

# **INDUSTRIAL TURFGRASS - RYEGRASS PERENNIAL**

## General Information

### PRODUCT INFORMATION

Streamline Herbicide is a dispersible granule that is mixed in water and applied as a spray. Streamline Herbicide may be applied by aerial or ground equipment for control of broadleaf weeds and woody species, including many terrestrial and riparian invasive and noxious weeds. Streamline Herbicide is registered for general weed and brush control on private, public and military lands as follows: uncultivated non-agricultural areas (such as airports, highway, railroad and utility rights-of-way, sewage disposal areas, etc.); uncultivated agricultural areas - non-crop producing (such as farmyards, fuel storage areas, fence rows, non-irrigation ditchbanks, barrier strips, etc.); industrial sites - outdoor (such as lumberyards, pipeline and tank farms, etc.) and natural areas (such as wildlife management areas, wildlife openings, wildlife habitats).

This product may be applied to terrestrial non-crop sites that contain areas of temporary surface water caused by collection of water, in equipment ruts, or in other depressions created by management activities. It is permissible to treat intermittently flooded low lying sites, seasonally dry flood plains and transitional areas between upland and lowland sites when no water is present. It is also permissible to treat marshes, swamps and bogs after water has receded, as well as seasonally dry flood deltas. Streamline Herbicide may be applied up to the waters edge. Do not apply directly to water. Streamline Herbicide provides preemergence and/or postemergence control of the broadleaf weeds, vines and brush species listed in the weeds controlled section of the label. For perennial species on the label, a postemergence application must be used. For best postemergence performance, include an MSO type adjuvant to the spray solution. Excessive wetting of the target plant is not necessary but good spray coverage of the target plant is needed for best results.

Streamline Herbicide is non-corrosive to spray equipment. Do not apply more than 11.5 ounces broadcast per acre per year.

### BIOLOGICAL ACTIVITY

Streamline Herbicide is quickly taken up by the leaves, stems and roots of plants.

The effects of Streamline Herbicide may be seen on plants from within a few hours to a few days. The most noticeable symptom is a bending and twisting of stems and leaves. Other advanced symptoms include severe chlorosis, necrosis, stem thickening, growth stunting, leaf crinkling, calloused stems and leaf veins, leafcupping, and enlarged roots. Death of treated broadleaf plants may require several more weeks and up to several months for some woody plant species.

Streamline Herbicide is rain-fast at 4 hours after application.

#### IMPORTANT RESTRICTIONS

- Do not apply this product in areas where the roots of desirable trees and/or shrubs may extend unless injury or loss can be tolerated. Root zone areas of desirable trees or vegetation are affected by local conditions and can extend well beyond the tree canopy.
- Do not apply this product if site-specific characteristics and conditions exist that could contribute to movement and unintended root zone exposure to desirable trees or vegetation unless injury or loss can be tolerated.
- Do not make applications when circumstances favor movement from treatment site.
- Do not apply Streamline Herbicide to roadsides or other non-crop areas during periods of intense rainfall, or where prevailing soils are either saturated with water or of a type through which rainfall will not readily penetrate, as this may result in off-site movement.
- Do not apply or otherwise permit this product or sprays containing this product to come into contact with any nontarget crop or desirable vegetation.
- Do not apply in or on dry or water containing irrigation ditches or canals including their outer banks.
- Do not apply through any type of irrigation system.
- Do not contaminate water intended for irrigation. To avoid injury to crops or other desirable vegetation, do not treat or allow spray drift or run-off to fall onto banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation purposes.
- Treatment of powdery, dry soil and light, sandy soils when there is little likelihood of rainfall soon after treatment may result in off target movement and possible damage to susceptible crops and desirable vegetation when soil particles are moved by wind or water. Injury to crops or desirable vegetation may result if treated soil is washed, blown or moved onto land used to produce crops or land

containing desirable vegetation. Do not apply Streamline Herbicide when these conditions are identified and powdery, dry soil or light or sandy soils are known to be prevalent in the area to be treated.

- Do not apply when the soil is frozen or covered with snow.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas.
- Do not use this product in California.
- Do not use this product in the following counties of Colorado: Saguache, Rio Grande, Alamosa, Costilla and Conejos.
- For sites listed in this label, do not apply more than a total of 11.5 ounces of product per acre per year as a result of broadcast, spot or repeat applications.
- Do not graze or feed forage, hay or straw from treated areas to livestock.
- Do not use plant material treated with this product for mulch or compost.
- If non-crop sites treated with Streamline Herbicide are to be converted to a food, feed, or fiber agricultural crop, or to a horticultural crop, do not plant the treated sites for at least one year after the Streamline Herbicide application. A field bioassay must then be completed before planting the desired crop.
- Not for sale, sale into, distribution and/or use in Nassau and Suffolk counties of New York State.

## SPRAY DRIFT RESTRICTIONS

### AERIAL APPLICATIONS

When applying by air, apply only using nozzles which will deliver coarse or greater (VMD >350 microns) droplets as defined by ASABE S572 standard. Do not release spray at a height greater than 10 feet above the ground or canopy unless a greater height is required for aircraft safety. Do not apply when wind speed is greater than 10 mph. Do not apply during a temperature inversion.

For aerial applications near susceptible crops or other desirable plants, use a drift control additive as recommended by the manufacturer, or apply through a "Microfoil" or "Thru-Valve" boom, or use an equivalent drift control system. Thickened sprays prepared by using high viscosity invert systems or other drift control systems may be utilized if drift control is comparable to that obtained with drift control additives or the "Thru-Valve" boom. If a spray thickening agent is used, follow all recommendations and precautions on the product label. Do not use a thickening agent with the "Microfoil" boom or other systems that cannot accommodate thick sprays.

## GROUND APPLICATIONS

When applying by ground, apply only using nozzles which will deliver coarse or greater (VMD >350 microns) droplets as defined by ASABE S572 standard. Do not apply with a nozzle height greater than 4 feet above the ground or canopy unless necessitated by the application equipment. Apply with the spray boom or nozzle height as low as possible. Do not apply when wind speed is greater than 10 mph. Do not apply during a temperature inversion. See Spray Drift Management Section of this label for additional information.

## IMPORTANT PRECAUTIONS

- Certain species may, in particular, be sensitive to low levels of Streamline Herbicide including but not limited to, conifers (such as Douglas fir, Norway spruce, ponderosa pine and white pine), deciduous trees (such as aspen, Chinese tallow, cottonwood, honey locust, magnolia, poplar species, redbud, silver maple, and willow species), and ornamental shrubs (such as arborvitae, burning bush, crape myrtle, forsythia, hydrangea, ice plant, magnolia, purple plum and yew).
- Injury or loss of desirable trees or vegetation may result if Streamline Herbicide is applied on or near desirable trees or vegetation, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots. Consider site-specific characteristics and conditions that could contribute to unintended root zone exposure to desirable trees or vegetation. Root zone areas of desirable trees or vegetation are affected by local conditions and can extend beyond the tree canopy. If further information is needed regarding root zone area, consult appropriate state extension service, professional consultant or other qualified authority.
- Injury to or loss of desirable trees or vegetation may result if equipment is drained or flushed on or near these trees or vegetation, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
- In non-crop areas adjacent to desirable vegetation, avoid overlapping spray applications and shut off spray to the spray boom while starting, turning, slowing or stopping to avoid injury to desirable vegetation.
- Applications made where runoff water flows onto agricultural land may injure or kill crops, such as but not limited to sugar beets, potatoes, tomatoes, tobacco, soybeans, field beans, alfalfa, grapes, peaches, almonds, and vegetables.
- Applications should be made only when there is little or no hazard from spray drift.

Very small quantities of spray, which may not be visible, may seriously injure susceptible plants.

- Exposure to Streamline Herbicide may injure or kill most crops and may injure or kill desirable vegetation. Injury may be more severe when the crops or desirable vegetation are irrigated.
- Caution is advised when using this product in areas where loss of desirable conifer or deciduous trees and/or shrubs as well as other broadleaf plants, including but not limited to, legumes and wild flowers, cannot be tolerated. Without prior experience, it is necessary that small areas containing these plants be tested for tolerance to Streamline Herbicide and its soil residues before any large scale spraying occurs.
- Low rates of Streamline Herbicide can kill or severely injure most crops. Following a Streamline Herbicide application, the use of spray equipment to apply other pesticides to crops on which Streamline Herbicide is not registered may result in their damage. The most effective way to reduce this crop damage potential is to use dedicated mixing and application equipment.
- Leave treated soil undisturbed to reduce the potential for Streamline Herbicide movement by soil erosion due to wind or water.
- In the case of suspected off-site movement of Streamline Herbicide to cropland, soil samples should be quantitatively analyzed for Streamline Herbicide or any other herbicide which could be having an adverse effect on the crop, in addition to conducting the field bioassay.
- Streamline Herbicide may suppress or severely injure certain established grasses, such as some brome grass and wheat grass species, especially when the grass plants are stressed by adverse environmental conditions. Areas that contain these grass plants should recover as environmental conditions for good grass growth occur.

#### FIELD BIOASSAY

To conduct a field bioassay, grow to maturity test strips of the crop you plan to grow the following year. The test strips must cross the entire field including knolls and low areas. Crop response to the field bioassay will indicate whether or not to plant the crops grown in the test strips. If no crop injury (such as poor germination, stunting, or chlorosis, malformation, or necrosis of leaves) or yield loss is evident from the crops grown in the test strips, the intended rotational crop may be planted. If herbicide symptoms or yield loss is observed do not plant the crop.

#### ADJUVANTS

Methylated Seed Oils and Vegetable Oils: A methylated seed oil (MSO) or vegetable

oil based adjuvant may provide increased leaf absorption of Streamline Herbicide. Include the MSO or vegetable oil adjuvant at 0.5% to 1% v/v (2 quarts to 1 gallon per 100 gallons of spray solution).

Non-ionic Surfactants: Use a non-ionic surfactant at a rate of 0.25% to 1% v/v ( 0.5 to 1 gallon of surfactant per 100 gallons of spray solution). Surfactant products must contain at least 70% constituents effective as spray additives. Crop Oil Concentrate (COC): Apply petroleum-based crop oil concentrate at 1% v/v (1 gallon per 100 gallons spray solution) or 2% under arid conditions.

- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.

### INVERT EMULSIONS

Streamline Herbicide may be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray drift and spray run-off, resulting in more herbicide deposited on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions.

### INVASIVE SPECIES MANAGEMENT

This product may be considered for use on public, private, and tribal lands to treat certain weed species infestations that have been determined to be invasive, consistent with the Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW) National Early Detection and Rapid Response (EDRR) System for invasive plants. Effective EDRR systems address invasions by eradicating the invader where possible, and controlling them when the invasive species is too established to be feasibly eradicated. Once an EDRR assessment has been completed and action is recommended, a Rapid Response needs to be taken to quickly contain, deny reproduction, and if possible eliminate the invader. Consult your appropriate state extension service, forest service, or regional multidisciplinary invasive species management coordination team to determine the appropriate Rapid Response provisions and allowed treatments in your area.

## RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same site, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field.

Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action. To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change practices such as using a combination of retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes. It is advisable to keep accurate records of pesticides applied to individual sites to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural reseller, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

## INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include site scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest systems in your area.

## PREPARING FOR USE -

### SITE SPECIFIC CONSIDERATIONS

Understanding the risks associated with the application of Streamline Herbicide is essential to aid in preventing offsite injury to desirable vegetation and agricultural crops. The risk of off-site movement both during and after application may be affected by a number of site specific factors such as the nature, texture and stability of the soil, the intensity and direction of prevailing winds, vegetative cover,

site slope, rainfall, drainage patterns, and other local physical and environmental conditions. A careful evaluation of the potential for off-site movement from the intended application site, including movement of treated soil by wind or water erosion, must be made prior to using Streamline Herbicide. This evaluation is particularly critical where desirable vegetation or crops are grown on neighboring land for which the use of Streamline Herbicide is not labeled. If prevailing local conditions may be expected to result in offsite movement and cause damage to neighboring desirable vegetation or agricultural crops, do not apply Streamline Herbicide.

Before applying Streamline Herbicide the user must read and understand all label directions, precautions and restrictions completely, including these requirements for a site specific evaluation. If you do not understand any of the instructions or precautions on the label, or are unable to make a site specific evaluation yourself, consult with your local BAYER CROPSCIENCE LP Crop Protection representative, local agricultural dealer, university cooperative extension service, land manager, professional applicator, agricultural consultant, or other qualified authorities familiar with the area to be treated. If you still have questions regarding the need for site specific considerations please call 1-800-331-2867.

Limitations, Restrictions, and Exceptions

## APPLICATION INFORMATION

### NON-CROP SITES

STREAMLINE herbicide is a dispersible granule that is mixed in water and applied as a spray. STREAMLINE may be applied broadcast using ground spray equipment, fixed wing aircraft or by helicopter. When applying by fixed wing aircraft or helicopter, follow directions under the Aerial Applications section of the label, otherwise refer to the section on Ground Applications when using surface equipment.

Apply STREAMLINE preemergence or early postemergence when broadleaf weeds are actively germinating or growing. For perennial species on the label, a postemergence application must be used.

STREAMLINE can provide long term control of susceptible weeds. The length of control is dependent upon the application rate, condition and growth stage of target



weeds, environmental conditions at and following application, and the density and vigor of competing desirable vegetation. Best results for long term weed and brush control occur when grasses and other desired vegetation are allowed to recover from adverse environmental conditions and compete with undesirable brush or weeds

DuPont STREAMLINE may also be applied using low and high volume ground spray equipment.

Regardless of the application volume or spray equipment used, thorough coverage of the brush and weed foliage is necessary to optimize control results.

## INDUSTRIAL TURFGRASS

(UNIMPROVED ONLY)

### Application Information

STREAMLINE is labeled for selective broadleaf weed control in unimproved, well established industrial and roadside turfgrasses. STREAMLINE is also labeled for the control of certain noxious and troublesome weeds in industrial turfgrass. Use a surfactant at the rate of 1 to 2 pints per 100 gallons of spray solution. A transient yellowing and/or stunting may be observed following an application of STREAMLINE.

In addition to conventional spray equipment, STREAMLINE may also be applied with invert emulsion equipment. When using an invert emulsion, mix the prescribed rate of STREAMLINE in the water phase.

For turfgrass species that are not listed on the label, determine the suitability for such uses by treating a small area at a labeled application rate. Prior to treatment of larger areas, the treated area must be observed for any signs of herbicidal injury during 30 days of normal growing conditions to determine if the treatment is safe to the target species. The user assumes the responsibility for any plant damage or other liability resulting from use of STREAMLINE on a turfgrass species not listed on the label.

Excessive injury may result when STREAMLINE is applied to turfgrass that is under stress from drought, insects, disease, cold temperatures (winter injury) or poor fertility.

- Transient injury (stunting, yellowing, seedhead suppression) can occur to industrial and roadside turfgrasses from applications of STREAMLINE.

- Applications to bermudagrass, Kentucky bluegrass and tall fescue industrial and roadside turfgrasses can cause transient stunting, yellowing and/or seedhead suppression. To reduce these transient symptoms, make application later in the spring after new growth is 4 to 6 inches tall or make application in the fall.

1. Do not apply STREAMLINE to this turfgrass species unless potential turfgrass injury can be tolerated. Do not apply more than 3.0 ounces of STREAMLINE per acre. Use surfactant at the rate of 0.5 to 1 pint per 100 gallons of spray solution.

For crested and western wheatgrasses and smooth brome the injury (stunting, seedhead suppression) at the higher rates during the season of application may be severe.

Areas that contain these turfgrass plants should recover as environmental conditions for good turfgrass growth occur.

Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

Rates

[field rates 0](#)

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Timings

[Preemergence \(Weed\)](#)

[N.A.](#)