

GROUP	9	10	HERBICIDES
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MON 78027

Water Soluble Herbicide

AGRICULTURAL

SOLUTION

WARNING EYE IRRITANT



CAUTION POISON

**ACTIVE INGREDIENT: 180 g/L glyphosate acid equivalent;
131 g/L glufosinate ammonium**

REGISTRATION NUMBER 26625 PEST CONTROL PRODUCTS ACT

READ THE LABEL AND ATTACHED BROCHURE BEFORE USING.

NET CONTENTS 10 L

**BAYER CROPSCIENCE INC
Suite 200, 160 Quarry Park Blvd SE
Calgary, Alberta T2C 3G3
1-888-283-6847
www.cropsience.bayer.ca**

2020

Read NOTICE before buying or using. If notice terms are not acceptable, return at once unopened.

In case of an emergency involving this product, Call Bayer CropScience collect, day or night:

Accident/Spills/Medical Emergency..... 1-800-334-7577

For additional information on this or other Bayer CropScience agricultural products, call the Product Support Line at: 1-888-283-6847

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

MAY CAUSE EYE IRRITATION.

HARMFUL IF SWALLOWED.

Avoid contact with eyes or prolonged contact with skin.

Wear goggles or face shield and chemical-resistant gloves when mixing and loading, and during cleanup and equipment repair activities.

For good hygiene practice, wear a long-sleeved shirt and long pants when handling MON 78027 Water Soluble Herbicide.

The restricted entry interval is 12 hours after application for all agricultural uses.

ENVIRONMENTAL HAZARDS

- **TOXIC** to aquatic organisms and non-target terrestrial plants. Observe 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 strip between the treated area and the edge of the water body.

PHYSICAL OR CHEMICAL HAZARDS

Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminum, fibreglass, plastic and plastic-lined steel containers. DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

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.

STORAGE AND DISPOSAL

Avoid contamination of seed, feed, and foodstuffs.
Soak up small amounts of spill with absorbent clays.

RECYCLABLE CONTAINERS:

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

- 1) Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the

- tank.
- 2) Make the empty, rinsed container unsuitable for further use.
If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

RETURNABLE CONTAINERS:

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

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 the 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.

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MON 78027 WATER SOLUBLE HERBICIDE

PRODUCT DESCRIPTION

Water soluble herbicide for non-selective weed control in CROPLAND SYSTEMS.

CROPLAND USES INCLUDE:

In cropping systems before planting or after planting but prior to emergence of all crops including field crops, legume and grass establishments for forage and seed production.

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Accident/Spills/Medical Emergency..... 1-800-334-7577

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ENVIRONMENTAL HAZARDS

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

GENERAL INFORMATION

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT

Glyphosate is not to be applied using hand-wicking or hand-daubing methods.

MON 78027 Water Soluble herbicide, a water soluble liquid, mixes readily with water for application as a foliage spray for the control or destruction of most herbaceous plants. It may be applied through most field type sprayers after dilution and thorough mixing with water in accordance with the booklet instructions.

This herbicide moves from the point of foliage contact through the plant and into the root system. Visible effects on most annual weeds occur within 2 to 5 days. Extremely cool or cloudy weather at treatment time may slow down activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above ground growth and deterioration of underground plant parts.

Delay application until vegetation has emerged to the stages described for control of such vegetation under the annual weed control section of this booklet to provide adequate leaf surface to receive the spray. Plants emerging after application from underground rhizomes or root stocks of perennials will not be affected by the spray and will continue to grow.

Always use the higher rate of this product per hectare within the recommended range when weed growth is heavy or dense, or weeds are growing in an undisturbed (non-cultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

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.

This product does not provide residual weed control. For subsequent residual weed control follow a label approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

Heavy rainfall immediately after application may wash the chemical off the foliage and a repeat treatment may be required. Do not apply if rainfall is forecast for the time of application. Do not mix with any surfactant, pesticide, herbicide oils or any other material other than water unless specified in this booklet. For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

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.

RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, MON 78027 Water Soluble Herbicide is a Group 9 and Group 10

herbicide. Any weed population may contain or develop plants naturally resistant to MON 78027 Water Soluble Herbicide and other Group 9 or Group 10 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 MON 78027 Water Soluble Herbicide or other Group 9 or Group 10 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 Bayer CropScience at 1-888-283-6847 or at www.cropscience.bayer.ca.

MIXING AND APPLICATION

ATTENTION: AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

AVOID DRIFT - EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURING DESIRABLE PLANTS AND CROPS. Do not allow spray mist to drift since even minute quantities of spray can cause severe damage or destruction to nearby crops, plants or other areas on which treatment is not intended, or may cause other unintended consequences. Do not apply when winds are gusty or in excess of 8 km/h or when other conditions, including lesser wind velocities, will allow drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in fine particles (mist) which are more likely to drift.

DO NOT USE IN GREENHOUSES. REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water. Do not contaminate water sources by disposal of wastes or cleaning of equipment.

NOTE: Use of this product in any manner not consistent with this booklet may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

EQUIPMENT INFORMATION

MIXING

For ground type sprayers, fill the spray tank with one-half the required amount of water. Add the proper amount of herbicide (see "**Annual Weed Control**" table) and mix well before adding the remaining portion of water. Placing the filling hose below the surface of the liquid solution will prevent excessive foaming. Removing hose from tank immediately will avoid back siphoning into water source. Use of mechanical agitators may cause excessive foaming. Bypass lines should terminate at the bottom of the tank.

APPLICATION EQUIPMENT

BOOM EQUIPMENT

For control of annual weeds listed on this booklet using conventional boom equipment--Apply this product in 50 to 100 L of clean water per hectare as a broadcast spray using no more than 275 kPa pressure. See "**Annual Weed Control**" section of this booklet for rates to control specific weeds.

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

Airblast or mist blower application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** direct spray above plants to be treated. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side. For airblast applications, turn off outward pointing nozzles at row ends and outer rows.

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 S572.1) coarse 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 rotorspan.

Buffer Zones:

Use of the following spray methods or equipment **DO NOT** require a buffer zone: hand-held or backpack sprayer and spot treatment, inter-row hooded sprayer, low-clearance hooded or shielded sprayers that ensure spray drift does not come in contact with orchard crop fruit or foliage, soil drench and soil incorporation.

For application to rights-of-way and for forestry uses, buffer zones for protection of sensitive terrestrial habitats are not required; however, the best available application strategies which minimize off-site drift, including meteorological conditions (for example, wind direction, low wind speed) and spray equipment (for example, coarse droplet sizes, minimizing height above canopy), should be used. Applicators must, however, observe the specified buffer zones for protection of sensitive aquatic habitats.

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) and sensitive aquatic habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, wetlands and estuarine/marine water bodies).

Agricultural and non-cropland systems	Maximum number of applications	Buffer Zones (metres) Required for the Protection of:	
		Aquatic habitats	Terrestrial habitats

Agricultural and non-cropland systems	Maximum number of applications	Buffer Zones (metres) Required for the Protection of:	
		Aquatic habitats	Terrestrial habitats
Agricultural crop system and ground boom application method			
Pre-seeding applications for rye, cranberry, filberts, hazelnut and all other crops. Established pasture and summer fallow. Ginseng new garden.	1	1	1
Ginseng - existing established garden, Canola – Roundup Ready hybrid for seed production	2	1	1
Filberts or hazelnut, sugar beets (glyphosate tolerant varieties)	4	1	1
Corn (glyphosate non-tolerant varieties including grain, silage and ornamental types), sugar beet (glyphosate non-tolerant varieties), strawberry, blueberry highbush and lowbush, walnut, chestnut, Japanese heartnut, Turf grass (prior to establishment or renovation)	2	1	2
Wheat, barley, oats, soybean (glyphosate non-tolerant varieties), corn-sweet (glyphosate tolerant varieties), canola (glyphosate non-tolerant varieties), peas, dry beans, flax (including low linoleic acid varieties), lentils, chickpea, lupin (dried), fava bean (dried), mustard (yellow/white, brown, oriental), pearl millet, sorghum (grain) (not for use as a forage crop), asparagus, corn (glyphosate tolerant varieties), forage grasses and legume including seed production	3	1	2
Canola (glyphosate tolerant varieties), soybean (glyphosate tolerant varieties)	4	1	2
Apple, apricot, cherry (sweet/sour), peaches, pears, plums, grapes	3	1	3
Agricultural crop system and airblast application method (including mist blower)			
Pasture	1	20	30
Turfgrass (Prior to establishment or renovation)	2	25	35

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.

The buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Pest Management Regulatory Agency web site.

WEEDS CONTROLLED

This product controls many annual grasses and broadleaf weeds when applied as recommended and under conditions described. For information on how to control specific weeds including herbicide rate refer to the "**Annual Weed Control**" section of this label. The following is a partial list of weeds controlled:

ANNUAL WEEDS

Annual Grasses

Blue Grass (annual)

Poa annua

Crab Grass

Digitaria sanguinalis

Downy Brome

Bromus tectorum

Giant Foxtail

Setaria faberii

Green Foxtail

Setaria viridis

Persian Darnel

Lolium persicum

Volunteer Barley

Hordeum spp.

Volunteer Corn

Zea mays

Volunteer Wheat (including glyphosate tolerant varieties)

Triticum spp.

Wild Oats

Avena fatua

Annual Broadleaf Weeds

Fleabane (Canada)

Erigeron canadensis

Flixweed

Descurania sophia

Hemp-nettle

Galeopsis tetrahit

Kochia

Kochia scoparia

Lady's-Thumb

Polygonum persicaria

Lamb's-Quarters (common)

Chenopodium album

Narrow-leaved Hawk's-Beard

Crepis tectorum

Narrow-leaved Vetch

Vicia angustifolia

Prickly Lettuce

Lactuca scariola

Ragweed (common)

Ambrosia artemisiifolia

Redroot Pigweed

Amaranthus retroflexus

Russian Thistle

Salsola pestifer

Shepherd's-Purse

Capsella bursa-pastoris

Sowthistle (annual)

Sonchus oleraceus

Stinkweed

Thlaspi arvense

Volunteer Canola (including glyphosate tolerant varieties)

Brassica spp

Volunteer Flax

Linaria spp

Wild Buckwheat

Polygonum convolvulus

Wild Mustard

Sinapsis arvensis

ANNUAL WEED CONTROL

The following table provides rates and specific application instructions for control of the annual weeds listed.

ANNUAL WEED CONTROL WITH MON 78027 WATER SOLUBLE HERBICIDE

RATE (L/HA)	GROWTH STAGE	WEEDS CONTROLLED	RATE (L/HA)
2.5-3.75	weeds up to 15 cm in height	<p>Wild oats, green foxtail, volunteer barley, volunteer wheat (including volunteer Roundup Ready wheat*), downy brome, giant foxtail, Persian darnel</p> <p>Volunteer canola (including volunteer Roundup Ready canola), wild mustard, lady's-thumb, stinkweed, flixweed, common lamb's-quarters, redroot pigweed, hemp-nettle, Russian thistle, volunteer flax, common ragweed**, Canada fleabane**, wild buckwheat***, narrow-leaved hawk's-beard****</p>	<p>* Apply a minimum of 3.1 L/ha at the 1-4 leaf stage (maximum 2-tillers) of volunteer Roundup Ready wheat</p> <p>** DO NOT use these rates on plants greater than 8 cm in height</p> <p>*** For 3 - 4 leaf stage use 3.75 L/ha rate</p> <p>**** For weeds 8 - 15 cm in height, use 3.75 L/ha rate</p>
4.5	weeds up to 15 cm in height	<p>all weeds above plus: crab grass, annual blue grass</p> <p>Prickly lettuce, shepherd's-purse, kochia, annual sow thistle, and narrow-leaved vetch</p>	

Additional Important Information for Annual Weed Control

Allow at least one day after treatment before tillage.

Annual weeds generally will continue to germinate from seed throughout the growing season. Repeat treatments may be necessary to control later germinating weeds, in some situations.

For additional information and precautions, refer to the "**General Information**" and "**Mixing and Application**" sections of this label.

CROPLAND USES

This product can be applied as a broadcast spray prior to planting all crops, **For specific instructions on weed control in the following cropping situations, always refer to the Annual Weed Control section for more information.**

Prior to / or after planting - All field crops

This product may be applied prior to planting of all crops, or after planting but prior to emergence of all crops for control of emerged weeds listed on this label. Ensure weeds are at the desired stage at the time of application. This product does not provide residual weed control, therefore applications made too far in advance of seeding may allow weeds to emerge between application and seeding or crop emergence.

Forage Legumes and Grasses

This product may be applied for control of emerged weeds prior to emergence of forage legumes and grasses. If the forages are to be under-seeded with a cover crop, this product must be applied prior to planting the cover crop.