

2011-0995
2012-11-09

GROUP 14 HERBICIDE

**Flumioxazin 51WDG Pulse Herbicide
(A Component of PULSE PLUS™ Herbicide Tank Mix)**

AGRICULTURAL

Water Dispersible Granule Herbicide

This component must be used in the PULSE PLUS Herbicide Tank Mix
For pre-harvest weed control in peas

GUARANTEE:

Flumioxazin.....51.1%

**KEEP OUT OF REACH OF CHILDREN
READ THE LABEL AND BOOKLET BEFORE USE**



CAUTION

POISON

Warning: This product contains the allergen sulfites

REGISTRATION NO.: 30630
PEST CONTROL PRODUCTS ACT

NET CONTENTS: 0.78 kg, 8.94 kg, 35 kg

Valent Canada Inc.
6-130 Research Lane
Guelph, Ontario
N1G 5G3
www.valent.ca
1-800-682-5368

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. The user assumes the risk to persons or property that arises from any such use of this product.

FIRST AID

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

IF 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 the person to fresh air. If the 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 SWALLOWED: Call a poison control centre or doctor immediately for treatment advice. Have the 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.

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

TOXICOLOGICAL INFORMATION

There is no specific antidote for this product. Apply symptomatic therapy.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

Harmful if inhaled. Avoid breathing dust and spray mist. Avoid contact with skin, eyes or clothing.

Do not eat, drink or smoke during work. Wash hands and face thoroughly before eating, drinking, smoking, chewing gum, or using the toilet. Remove clothing immediately if pesticide gets inside. Immediately wash off accidental splashes of the concentrate or spray mixture from skin, clothing and out of eyes. After work, change clothing and wash entire body thoroughly. Wash contaminated working clothes separately from other laundry before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Mixer/Loader, Clean up and Repair Activities

Wear chemical resistant coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, socks and shoes, and goggles or face shield.

Applicator

Open cab – wear coveralls over long-sleeved shirt, long pants, socks and shoes, and chemical-resistant gloves, and respirator with a NIOSH/MSHA/BHSE approved organic vapour-removing cartridge with a prefilter approved for pesticides, or a NIOSH/MSHA/BHSE approved canister approved for pesticides

Closed cab – long-sleeved shirt, long pants, socks and shoes. (No gloves are required, but must be present in the cab for maintenance)

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic organisms and terrestrial plants, small wild mammals and certain beneficial insects. Observe a buffer zone of 15 m in applications of PULSE PLUS Herbicide Tank Mix. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application site such as hedgerows and woodland. 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.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's website at: www.croplife.ca

Read and understand the entire label before opening this product. If you have any questions, call the manufacturer at 1-800-682-5368 or obtain technical advice from the distributor or your provincial agricultural representative.

STORAGE

Do not contaminate water, food or feed by storage. Keep pesticide in original container. Store in a cool, dry, secure place. Do not put formulation or dilute spray solution into food or drink containers. Do not store or transport near feed or food. Not for use or storage in or around the home. To prevent contamination, store this product away from food or feed.

DISPOSAL

CONTAINER DISPOSAL OR REFILLING: FOR DISPOSAL OF PLASTIC JUGS:

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

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

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

FOR REFILLABLE CONTAINERS:

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

***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING,
CALL 1-800-682-5368***

GROUPS	9	14	HERBICIDES
--------	---	----	------------

PULSE PLUS™ Herbicide

Tank Mix

AGRICULTURAL

For Fall Application to Control Labelled Annual and Perennial Grasses and Broadleaf Weeds Prior to Planting Field Peas in the Following Spring

For information regarding **PULSE PLUS Herbicide Tank Mix** contact:

Syngenta Canada, Inc.

140 Research Lane, Research Park

Guelph, ON N1G 4Z3

Telephone: 1-877-964-3682

This Tank Mix Concept contains:

TOUCHDOWN® Pulse Herbicide

GROUP	9	HERBICIDE
-------	---	-----------

Registration Number: 30629

Pest Control Products Act

GUARANTEE: Glyphosate (present as potassium salt) 500 a.e.g/L
SOLUTION

Syngenta Canada, Inc.

140 Research Lane, Research Park

Guelph, Ontario N1G 4Z3

Flumioxazin 51WDG Pulse Herbicide

GROUP	14	HERBICIDE
-------	----	-----------

Registration Number: 30630

Pest Control Products Act

GUARANTEE: Flumioxazin 51.1%
WATER DISPERSIBLE GRANULES

Valent Canada, Inc.

6-130 Research Lane

Guelph, Ontario N1G 5G3

**KEEP OUT OF REACH OF CHILDREN
READ THE LABELS AND THIS BOOKLET BEFORE USING**



CAUTION

POISON

CAUTION: EYE AND SKIN IRRITANT

Warning: This product contains the allergen sulfites

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. The user assumes the risk to persons or property that arises from any such use of this product.

FIRST AID

IF POISONING IS SUSPECTED, call **1-800-327-8633 (FASTMED)**, or contact a physician or poison control centre **IMMEDIATELY**. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

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 in eyes, hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

If 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.

TOXICOLOGICAL INFORMATION

There is no specific antidote if this product is ingested. Treat symptomatically.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

Harmful if inhaled. Avoid breathing dust and spray mist. Avoid contact with skin, eyes or clothing.

Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke during work. Wash hands and face thoroughly before eating, drinking, smoking, chewing gum, or using the toilet. Remove clothing immediately if pesticide gets inside. Immediately wash off accidental splashes of the concentrate or spray mixture from skin, clothing and out of eyes. After work, change clothing and wash entire body thoroughly. Wash contaminated working clothes separately from other laundry before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Mixer/Loader, Clean up and Repair Activities

Wear chemical resistant coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, socks and shoes, and goggles or face shield.

Applicator

Open cab – wear coveralls over long-sleeved shirt, long pants, socks and shoes, and chemical-resistant gloves, and respirator with a NIOSH/MSHA/BHSE approved organic vapour-removing cartridge with a prefilter approved for pesticides, or a NIOSH/MSHA/BHSE approved canister approved for pesticides

Closed cab – long-sleeved shirt, long pants, socks and shoes. (No gloves are required, but must be present in the cab for maintenance)

ENVIRONMENTAL HAZARDS

This product is highly toxic to aquatic and terrestrial plants, small wild animals and certain beneficial insects. Overspray or drift to sensitive habitats should be avoided. A buffer zone of 15 metres is required between the downwind point of direct application and the closest edge of sensitive terrestrial habitats, including forested areas, shelterbelts, woodlots, hedgerows, pastures, rangelands, shrublands sloughs, coulees, ponds, Prairie potholes, irrigation or drinking water supplies, lakes, rivers, streams, reservoirs and wetlands and wildlife habitat at the edge of these bodies of water. Do not contaminate these habitats when cleaning and rinsing spray equipment or containers. Avoid application to areas with a moderate to steep slope, compacted soil, or clay to reduce runoff. 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. 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.

DO NOT apply during periods of dead calm or 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.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's web site at www.croplife.ca.

STORAGE

Spray solutions of TOUCHDOWN Pulse Herbicide, a component of PULSE PLUS™ Herbicide Tank Mix, should be mixed, stored and applied only in stainless steel, aluminium, fibreglass, plastic and plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY SPRAY SOLUTIONS OF PULSE PLUS HERBICIDE TANK MIX IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. Spray solutions of PULSE PLUS Herbicide Tank Mix 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.

- Always store in original container with top closed.
- Avoid contamination of seed, feed and foodstuffs.
- Product is not affected by freezing.
- Store in a cool, dry, secure place.

SPILL CLEANUP

Liquid spills on floor or other impervious surfaces should be contained or diked, and should be absorbed with attapulgate, bentonite or other absorbent clays (kitty litter, etc.). Collect contaminated absorbent, place in **plastic-lined metal drum** and dispose of in accordance with instructions provided under DISPOSAL. Thoroughly scrub floor or other impervious surfaces with a strong industrial type detergent solution and rinse with water.

Liquid spills that soak into the ground should be dug-up, placed in **plastic-lined metal drums** and disposed of in accordance with instructions provided under the DISPOSAL section.

Leaking containers should be separated from non-leakers and either the container or its contents transferred to a **plastic-lined metal drum** or other non-leaking container and disposed of by use according to label directions or in accordance with instructions provided under the DISPOSAL section.

DISPOSAL

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

CONTAINER DISPOSAL OR REFILLING:

FOR DISPOSAL OF PLASTIC JUGS:

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

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

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

FOR REFILLABLE CONTAINERS:

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

***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING,
CALL 1-800-327-8633 (FASTMED)***

PRODUCT INFORMATION

The glyphosate component of PULSE PLUS Herbicide Tank Mix move through the weeds from the point of foliage contact into the root system. Visible effects on most annual weeds occur within 2 to 4 days but on most perennial weeds may not occur until 7 to 10 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.

PULSE PLUS Herbicide Tank Mix provides residual control of kochia. Seedlings are controlled pre-emergence when exposed to sunlight following contact with the soil applied herbicide. Do not perform any tillage operations after application or residual weed control will be reduced. The length of residual control will decrease as temperature and precipitation increase and on soils of high organic matter and/or high clay content. Abnormally warm winters may reduce the length of weed control observed in the spring.

DIRECTIONS FOR USE

FIELD PEA – Application Rates and Weed Claims		
Soil Type ¹	RATE	WEEDS CONTROLLED
Coarse-textured, with <5% organic matter	TOUCHDOWN Pulse Herbicide at 1.8 L/ha and Flumioxazin 51WDG Pulse Herbicide at 140 g/ha	<p>Residual control: kochia</p> <p>Post-Harvest Control (post-emergence to weeds)</p> <p>Annual grasses: bluegrass (annual)², crabgrass (large, smooth)², downy brome², giant foxtail², Persian darnel², volunteer barley², volunteer corn², wild oats², volunteer wheat²</p> <p>Perennial Grasses/Sedges: foxtail barley³, quackgrass⁴, wirestem muhly⁵</p> <p>Annual Broadleaf Weeds: cleavers², fleabane (Canada)², flixweed², hemp-nettle², kochia², lady's-thumb², lamb's-quarters², narrow-leaved hawk's-beard², narrow-leaved vetch², non-glyphosate tolerant volunteer canola², prickly lettuce², ragweed (common)², redroot pigweed², shepherd's-purse², sowthistle (annual)², stinkweed², volunteer flax², wild buckwheat², wild mustard²</p> <p>Perennial Broadleaf Weeds: alfalfa⁵, chickweed (mouse-eared)⁵, cottontop, dandelion (Canada)⁶, goldenrod (Canada)⁵, horsetail⁵, milkweed (common)⁷, plantain (broad-leaved)⁵, sheep sorrel⁵, thistle (Canada)⁸, wild grape⁵</p>
Medium-textured, with <5% organic	TOUCHDOWN Pulse Herbicide at 2.7 L/ha and	<p>Residual control of: kochia</p> <p>Post-Harvest Control (post-emergence to weeds)</p> <p>Annual grasses: bluegrass (annual), crabgrass (large, smooth),</p>

matter	Flumioxazin 51WDG Pulse Herbicide at 210 g/ha	downy brome, giant foxtail, Persian darnel, volunteer barley, volunteer corn, wild oats, volunteer wheat Perennial Grasses/Sedges: foxtail barley, quackgrass ⁹ , wirestem muhly Annual Broadleaf Weeds: cleavers, fleabane (Canada), flixweed, hemp-nettle, kochia, lady's-thumb, lamb's-quarters, narrow-leaved hawk's-beard, narrow-leaved vetch, non-glyphosate tolerant volunteer canola, prickly lettuce, ragweed (common), redroot pigweed, shepherd's-purse, sowthistle (annual), stinkweed, volunteer flax, wild buckwheat, wild mustard Perennial Broadleaf Weeds: alfalfa, chickweed (mouse-eared), cottontop, dandelion (Canada), goldenrod (Canada), horsetail, milkweed (common) ⁷ , plantain (broad-leaved), sheep sorrel, thistle (Canada) ⁸ , wild grape
Application Timing	Application should be made in the fall, just before freeze-up and when winter annuals and perennial weeds are still growing to allow for optimum herbicide absorption and activity. Applications made after a killing frost will result in reduced perennial and winter annual weed control. A minimum of 6 months must pass between PULSE PLUS Herbicide Tank Mix application and planting. Do not apply to snow covered or frozen soil.	
<ul style="list-style-type: none"> • Use appropriate water volumes (50-100L) to ensure good spray coverage. • Do not graze treated fields or feed treated forage or hay to livestock. • The maximum amount of Flumioxazin 51WDG Pulse Herbicide (a component of PULSE PLUS Herbicide Tank Mix) handled per day is 44 kg. • Do not treat more than 314 hectares per day. • Do not enter or allow worker entry into treated areas until the restricted entry interval of 12 hours has passed. • Do not apply to fine-textured soils, powdery soils or soils that are susceptible to wind displacement unless irrigation can be applied immediately after application. • Do not apply to farm alleys or roads where traffic may result in treated dust settling onto crops or other desirable vegetation. • Do not apply within 100 metres of non-dormant pears. • Approximately 2 cm of moisture is necessary to activate PULSE PLUS Herbicide Tank Mix. 		

¹: Do not apply on soils with > 5% OM, or fine-textured soils.

²: Weeds up to 15 cm in height.

³: For control of smaller plants, low infestations only, and if plants are actively growing.

⁴: For season-long control the following year. Plants should have 3-5 green leaves (approx. 20 cm high). At this rate, inconsistent control may be observed especially with heavier infestations and/or higher water volumes (i.e. 150-300 L/ha).

⁵: Plants up to 8 cm in height only; low infestations only.

⁶: < 15 cm.

⁷: Bud to full bloom.

⁸: Rosette stage only.

⁹: For season-long control the following year. Plants should have 3-5 green leaves (approx. 20 cm high).

Apply using groundboom application equipment only.

Do not apply by air.

ROTATIONAL CROP RESTRICTIONS

Only field peas may be planted in the spring following a fall application of PULSE PLUS Herbicide Tank Mix.

APPLICATION INFORMATION

Before Spraying:

Before applying PULSE PLUS Herbicide Tank Mix, start with clean, well maintained application equipment. Nozzles should be uniformly spaced on the boom and frequently checked for accuracy.

Mixing Instructions:

1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water.
2. While agitating, slowly add the required amount of Flumioxazin 51WDG Pulse Herbicide to the spray tank. If using a chemical handler to inject Flumioxazin 51WDG Pulse Herbicide into the spray tank, use a pre-slurry of 20 liters of water to 2.27 kg of Flumioxazin 51 WDG Pulse Herbicide.
3. Continue agitation. Agitation should create a rippling or rolling action on the water surface.
4. Add the required amount of TOUCHDOWN Pulse Herbicide.
5. Fill spray tank to desired level with water. **Agitation should continue until spray solution has been applied.**
6. Mix only the amount of spray solution that can be applied the day of mixing, as reduced activity may result from use of leftover solution. PULSE PLUS Herbicide Tank Mix should be applied within 6 hours of mixing.

After Spraying:

Spray equipment used to apply PULSE PLUS Herbicide Tank Mix should not be used to apply other materials to any plant foliage. Equipment with PULSE PLUS Herbicide Tank Mix residues remaining in the system may result in crop injury to the subsequently treated crop.

After PULSE PLUS Herbicide Tank Mix is applied, the following steps must be used to clean the spray equipment:

1. Completely drain the spray tank, rinse the sprayer thoroughly, including the inside and outside of the tank and all in-line screens. Fill the spray tank with clean water and flush all hoses, booms, screens and nozzles.
2. Top off tank, add 4 L of 3% household ammonia for every 400 L of water, circulate through sprayer for 5 minutes, and then flush all hoses, booms, screens and nozzles for a minimum of 15 minutes.
3. Drain tank completely.
4. Add enough clean water to the spray tank to allow all hoses, booms, screens and nozzles to be flushed for 3 minutes.
5. Remove all nozzles and screens and rinse them with clean water.
6. Do not contaminate water, food or feed by cleaning of equipment.

Resistance-Management Recommendations

For resistance management, PULSE PLUS Herbicide Tank Mix contains both a Group 9 and a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to PULSE PLUS Herbicide Tank Mix and other Group 9 and 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 PULSE PLUS Herbicide Tank Mix or other Group 9 or Group 14 herbicides 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.

Herbicide use should be based on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.

Monitor treated weed populations for resistance development. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.

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 company representatives at 1-87-SYNGENTA (1-877-964-3682) or at www.syngenta.ca.

PULSE PLUS™ and TOUCHDOWN® are trademarks of a Syngenta Group Company