL/ha	493 mL/ha

ZIDUA SC applied as directed will provide the control of the following weeds:

Annual Grasses	Annual Broadleaf Weeds
Barnyard grass	Common waterhemp
Crabgrass (large)	Redroot pigweed
Foxtail (green and yellow)	
Ryegrass (Italian)	

SEED CORN – Early season residual suppression

Application Timing	Product	Rate
Pre-plant (up to 30 days before planting) or Pre-emergent	Zidua SC	120 – 240 mL/ha

ZIDUA SC applied as directed will provide the control of the following weeds when an in-crop application of another registered herbicide is planned. Application rates are for all soil types. Use the higher rate in the above listed rate range for longer residual and under heavier weed populations.

Annual Grasses	Annual Broadleaf Weeds
Foxtail (green and yellow)	Common waterhemp
Kochia	Lamb's-quarters
Wild oat	Redroot pigweed

MIXING INSTRUCTIONS

Mixing Order

1. When applying **ZIDUA SC**, always start with a clean sprayer. Thoroughly clean the sprayer by flushing the system with water containing detergent. Refer to previously applied product labels for specific cleaning instructions.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. If needed, add the correct amount of water conditioner.
4. If using a wettable powder or water dispersible granule tank mix partner add the correct amount to the tank and continue agitation until thoroughly dispersed.
5. If required, add the correct amount of micro-encapsulated product tank mix partner.
6. Using a calibrated measuring device, add the correct amount of **ZIDUA SC**. Continue to agitate.

7. If required, add the correct amount of liquid, solution or suspension product tank mix partner.
8. If required, add in the correct amount of emulsifiable concentrate product tank mix partner.
9. If required, add the correct amount of glyphosate product tank mix partner.
10. If required, add in the correct amount of adjuvants or surfactants last.
11. Continue agitation while filling the spray tank with the remaining amount of water.
12. Continue to agitate or run the by-pass system.
13. After any break in spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to remix the spray materials. Do not allow the mixture to sit overnight.
14. If an oil film starts to build up in the tank, drain it and clean the tank with strong detergent solution.
15. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

Dispose of all rinsate in accordance with provincial regulations.

CLEANING SPRAY EQUIPMENT

Clean application equipment thoroughly by using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions. Triple rinse the equipment before and after applying **ZIDUA SC**.

Refer to the tank mix partner's product label for any additional cleaning instructions not included in the above steps.

CROP ROTATIONAL RESTRICTION

Plant Back (in case of crop failure)

If any crop treated with **ZIDUA SC** is lost, re-plant only labelled crops (sunflowers, field corn, soybean, lentil, chickpeas and dry field peas) ensuring the rate of **ZIDUA SC** applied does not exceed the maximum use rate for the crop being re-planted. Do not make a second application of **ZIDUA SC**.

Rotational Cropping for Spring Application of **ZIDUA SC**

Fields treated with **ZIDUA SC** at a total seasonal rate of 120 mL/ha – 240 mL/ha can be seeded the following season to sunflowers, field corn, soybean, spring wheat, chickpea, lentil, dry field peas, flax and potato. Winter wheat may be seeded 4 months following the **ZIDUA SC**

application. Durum wheat, barley and oats can be seeded 11 months following the **ZIDUA SC** application. Canola can be seeded 12 months following the **ZIDUA SC** application.

For total seasonal application rates higher than 240 mL/ha, corn, soybean, chickpea, lentil, dry field peas, flax and potato may be seeded the following season. Winter wheat may be seeded 4 months following the **ZIDUA SC** application.

Conduct a field bioassay (a test strip grown to maturity) to confirm crop safety prior to seeding any rotational crops other than listed above.

Rotational Cropping for Fall Application of **ZIDUA SC**

Fields treated with a Fall application (i.e. post-harvest treatment) of **ZIDUA SC** can be seeded the following season to labelled crops, **except peanuts**.

Conduct a field bioassay (a test strip grown to maturity) to confirm crop safety prior to seeding any rotational crops other than labelled crops.

RESTRICTIONS AND LIMITATIONS

1. **DO NOT** apply using aerial application equipment.
2. **DO NOT** use on peat or muck soils and soils with 7% or more organic matter content.
3. **DO NOT** apply **ZIDUA SC** more than the maximum total seasonal rate of **ZIDUA SC** in a growing season. Maximum total seasonal rates are as follows:

Crop	Soil texture	Maximum total seasonal rate
Field corn	Coarse	250 mL/ha
	Medium to Fine	493 mL/ha
Soybean	Coarse	250 mL/ha
	Medium to Fine	493 mL/ha
Mint	All soil textures	180 mL/ha
Potatoes Sunflower Dry field peas Chickpeas Lentils	All soil textures	240 mL/ha

The growing season for **ZIDUA SC** is defined as the period following the harvest of the preceding crop through the harvest of the planned or current crop.

4. **DO NOT** enter or allow worker entry into treated areas during the restricted entry interval of 12 hours.

5. **DO NOT** contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.
6. As this product is not registered for the control of pests in aquatic systems, **DO NOT** use to control aquatic pests.
7. In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to: reduced pest efficacy or increased host crop injury. The user should contact BASF at 1-877-371-2273 or www.agsolutions.ca for information before mixing any pesticide or fertilizer that is not specifically recommended on this label.

BUFFER ZONES

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.

DO NOT apply using aerial application equipment.

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

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands).

Method of application	Crop	Buffer Zones (metres) Required for the Protection of:		
		Freshwater Habitat of Depths:		Terrestrial habitat
		Less than 1 m	Greater than 1 m	
Field sprayer	Sunflowers Field and seed corn Soybeans Lentils Dry field peas Chickpeas Peanuts Potatoes Mint	5	3	1

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE S572.1) category indicated on the labels for those tank mix partners.

The spray buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Spray Buffer Zone Calculator on the Pesticides portion of the Canada.ca website.

RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, **ZIDUA SC** is a Group 15 herbicide. Any weed population may contain or develop plants naturally resistant to **ZIDUA SC** and other Group 15 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 **ZIDUA SC** or other Group 15 herbicide 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 BASF at 1-877-371-2273 or at www.agsolutions.ca.

® All other products listed are registered trademarks of their respective companies.

Container Label

MERGE® ADJUVANT

EMULSIFIABLE CONCENTRATE

A blend of surfactant with petroleum hydrocarbons for application with various herbicides

COMMERCIAL (AGRICULTURAL)

ACTIVE INGREDIENTS: Surfactant blend 50%
Solvent (petroleum hydrocarbons) 50%

REGISTRATION NO. 24702

PEST CONTROL PRODUCTS ACT

**IN CASE OF EMERGENCY ENDANGERING LIFE OR PROPERTY
INVOLVING THIS PRODUCT, CALL DAY OR NIGHT
1-800-454-2673**



WARNING

POISON

SKIN IRRITANT

NET CONTENTS: 4 L to 1000 L

READ THE LABEL AND BOOKLET BEFORE USING

SHAKE WELL BEFORE USING

KEEP OUT OF REACH OF CHILDREN

BASF Canada Inc.
100 Milverton Drive, 5th Floor
Mississauga, Ontario
L5R 4H1
1-877-371-2273

MERGE is a registered trade-mark of BASF Canada Inc.

PRECAUTIONS

1. **KEEP OUT OF REACH OF CHILDREN.**
2. Do not take internally. Harmful if swallowed or absorbed through the skin.
3. Skin irritant. Avoid inhalation of vapour or spray mist and contact with eyes, skin or clothing.
4. Wash thoroughly after handling and before eating, drinking or smoking.
5. Wear protective equipment and clothing including goggles or face shield, gloves (rubber, PVC, neoprene or nitrile), hat, long sleeved shirt, trousers and rubber boots.
6. If clothing becomes contaminated, remove and wash separately from household laundry before re-use.
7. Clean spray equipment thoroughly after use.
8. This product contains an aromatic petroleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning of equipment.

FIRST AID

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. 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 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.

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.

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

TOXICOLOGICAL INFORMATION

This product contains a petroleum distillate. Vomiting may cause aspiration pneumonia. Treat symptomatically.

STORAGE

1. Store in original tightly-closed container and do not allow water to be introduced to this container.
2. Do not ship or store near food, feed, seed or fertilizers.
3. Store product in cool, dry, locked, well ventilated area without floor drain.
4. Herbicides should be shipped or stored separately from other pesticides to avoid cross contamination.
5. Product must be stored at temperatures above 5°C (40°F).

DISPOSAL

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 any further use.

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

For Returnable-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 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.

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.

Booklet

MERGE® ADJUVANT

EMULSIFIABLE CONCENTRATE

A blend of surfactant with petroleum hydrocarbons for application with various herbicides

COMMERCIAL (AGRICULTURAL)

ACTIVE INGREDIENTS: Surfactant blend 50%
 Solvent (petroleum hydrocarbons) 50%

REGISTRATION NO. 24702

PEST CONTROL PRODUCTS ACT

**IN CASE OF EMERGENCY ENDANGERING LIFE OR PROPERTY
INVOLVING THIS PRODUCT, CALL DAY OR NIGHT
1-800-454-2673**



WARNING

POISON

SKIN IRRITANT

NET CONTENTS: 4 L to 1000 L

READ THE LABEL AND BOOKLET BEFORE USING

SHAKE WELL BEFORE USING

KEEP OUT OF REACH OF CHILDREN

BASF Canada Inc.
100 Milverton Drive, 5th Floor
Mississauga, Ontario
L5R 4H1
1-877-371-2273

MERGE is a registered trade-mark of BASF Canada Inc.

DIRECTIONS FOR USE

MERGE Adjuvant is a blend of surfactant and petroleum hydrocarbons designed for use with various herbicide sprays. Refer to the herbicide label for detailed use instructions and restrictions.

MERGE Adjuvant can be used with the following herbicides:

Ares® SN
Armezon®
Eragon®
Facet® L

Heat® LQ
Amity 70 WDG
Odyssey® WDG Herbicide

Poast® Ultra Herbicide
Solo® WDG Herbicide

Product	Tank Mix	Crop(s)	Amount of MERGE Adjuvant	Water Volume (L/ha)	Weeds Controlled
Ares SN	NA	Clearfield Canola (including Clearfield Canola quality <i>Brassica juncea</i>)	0.5%	50 – 100	Labelled broadleaf and grass weeds
	Lontrel 360 OR Lontrel XC	Clearfield Canola	0.5%	50 – 100	Labelled broadleaf and grass weeds
Armezon Herbicide	Aatrex 480 OR Atrazine	Field corn	0.5%	100 – 200	Labelled broadleaf and grass weeds
	Atrazine + Frontier® Max	Field corn	0.25%	100 – 200	Labelled broadleaf and grass weeds
Eragon	NA	Barley, wheat (spring, winter, durum)	1 L/ha	100 – 200	Labelled broadleaf weeds
	Glyphosate	Corn (field, sweet), soybeans	1 L/ha	100 – 200	Labelled broadleaf weeds plus additional weeds
	Glyphosate + Pursuit® Herbicide	Soybeans	1 L/ha	100 – 200	Labelled broadleaf weeds plus additional weeds
Facet L	N/A	Wheat (spring and durum), spring barley, canary seed, canola (all varieties, including conventional, Clearfield ®, LibertyLink® and Roundup Ready®)	0.5 – 1 L/ha	100	Labelled weeds
	Liberty® 150 SN	LibertyLink Canola	0.5 – 1 L/ha	100	Enhanced and more consistent control of cleavers plus labelled weeds

Product	Tank Mix	Crop(s)	Amount of MERGE Adjuvant	Water Volume (L/ha)	Weeds Controlled
	Liberty 150 SN + Centurion	LibertyLink Canola	0.5 L/ha	100	Enhanced and more consistent control of cleavers and annual grasses plus labelled weeds
Heat LQ	NA	Barley, canary seed, chemfallow, chickpea Kabuli, corn (field, sweet), lentils, oats, peas (dried field), soybeans, wheat (spring, durum, winter)	0.5 – 1 L/ha	50 – 100	Labelled broadleaf weeds
	NA	Harvest Aid: canola (all types), dry common beans, flax, lentils (red lentil varieties only), mustard (all classes), peas (dried field), soybeans, sunflower	0.5 – 1 L/ha	200 ground; 50 aerial	Crop dry down
	N/A	Pre-harvest weed management: barley (spring, winter, malting), triticale, wheat (durum, spring, winter)	0.5 – 1 L/ha	100 – 200 ground; 50 aerial	Improved dry down of labelled weeds
	Glyphosate	Barley, canary seed, chemfallow, chickpeas, corn (field, sweet), oats, peas (dried field), lentils, wheat (spring, durum, winter), soybeans	0.5 – 1 L/ha	50 - 100	Labelled broadleaf weeds plus additional weeds

Product	Tank Mix	Crop(s)	Amount of MERGE Adjuvant	Water Volume (L/ha)	Weeds Controlled
	Glyphosate	Harvest Aid: canola (all types), dry common beans, flax, lentils (red lentil varieties only), mustard (all classes), peas (dried field), soybeans	0.5 – 1 L/ha	100 – 200	Crop dry down
	Glyphosate	Pre-harvest weed management: barley (spring, winter, malting), triticale, wheat (durum, spring, winter)	0.5 – 1 L/ha	100 – 200	Improved dry down of labelled weeds
Amity 70 WDG	NA	Clearfield Canola (including canola quality <i>Brassica juncea</i>)	0.5%	100	Labelled broadleaf and grass weeds
	Lontrel Dry	Clearfield Canola	0.5%	100	Labelled broadleaf and grass weeds
Odyssey WDG Herbicide	NA	Field peas, fenugreek (seed uses only), Clearfield Lentils, soybeans (Western Canada only), seedling and established alfalfa grown for seed, bird's foot trefoil (seed production)	0.5%	50 – 100	Labelled broadleaf and grass weeds
Poast Ultra Herbicide	NA	Various crops as labelled	0.25 – 2.0 L/ha	25 – 200	Labelled grass weeds
	Buctril® M	Flax (including low linolenic acid varieties)	0.5 – 2.0 L/ha	50 – 200	Labelled weeds plus additional weeds as listed
	Logic® M				
	Lontrel 360				
	Lontrel 360 + MCPA Ester				
	MCPA Ester	Canola (rapeseed)	0.5 – 2.0 L/ha	50 – 200	Labelled weeds plus additional weeds as listed
	Muster® + Lontrel 360				
	Lontrel 360				
	Muster	Dry peas	1.0 L/ha	50 – 100	Labelled weeds plus additional weeds as listed
	Pursuit® 240				
	Liberty 150 SN	Glufosinate tolerant canola (e.g. canola varieties with the LibertyLink symbol)	1.0 L/ha	50 – 100	Labelled weeds plus additional weeds as listed
Solo WDG Herbicide	NA	Clearfield Sunflowers, Clearfield Lentils	0.5%	100	Labelled broadleaf and grass weeds

MIXING

1. Thoroughly clean the sprayer prior to use. **For appropriate cleaning instructions, refer to the label of the product sprayed previously.**
2. Fill spray tank half full with clean water. Start agitation system.
3. Add the correct amount of herbicide(s) and MERGE Adjuvant and continue filling.
4. After filling, continue agitation.

SPRAYER CLEAN-OUT

Follow the following steps and consult each herbicide label used:

1. Immediately after use, thoroughly clean the sprayer by completely filling spray tank with clean water while adding 1 litre of ammonia (containing 3% ammonia) per 100 litres of water. Agitate to mix water and ammonia. Reduce amount of ammonia added proportionally if higher concentrations of ammonia are used. Flush solution through boom and nozzles and then add more water to completely refill the tank. Agitate the solution for at least 15 minutes and then flush the boom and nozzles until the spray tank is empty.
2. Remove the nozzles and screens and clean separately in a bucket containing a cleaning agent and water.
3. Fill spray tank half full with clean water.
4. Agitate to thoroughly rinse the tank and flush the water through the boom.

PRECAUTIONS

1. **KEEP OUT OF REACH OF CHILDREN.**
2. Do not take internally. Harmful if swallowed or absorbed through the skin.
3. Skin irritant. Avoid inhalation of vapour or spray mist and contact with eyes, skin or clothing.
4. Wash thoroughly after handling and before eating, drinking or smoking.
5. Wear protective equipment and clothing including goggles or face shield, gloves (rubber, PVC, neoprene or nitrile), hat, long sleeved shirt, trousers and rubber boots.
6. If clothing becomes contaminated, remove and wash separately from household laundry before re-use.
7. Clean spray equipment thoroughly after use.

8. This product contains an aromatic petroleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning of equipment.

FIRST AID

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. 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 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.

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.

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TOXICOLOGICAL INFORMATION

This product contains a petroleum distillate. Vomiting may cause aspiration pneumonia. Treat symptomatically.

STORAGE

1. Store in original tightly-closed container and do not allow water to be introduced to this container.
2. Do not ship or store near food, feed, seed or fertilizers.
3. Store product in cool, dry, locked, well ventilated area without floor drain.
4. Herbicides should be shipped or stored separately from other pesticides to avoid cross contamination.
5. Product must be stored at temperatures above 5°C (40°F).

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 any further use.

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

For Returnable-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 information on the 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.

NOTICE TO USER

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All other products listed are trademarks or registered trademarks of their respective companies.