Piper® Herbicide

For control and/or suppression of certain weeds to maintain bare ground on non-crop areas.

Active Ingredient By Wt
Flumioxazin* .................................................. 33.5%
Pyroxasulfone** .................................................. 42.5%
Other Ingredients ........................................... 24.0%
Total ................................................................. 100.0%

* 2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isindole-1,3(2H)-dione
** 3-[[5-(difluoromethoxy)-1-methyl-3-(trifluoromethyl)-1H-pyrazol-4-yl]methyl]sulfonyl]-4,5-dihydro-5,5-dimethylisoxazole

Piper® Herbicide is a water dispersible granule containing 76% active ingredient.
CAS No. 447399-55-5

EPA Reg. No. 59639-193
EPA Est. 11773-IA-1®, 39578-TX-1®
Superscript is first letter of lot number.

KEEP OUT OF REACH OF CHILDREN
CAUTION
SEE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS

NET WEIGHT 3 POUNDS 12 OUNCES
HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION
Avoid contact with skin, eyes or clothing. Causes moderate eye irritation.

FIRST AID
If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center 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 center or doctor for treatment advice.
If swallowed: Call a poison control center 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

HOT LINE NUMBER
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 800-852-0099 for emergency medical treatment information.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standards (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

PERSONAL PROTECTIVE EQUIPMENT (PPE):
Some of the materials that are chemical-resistant to this product are listed below.

Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, shoes and socks. Follow manufacturer’s instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS
- Users should wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.
- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS:
This product is toxic to non-target plants and aquatic invertebrates. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwaters.

This pesticide is toxic to plants and should be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Ground Water Advisory: This chemical has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

Surface Water Advisories: Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

The product may impact surface water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a high potential for reaching surface water via runoff for several months or more after application. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce potential loading of pyroxasulfone and its degradation product, 5-difluoromethoxy-1H-pyrazol-4-yl)methanesulfonic acid (M1), from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

DIRECTIONS FOR USE
It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

NON-AGRICULTURAL USE REQUIREMENTS
The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standards for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forest, nurseries, or greenhouses.

Keep all unprotected persons out of operating areas, or vicinity where there may be drift.

Do not enter or allow others to enter treated areas until sprays have dried.
LIMITED WARRANTY

Valent warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label and subject to the Risks of Using This Product as described above. To the extent consistent with applicable law, ANY OTHER EXPRESS OR IMPLIED WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT OR, AT THE ELECTION OF VALENT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

LIMITATION OF LIABILITY

To the fullest extent consistent with applicable law, Valent or Seller is not liable for any incidental, consequential or special damages resulting from the use or handling of this product. The limitation includes, but is not limited to, loss of yield on all or any portion of the treated acreage, increased care, treatment or other expenses required to take the crop to harvest, increased finance charges or altered finance ratings, emotional or mental distress and/or exemplary damages. TO THE FULLEST EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF VALENT OR SELLER FOR ANY AND ALL CLAIMS, LOSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT OR, AT THE ELECTION OF VALENT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

DISCLAIMER, RISKS OF USING THIS PRODUCT, LIMITED WARRANTY AND LIMITATION OF LIABILITY

IMPORTANT: Read the entire Label including this Disclaimer, Risks of Using this Product, Limited Warranty, and Limitation of Liability before using this product. If the terms are not acceptable THEN DO NOT USE THE PRODUCT; rather, return the unopened product within 15 days of purchase for a refund of the purchase price.

RISKS OF USING THIS PRODUCT

The Buyer and User (referred to collectively herein as “Buyer”) of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests or weeds, resistance of the target pest or weeds to this product; injury caused by drift, and injury to rotational crops caused by carryover in the soil. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of Valent U.S.A. LLC. The Buyer should be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product, Buyer acknowledges and accepts these inherent unintended risks. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER. Valent shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

LIMITED WARRANTY

Valent warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label and subject to the Risks of Using This Product as described above. To the extent consistent with applicable law, AND AS SET FORTH ABOVE, VALENT MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED. No agent or representative of Valent or Seller is authorized to make or create any other express or implied warranty.

LIMITATION OF LIABILITY

To the fullest extent consistent with applicable law, Valent or Seller is not liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. The limitation includes, but is not limited to, loss of yield on all or any portion of the treated acreage, increased care, treatment or other expenses required to take the crop to harvest, increased finance charges or altered finance ratings, emotional or mental distress and/or exemplary damages. TO THE FULLEST EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF VALENT OR SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH (continued)
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PRODUCT INFORMATION

Piper Herbicide is a preemergence and early postemergence herbicide for control of selected grass and broad-leaf weeds to maintain bare ground and certain perennial grasses in non-crop areas. The herbicide is most effective when applied to clean, weed-free soil surfaces. The most effective postemergence weed control with Piper Herbicide occurs when applied in combination with a surfactant to weeds less than 2 inches in height. Follow specific site use directions prior to using surfac- tant as certain over the top applications restrict the use of the surfactants.

PRODUCT USE RESTRICTIONS AND PRECAUTIONS FOR NON-CROP AREAS

- **Do not apply more than 10 oz per acre per year by ground application.**
- **Do not rotate to food or feed crops after application to bare ground on non-crop areas.**
- **Do not apply in enclosed greenhouse structures.**
- **Do not apply when weather conditions favor spray drift from treated areas.**
- **Do not incorporate into soil after application.**
- **Do not apply this product through any type of irrigation system.**
- **Do not apply to residential lawns, golf courses, sod farms or production and landscape ornamentals.**
- **Do not apply to areas with adjacent non-dormant pome or stone fruit crops.**
- **Treatment of powdery, dry soil or light sandy soil when there is little to no likelihood of rainfall soon after may result in off target movement and possible damage to actively growing susceptible crops when soil particles are moved by wind or water.**

APPLICATION INFORMATION

SPRAYER PREPARATION

Before applying Piper Herbicide, start with clean, well maintained application equipment. The spray tank, as well as all hoses and booms, must be cleaned to ensure no residue from the previous spraying operation remains in the sprayer. Some pesticides, including but not limited to, the sulfonylureas and phenox herbicides, are active at very small amounts and can cause crop injury when applied to susceptible crops. The spray equipment must be cleaned according to the manufacturer's directions for the last product used before the equipment is used to apply Piper Herbicide. Follow the most restrictive cleanup procedure if two or more products were tank mixed prior to Piper Herbicide application.

MIXING INSTRUCTIONS

1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water.
2. If a drift retardant is to be used, add 10 lbs of spray grade ammonium sulfate per 100 gallons of spray solution.
3. While agitating, slowly add Piper Herbicide to the spray tank. Agitation should create a rippling or rolling ac- tion on the water surface.
4. If tank mixing Piper Herbicide with other labeled herbicides, add water soluble bags first, followed by dry for- mulations, flowables, emulsifiable concentrates and then solutions. Prepare no more spray mixture than is re- quired for the immediate spray operation.
5. Add any required adjuvants.
6. Fill spray tank to desired level with water. Agitation should continue until all spray solution has been applied.
7. Mix only the amount of spray solution that can be applied the day of mixing.

APPLICATION METHOD

Piper Herbicide is applied by ground. Application equipment should be clean and in good repair. Nozzles should be uniformly spaced on boom and frequently checked for accuracy.

GROUND APPLICATION

Apply Piper Herbicide, and Piper Herbicide tank mixes, with ground equipment using standard commercial sprayer- ers equipped with flat fan (preplant or preemergence applications only) designed to deliver the desired spray pressure and spray volume.

CARRIER VOLUME AND SPRAY PRESSURE

When used as part of a burndown or preemergence weed control program, apply Piper Herbicide in a minimum of 7 gallons of water per acre. Application at less than 7 gallons per acre may provide inadequate control. Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

NOZZLE SELECTION AND ORIENTATION

Use nozzles that produce flat or hollow cone spray patterns. Use non-drip type nozzles, such as diaphragm type nozzles, to avoid unwanted discharge of spray solution.

ADJUVANTS AND DRIFT CONTROL ADDITIVES

Refer to tank mix partner's label for adjuvant recommendation. Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather related factors determines the potential for spray drift. The appli- cator and the grower are responsible for considering all factors involved in minimizing drift potential.
Importance of Droplet Size
The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Use nozzle types and nozzle arrangements that will provide maximum coverage and minimize the potential for off-target movement of spray particles. Droplet size for both ground and air applications must be in the “medium” size category as defined in the August 1999 ASAE S352 publication entitled, “Spray Nozzle Classification by Drop Spectra”. Refer to that publication for additional information. Regardless of droplet size, if applications are made improperly or under unfavorable environmental conditions off target movement will occur. (see Wind, Temperature and Humidity, and Temperature Inversion sections in this label).

Controlling Droplet Size
Volume: Use high flow rate nozzles that produce medium droplets to apply the highest practical spray volume.
Pressure: Use the lower spray pressures recommended for the nozzle and do not exceed the manufacturer’s recommended pressure. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are used, use higher flow rate nozzles instead of increasing pressure.
Number of nozzles: Use the minimum number of nozzles that provide uniform coverage.
Nozzle orientation: Orienting nozzles so that the spray is released backwards parallel to the air-stream will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
Nozzle type: Use a nozzle type that is designed for the intended application. Do not use air inducting or flood type nozzles.

Ground Boom Application Height: Applications should not be made at a height greater than 4 feet above the top of the largest plants. Making applications at the lowest possible height reduces exposure of droplets to evaporation and wind.

Wind
Variable wind speeds with changing directions may pose the largest potential for drift damage if crops other than rice are adjacent to the field to be sprayed. Drift potential is lowest between wind speeds of 2 to 8 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application must be avoided if wind speed is below 2 mph due to variable wind direction and high inversion potential. Note: local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

Temperature and Humidity
When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation, but they still should remain within the medium droplet size category. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions
Do not spray at times when spray particles may be entrained into a temperature inversion layer. If inversion conditions are suspected, consult with local weather services before making an application. Applications must not occur during temperature inversion, because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas
The pesticide must only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (i.e., when wind is blowing away from the sensitive areas).

SPRAYER CLEANUP
Spray equipment, including mixing vessels and nurse tanks, must be cleaned each day following Piper Herbicide application. After Piper Herbicide is applied, the following steps must be used to clean the spray equipment:
- 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.
- Top off tank, add 1 gallon of 3% household ammonia (or equivalent) for every 100 gallons of water, circulate through sprayer for 5 minutes, and then flush all hoses, boom, screens and nozzles for a minimum of 15 minutes.

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2. Add 1 g of Piper Herbicide to the quart jar for every 3 oz of Piper Herbicide per acre being applied (2 g if 6 oz/A is the desired Piper Herbicide rate), gently mix until product goes into suspension.

3. Add 60 ml (4 Tbsps or 2 fl oz) of the crop oil or methylated seed oil to the quart jar or 1 ml of non-ionic surfactant if it is being used in place of oil, gently mix.

4. If nitrogen is being used, add 16 ml (1 Tbsp or 0.5 oz) of the 28 to 32% nitrogen source to the quart jar. If ammonium sulfate is being used, add 19 g AMS to the quart jar in place of the 28 to 32% nitrogen.

5. Place cap on jar, invert 10 times, let stand for 15 minutes, evaluate.

6. An ideal tank mix combination will be uniform and free of suspended particles. If any of the following conditions are observed the choice of adjuvant should be questioned:
   a) Layer of oil or globules on the mixture’s surface.
   b) Flocculation: fine particles in suspension or as a layer on the bottom of the jar.
   c) Clabbering: thickening texture (coagulated) like gelatin.

Table 1. Weeds Controlled or Suppressed by Residual Activity of Piper Herbicide

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>C = Control</th>
<th>S = Suppression</th>
</tr>
</thead>
<tbody>
<tr>
<td>BROADLEAF WEED SPECIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bristly Starbur</td>
<td>Acanthospermum hispidum</td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Carpetweed</td>
<td>Mollugo verticillata</td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Chickweeds</td>
<td>Stellaria media</td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Common</td>
<td>Cerastium vulgatum</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>Coffee Senna</td>
<td>Cassia occidentais</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>Common Ragweed</td>
<td>Ambrosia artemisiifolia</td>
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<td>C</td>
</tr>
<tr>
<td>Copperleaf, Hophornbeam</td>
<td>Acalypha ostryfia</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>Dandelion</td>
<td>Taraxacum officinale</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>Eclipta</td>
<td>Eclipta prostrata</td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Eveningprimrose, Cutleaf</td>
<td>Oenothera laciniata</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>Florida Beggarweed</td>
<td>Desmodium tortuosum</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>Florida Pusley</td>
<td>Richardia scabra</td>
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<tr>
<td>Golden Crownbeard</td>
<td>Verbena encelioides</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>Hairy Indigo</td>
<td>Indigofera hirsuta</td>
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<td>S</td>
</tr>
<tr>
<td>Hemp Sesbania</td>
<td>Sesbania exaltata</td>
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<td>C</td>
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<td>Henbit</td>
<td>Lamium amplexicaule</td>
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<td>Jimsonweed</td>
<td>Datura stramonium</td>
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<td>C</td>
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<tr>
<td>Kochia</td>
<td>Kochia scoparia</td>
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<td>C</td>
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<tr>
<td>Lambquarts, Common</td>
<td>Chenopodium album</td>
<td></td>
<td>C</td>
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<tr>
<td>Little Mallow</td>
<td>Malva parviflora</td>
<td></td>
<td>C</td>
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<tr>
<td>Mareesail/Horseweed</td>
<td>Conyza canadensis</td>
<td></td>
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</tr>
</tbody>
</table>

(continued)

Table 1. Weeds Controlled or Suppressed by Residual Activity of Piper Herbicide (continued)

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<td>BROADLEAF WEED SPECIES (continued)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morningglories</td>
<td>Ipomoea hederacea var. integriuscula</td>
<td></td>
<td>C</td>
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<tr>
<td>Ivyleaf</td>
<td>Ipomoea hederacea</td>
<td></td>
<td>C</td>
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<tr>
<td>Red/Scarlet</td>
<td>Ipomoea coccinea</td>
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<tr>
<td>Smallflower</td>
<td>Jacquemontia tannifolia</td>
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<tr>
<td>Tall</td>
<td>Ipomoea purpurea</td>
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<tr>
<td>Mustard, Wild</td>
<td>Brassica kaber</td>
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<tr>
<td>Nightshades</td>
<td>Solanum nigrum</td>
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<tr>
<td>Eastern Black</td>
<td>Solanum ptynanthum</td>
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<tr>
<td>Hairy</td>
<td>Solanum sarrachodes</td>
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<tr>
<td>Palmer Amananth</td>
<td>Amaranthus palmeri</td>
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<tr>
<td>Pigweeds</td>
<td>Amaranthus albuis</td>
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<td>C</td>
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<tr>
<td>Redroot</td>
<td>Amaranthus retroflexus</td>
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<tr>
<td>Smooth</td>
<td>Amaranthus hybridus</td>
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<tr>
<td>Spiny Amananth</td>
<td>Amaranthus spinosus</td>
<td></td>
<td>C</td>
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<tr>
<td>Tumble</td>
<td>Amaranthus albus</td>
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<td>C</td>
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<tr>
<td>Prickly Sida (Teaweed)</td>
<td>Sida spinosa</td>
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<tr>
<td>Puncturevine</td>
<td>Tribulus terrestris</td>
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<tr>
<td>Purslane, Common</td>
<td>Portulaca oleracea</td>
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<tr>
<td>Radish, Wild</td>
<td>Raphanus raphanistrum</td>
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<tr>
<td>Ragweed, Giant</td>
<td>Ambrosia trifida</td>
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<tr>
<td>Redmaids</td>
<td>Calandrinia ciliata var. menziessii</td>
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<tr>
<td>Russian Thistle</td>
<td>Salsola ibereca</td>
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<td>Shepherd’s-purse</td>
<td>Capsella bursa-pastoris</td>
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<tr>
<td>Smartweeds</td>
<td>Polygnum persicaria</td>
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<tr>
<td>Ladythumm</td>
<td>Polygnum persicarianum</td>
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<tr>
<td>Pennsylvania</td>
<td>Euphorbia maculata</td>
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<tr>
<td>Spotted Spurge</td>
<td>Anoda cristata</td>
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<tr>
<td>Tropic Crotn</td>
<td>Croton glandulosus</td>
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<tr>
<td>Velvetleaf</td>
<td>Abutilon theophrasti</td>
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<tr>
<td>Venice Mallow</td>
<td>Hibiscus trinonum</td>
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<tr>
<td>Waterhems</td>
<td>Amaranthus rudis</td>
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<tr>
<td>Tall</td>
<td>Amaranthus tuberculatus</td>
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(continued)
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>C = Control</th>
<th>S = Suppression</th>
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<tbody>
<tr>
<td>BROADLEAF WEED SPECIES (continued)</td>
<td></td>
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<tr>
<td>Wild Buckwheat</td>
<td>Polygonum convolvulus</td>
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<tr>
<td>Wild Poinsettia</td>
<td>Euphorbia heterophylla</td>
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<tr>
<td>Wormwood, Biennial</td>
<td>Artemisia biennis</td>
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<tr>
<td>GRASS WEED SPECIES</td>
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<tr>
<td>Barnyardgrass</td>
<td>Echinochloa crus-galli</td>
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<tr>
<td>Bluegrass, Annual</td>
<td>Poa annua</td>
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<tr>
<td>Cheat</td>
<td>Bromus secalinus</td>
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<td>Crabgrass</td>
<td>Digitaria sanguinalis</td>
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<td>Smooth</td>
<td>Digitaria ischaemum</td>
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<td>Cupgrass, Southwestern</td>
<td>Eriochloa gracilis</td>
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<tr>
<td>Downy Brome</td>
<td>Bromus tectorum</td>
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<tr>
<td>Foxtails</td>
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</tr>
<tr>
<td>Giant</td>
<td>Setaria faberi</td>
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<tr>
<td>Green</td>
<td>Setaria viridis</td>
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<tr>
<td>Yellow</td>
<td>Setaria glauca</td>
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<tr>
<td>Goosegrass</td>
<td>Elesine indica</td>
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<tr>
<td>Johnsongrass (seedling)</td>
<td>Sorghum halepense</td>
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<tr>
<td>Lovegrass, California</td>
<td>Eragrostis diffusa</td>
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<tr>
<td>Panicums</td>
<td></td>
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<tr>
<td>Fall</td>
<td>Panicum dichotomiflorum</td>
<td>C</td>
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<tr>
<td>Texas</td>
<td>Panicum tavanum</td>
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<tr>
<td>Red Rice</td>
<td>Oryza sativa</td>
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<tr>
<td>Ryegrass</td>
<td></td>
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<tr>
<td>Italian</td>
<td>Lolium multiflorum</td>
<td>C</td>
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<tr>
<td>Rigid</td>
<td>Lolium rigidum</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Signalgrass, Broadleaf</td>
<td>Brachiaria platyphylla</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

**DIRECTIONS FOR USE TO MAINTAIN BARE GROUND IN NON-CROP AREAS**

*Piper Herbicide, when used as directed, can be used for non-selective vegetation control to maintain bare ground in non-crop areas that must be kept weed-free. Apply *Piper* Herbicide only to:
- Bare ground under guardrails, pipelines, railroad beds, railroad yards and surrounding areas.
- Bare ground in parking and storage areas, plant sites, substations, pumping stations, and tank farms.
- Bare ground areas of airports, brickyards, industrial plant sites, lumber yards and military installations, and storage areas.
- Bare ground around farm buildings and along ungrazed fencerows, wind breaks, and shelter belts.
- Road surfaces, improved roadside areas and gravel shoulders.*

*Piper Herbicide offers residual and postemergence control of susceptible broadleaf and grass weeds as well as an additional mode of action to assist in the control of ALS (acetolactate synthase) resistant weeds listed in Table 1, Weeds Controlled or Suppressed by Residual Activity of *Piper* Herbicide. *Piper* Herbicide can be tank mixed with the herbicides listed in Table 2 for increased residual or postemergence control. The length of residual control is dependent on the rate applied as well as on rainfall and temperature conditions. Length of residual control will decrease as temperature and precipitation increase.*

**PREEMERGENCE APPLICATION**

*Apply *Piper* Herbicide at 8 to 10 oz/A by ground as a preemergence application on all soil types (up to 5% organic matter). Make the preemergence (to weed emergence) applications of *Piper* Herbicide to a weed-free soil surface. Preemergence applications of *Piper* Herbicide must be completed prior to weed emergence. Moisture is necessary to activate *Piper* Herbicide on soil for residual weed control. Dry weather following application of *Piper* Herbicide may reduce effectiveness. However, when adequate moisture is received after dry conditions, *Piper* Herbicide will control susceptible germinating weeds.*

**POSTEMERGENCE APPLICATION**

*Apply *Piper* Herbicide at 8 to 10 oz/A by ground plus an adjuvant (0.25% v/v non-ionic surfactant or 1 qt/A crop oil concentrate). The addition of an adjuvant enhances *Piper* Herbicide activity on emerged weeds. Thorough spray coverage is necessary to maximize the postemergence activity of *Piper* Herbicide. Small emerged weeds are controlled or suppressed with *Piper* Herbicide, however, translocation of *Piper* Herbicide within a weed is limited, and optimal control requires thorough spray coverage and by the addition of an adjuvant. The most effective post-emergence weed control with *Piper* Herbicide occurs when applied in combination with a surfactant to weeds less than 2 inches in height. Use a tank mix partner in combination with *Piper* Herbicide for the postemergence control of weeds larger than 2 inches. Recommended tank mix partners are listed in Table 2, Suggested Tank Mix Combinations for Non-Selective Vegetation Control.*

*Piper Herbicide is rainfast one hour after application. Postemergent activity may be reduced if rainfall occurs within one hour after application.*

**IMPORTANT:** Completely read and follow the label of any potential tank mix partner with *Piper* Herbicide. When using tank mixtures, use conditions must be in accordance with the most restrictive of the label limitations and precautions on either herbicide label.
Table 2. Suggested Tank Mix Combinations for Non-Selective Vegetation Control

<table>
<thead>
<tr>
<th>Active Ingredient</th>
<th>Active Ingredient</th>
<th>Active Ingredient</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-D</td>
<td>hexazinone</td>
<td>prodiamine</td>
</tr>
<tr>
<td>aminocyclopyrachlor</td>
<td>imazapic</td>
<td>rimsulfuron</td>
</tr>
<tr>
<td>aminopyralid</td>
<td>imazapyr</td>
<td>saflufenacil</td>
</tr>
<tr>
<td>bromacil</td>
<td>metsulfuron methyl</td>
<td>simazine</td>
</tr>
<tr>
<td>chlorosulfuron</td>
<td>norfuralon</td>
<td>sulfentrazone</td>
</tr>
<tr>
<td>chloropyralid</td>
<td>oryzalin</td>
<td>sulfometuron methyl</td>
</tr>
<tr>
<td>dicamba</td>
<td>pendimethalin</td>
<td>tebuthiuron</td>
</tr>
<tr>
<td>diuron</td>
<td>picloram</td>
<td>topramezone</td>
</tr>
<tr>
<td>glyphosate</td>
<td>pramitol</td>
<td>triclopyr</td>
</tr>
</tbody>
</table>

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage, disposal or cleaning of equipment.

**PESTICIDE 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 contaminate food or foodstuffs.
- Do not store or transport near feed or food.
- Not for use or storage in or around the home.
- For help with any spill, leak, fire or exposure involving this material, call day or night (800) 892-0099.

**PESTICIDE DISPOSAL**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING**

Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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*Piper* is a registered trademark of Valent U.S.A. LLC
Form 1891-D
NAME: Piper Herbicide
KIND: Booklet Label
SPEC: Total 5-3/4”(w) x 5-5/16”(h)
UCC: (01) 0 06 53204 09892 4

PRODUCT SIZE: 3 lbs 12 oz
LABEL SIZE: 4-3/4”(w) x 5-1/16”(h) - book closed
9-1/2”(w) x 5-1/16”(h) - book open
5-3/4”(w) x 5-5/16”(h) - base

Black
Process Cyan
Process Magenta
Process Yellow

FOR CONTROL AND/OR SUPPRESSION OF CERTAIN WEEDS TO MAINTAIN BARE GROUND ON NON-CROP AREAS.

Active Ingredient                      By Wt
Flumioxazin*                          33.5%
Pyroxasulfone**                       42.5%
Other Ingredients                     24.0%
Total                                 100.0%

* 2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H,1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isooindole-1,3(2H)-dione
** 3-[[5-(difluoromethoxy)-1-methyl-3-(trifluoromethyl)-1H-pyrazol-4-yl]methyl]sulfonyl]-4,5-dihydro-5,5-dimethylisoxazole
Piper® Herbicide is a water dispersible granule containing 76% active ingredient.
CAS No. 447399-55-5

NET WEIGHT 3 POUNDS 12 OUNCES

EPA Reg. No. 59639-193
EPA Est. 11773-IA-1®, 39578-TX-1
Superscript is first letter of lot number.

KEEP OUT OF REACH OF CHILDREN
CAUTION
SEE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS

Form 1891-D