

Container Label

GROUP	14	HERBICIDE
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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 ATTACHED 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 Agricultural Solutions Canada Inc.
510 - 28 Quarry Park Blvd. SE
Calgary, Alberta T2C 5P9
1-877-371-2273

HEAT is a registered trade-mark of BASF SE, used under license by BASF Agricultural
Solutions 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.

DO NOT enter or allow worker entry into treated areas for 12 hours after application.

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 to agricultural crops when the potential for drift to areas of human habitation and 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. Refer to attached booklet for complete environmental precautions.

STORAGE

Store this product away from food or feed. 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.

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/territorial requirements.

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial/territorial regulatory agency. Contact the manufacturer and the provincial/territorial 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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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, 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.

DO NOT enter or allow worker entry into treated areas for 12 hours after application.

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 to agricultural crops when the potential for drift to areas of human habitation and 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.

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.

4.0 ENVIRONMENTAL PRECAUTIONS

TOXIC to non-target terrestrial plants. Observe spray buffer zones specified under Directions for Use.

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 filter strip between the treated area and the edge of the water body.

5.0 STORAGE

Store this product away from food or feed. 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.

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.

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

Returnable Containers

DO NOT reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

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/territorial regulatory agency. Contact the manufacturer and the provincial/territorial 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 bromegrass, 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 and for pre-harvest weed management in the following crops:

• Barley (including feed varieties) ¹
• Canola (all types)
• Chickpeas
• Dry common beans
• Faba beans
• Flax
• Lentils (red lentil varieties only) ²
• Mustard ³
• Peas (dried field)
• Soybeans
• Sunflower

<ul style="list-style-type: none"> • Triticale¹
<ul style="list-style-type: none"> • Wheat (including durum, spring and winter wheat)¹

¹ Pre-harvest weed management only.

² Always tank mix **HEAT LQ** with glyphosate when applying as a desiccant to red lentils.

³ All classes, including brown, oriental, canola quality *Brassica juncea*, *Brassica juncea* varieties with the **Clearfield®** trait, and yellow mustard.

9.0 DIRECTIONS FOR USE

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.

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

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 PRE-HARVEST WEED MANAGEMENT AND CROP DESICCATION

Pre-harvest Weed Management

HEAT LQ may be applied as a pre-harvest treatment in select crops to improve dry down of volunteer canola (all types including Roundup Ready), cleavers, common ragweed, Canada fleabane, Canada thistle, lamb's-quarters, redroot pigweed and wild buckwheat, and to facilitate direct combining. Early application may result in yield and/or seed quality loss.

Crop Desiccation

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. Apply when seed moisture is less than 30% in the least mature parts of the field.

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 Agricultural Solutions Canada Inc. ("BASF") representative for further information on the timing of harvest after a pre-harvest application.

Application Rates

HEAT LQ may be applied in tank mix with glyphosate for improved crop dry down and additional pre-harvest weed control.

Uniformly apply **HEAT LQ** as a broadcast spray by air or ground. Use higher rates for dense crop stands and/or higher weed pressure. Refer to Section 9.2, **Crop Specific Recommendations**, for detailed use instructions, as well as recommendations on tank mixing with glyphosate.

Crop	HEAT LQ Rate (mL/ha)	Water Volume L/ha	Pre-Harvest Treatment
Canola (all types), chickpeas, dry common beans, faba beans, flax, lentils ¹ , mustard ² , peas (dried field), soybeans, and sunflower	106	200 (ground) minimum 50 (aerial)	Crop desiccation and pre-harvest weed management

Crop	HEAT LQ Rate (mL/ha)	Water Volume L/ha	Pre-Harvest Treatment
Wheat (including durum, spring, and winter wheat), barley and triticale	73 – 106	100 – 200 (ground) minimum 50 (aerial)	Pre-harvest weed management

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.

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.

Aerial Application

HEAT LQ can be used for aerial application when used as a desiccant or for pre-harvest weed management in registered crops.

Heat LQ may only be applied in tank mix with glyphosate by aerial application in the Prairie Provinces (including Peace River Region of B.C.). **This is a Restricted Use. Read and follow all restrictions noted on the glyphosate label for aerial application of glyphosate as a pre-harvest treatment.**

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 S572.1) medium classification. Reduce drift caused by turbulent wingtip vortices. Nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotor-span.

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.

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.

Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-877-371-2273 or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following: Ensure thorough coverage of foliage. Consult nozzle manufacturer's recommendation for spray pressures for specific nozzles.

9.2 CROP SPECIFIC RECOMMENDATIONS – CROP DESICCATION AND PRE-HARVEST WEED MANAGEMENT

This section provides use directions for pre-harvest weed management and crop desiccation in specific crops.

If indicated in the crop-specific table below, **HEAT LQ** may be applied in tank mix with glyphosate for additional pre-harvest weed control and improved crop dry down.

9.2.1 CROP DESICCATION AND PRE-HARVEST WEED MANAGEMENT

DRY COMMON BEANS¹ AND SOYBEANS

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground (100 – 200 L/ha with glyphosate); minimum 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), 80 – 90% of the original leaves have dropped, and seed moisture is less than 30% in the least mature parts of the field.
Weeds Controlled	Improved dry down of volunteer canola (all types including Roundup Ready), cleavers, common ragweed, Canada fleabane, Canada thistle, lamb's-quarters, redroot pigweed and wild buckwheat.

Directions for Use – Ground	Apply using a standard boom sprayer.
Directions for Use – Aerial	Refer to Aerial Application section above for aerial application use and operator precautions.
Remarks	Do not graze or feed treated hay or straw to livestock.
Tank mix with Glyphosate	HEAT LQ may be applied in tank mix with 2.5 L/ha of glyphosate (360 g/L equivalent) for additional pre-harvest weed control.

¹ When tank mixing with glyphosate, consult BASF representative for information on the use on specific varieties of dry common beans.

CHICKPEAS

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground (100 – 200 L/ha with glyphosate); minimum; 50 L/ha aerial
Surfactant/Adjuvant	Add MERGE Adjuvant at a rate of 0.5 – 1 L/ha.
Application Timing	<p>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.</p> <p>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.</p> <p>Seed moisture must be less than 30% in the least mature parts of the field for both Desi and Kabuli chickpeas.</p>
Weeds Controlled	Improved dry down of volunteer canola (all types including Roundup Ready), cleavers, common ragweed, Canada fleabane, Canada thistle, lamb's-quarters, redroot pigweed and wild buckwheat.
Directions for Use – Ground	Apply using a standard boom sprayer.
Directions for Use – Aerial	Refer to Aerial Application section above for aerial application use and operator precautions.
Remarks	Do not graze or feed treated hay or straw to livestock.
Tank mix with Glyphosate	HEAT LQ may be applied in tank mix with 2.5 L/ha of glyphosate (360 g/L equivalent) for additional pre-harvest weed control.

RED LENTILS

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; minimum 50 L/ha aerial
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 and seed moisture is less than 30% in the least mature parts of the field.
Weeds Controlled	Improved dry down of volunteer canola (all types including Roundup Ready), cleavers, common ragweed, Canada fleabane, Canada thistle, lamb's-quarters, redroot pigweed and wild buckwheat.
Directions for Use – Ground	Apply using a standard boom sprayer.
Directions for Use – Aerial	Refer to Aerial Application section above for aerial application use and operator precautions.
Remarks	Apply only to red lentil varieties. Do not graze or feed treated hay or straw to livestock. DO NOT apply HEAT LQ as a stand-alone treatment (always apply in tank mix with glyphosate to red lentils).

FIELD PEAS

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground (100 – 200 L/ha with glyphosate); minimum 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%) and seed moisture is less than 30% in the least mature parts of the field.
Weeds Controlled	Improved dry down of volunteer canola (all types including Roundup Ready), cleavers, common ragweed, Canada fleabane, Canada thistle, lamb's-quarters, redroot pigweed and wild buckwheat.
Directions for Use – Ground	Apply using a standard boom sprayer.
Directions for Use – Aerial	Refer to Aerial Application section above for aerial application use and operator precautions.
Remarks	Treated pea straw may be grazed or fed to livestock.
Tank mix with Glyphosate	HEAT LQ may be applied in tank mix with 2.5 L/ha of glyphosate (360 g/L equivalent) for additional pre-harvest weed control.

SUNFLOWER

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground; minimum 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%.

Weeds Controlled	Improved dry down of volunteer canola (all types including Roundup Ready), cleavers, common ragweed, Canada fleabane, Canada thistle, lamb's-quarters, redroot pigweed and wild buckwheat.
Directions for Use – Ground	Apply using a standard boom sprayer.
Directions for Use – Aerial	Refer to Aerial Application section above for aerial application use and operator precautions.
Remarks	DO NOT apply a tank mix with glyphosate to sunflower. Glyphosate is not registered for this use.

CANOLA (ALL TYPES) AND MUSTARD¹

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground (100 – 200 L/ha with glyphosate); minimum 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 and seed moisture is less than 30% in the least mature parts of the field.
Weeds Controlled	Improved dry down of volunteer canola (all types including Roundup Ready), cleavers, common ragweed, Canada fleabane, Canada thistle, lamb's-quarters, redroot pigweed and wild buckwheat.
Directions for Use – Ground	Apply using a standard boom sprayer.
Directions for Use – Aerial	Refer to Aerial Application section above for aerial application use and operator precautions.
Remarks	It is recommended that the application of HEAT LQ as a desiccant in canola and mustard be made to shatter resistant varieties. 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.
Tank mix with Glyphosate	HEAT LQ may be applied in tank mix with 2.5 L/ha of glyphosate (360 g/L equivalent) for additional pre-harvest weed control.

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

FLAX

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground (100 – 200 L/ha with glyphosate); minimum 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 and seed moisture is less than 30% in the least mature parts of the field.
Weeds Controlled	Improved dry down of volunteer canola (all types including Roundup Ready), cleavers, common ragweed, Canada fleabane, Canada thistle, lamb's-quarters, redroot pigweed and wild buckwheat.
Directions for Use – Ground	Apply using a standard boom sprayer.
Directions for Use – Aerial	Refer to Aerial Application section above for aerial application use and operator precautions.
Tank mix with Glyphosate	HEAT LQ may be applied in tank mix with 2.5 L/ha of glyphosate (360 g/L equivalent) for additional pre-harvest weed control.

FABA BEANS

Rate	106 mL/ha of HEAT LQ + adjuvant
Water Volume	200 L/ha ground (100 – 200 L/ha with glyphosate); minimum 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. Seed moisture should be less than 30% in the least mature parts of the field.
Weeds Controlled	Improved dry down of volunteer canola (all types including Roundup Ready), cleavers, common ragweed, Canada fleabane, Canada thistle, lamb's-quarters, redroot pigweed and wild buckwheat.
Directions for Use – Ground	Apply using a standard boom sprayer.
Directions for Use – Aerial	Refer to Aerial Application section above for aerial application use and operator precautions.
Remarks	Do not graze or feed treated hay or straw to livestock.
Tank mix with Glyphosate	HEAT LQ may be applied in tank mix with 2.5 L/ha of glyphosate (360 g/L equivalent) for additional pre-harvest weed control.

9.2.2 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), cleavers, common ragweed, Canada fleabane, Canada thistle, lamb's-quarters, redroot pigweed and wild buckwheat and to facilitate direct combining. Early application may result in yield loss. Apply when seed moisture is less than 30% in the least mature parts of the field.

HEAT LQ when used alone as a pre-harvest treatment will not affect the seed germination of wheat, barley or triticale if applied according to label recommendations. The tank mix with glyphosate may affect seed germination. Tank mixing with glyphosate is not recommended when harvested grain is to be used for seed.

WHEAT, BARLEY AND TRITICALE*

Rate	73 – 106 mL/ha of HEAT LQ + adjuvant
Water Volume	100 – 200 L/ha ground; minimum 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 in the least mature parts of the field.
Weeds Controlled	Improved dry down of volunteer canola (all types including Roundup Ready), cleavers, common ragweed, Canada fleabane, Canada thistle, lamb's-quarters, redroot pigweed and wild buckwheat.
Directions for Use – Ground	Apply using a standard boom sprayer.
Directions for Use – Aerial	Refer to Aerial Application section 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.
Tank mix with Glyphosate	HEAT LQ may be applied in tank mix with 2.5 L/ha of glyphosate (360 g/L equivalent) for additional pre-harvest weed control in wheat and barley. Tank mixing with glyphosate is not recommended when harvested grain is to be used for seed. * DO NOT apply a tank mix with glyphosate to triticale.

9.3 PRE-SEED, PRE-EMERGENT AND CHEMFALLOW – 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

Weed	Maximum Weed Stage
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

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

9.4.1 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.

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.

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 (Section 9.3).

Use Rate: 53 mL/ha

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

9.5 CROP SPECIFIC RECOMMENDATIONS – PRE-SEED OR PRE-EMERGENT

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 9.3 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 .

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 9.3 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 .

**SEEDLING FORAGE GRASSES AND GRASS GROWN FOR SEED
(seedling creeping red fescue, timothy, bromegrass)**

HEAT LQ may be applied for weed control in seedling creeping red fescue, timothy and bromegrass 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 9.3 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.

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 9.3 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.

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 9.3 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.

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 9.3 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.

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 9.3 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.

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

Crop	PHI (days)
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

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
	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

Improved coverage of the product results in enhanced control of weeds, as well as more consistent crop and weed dry down. Using higher water volumes, smaller nozzle droplet size and higher pressures can aid to increase the overall coverage. The use of 50 mesh screens is recommended to prevent buildup of particles on the screens causing possible pressure loss or nozzle stoppage.

14.0 RESTRICTIONS AND LIMITATIONS

1. Wash sprayer thoroughly after use to avoid damage to the next crop sprayed.
2. DO NOT enter or allow worker entry into treated areas for 12 hours after application.
3. Field corn – Corn forage and silage can be harvested, used as feed or grazed 60 or more days after application of **HEAT LQ**.

4. 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.
5. 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.
6. Creeping red fescue, timothy and bromegrass - forage and hay can be used as feed or grazed immediately after application of **HEAT LQ**.
7. Soybeans may be used as feed or grazed 60 or more days after application of **HEAT LQ**.
8. 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.
9. This product may be tank mixed with registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels, including Directions for Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank mix partner labels, the most restrictive label must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on this label.

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact BASF at 1-877-371-2273 for information before applying any tank mix that is not specifically recommended on this label.

Spray Buffer Zones

A spray buffer zone is NOT required for:

- uses with hand-held application equipment permitted on this label.

The spray 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	Spray 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, bromegrass), wheat (pre-seed or pre-emergent); Chemfallow; Canola, faba beans, flax, lentil, chickpea, soybean, mustard, dried field peas, sunflower, dry	10

Method of application	Crop	Spray Buffer zones (metres) required for the protection of terrestrial habitats	
	common beans, wheat, barley, triticale (harvest aid)		
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

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

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.

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.

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