



NOTICE OF WEED CONTROL APPLICATION

Date of Application: March 17, 2026
March 18, 2026, Scheduled as an alternate day in the event of inclement weather.

Location: Mesa Park Baseball Fields Only

Reason for Application: Treating the turf for broadleaf weeds and annual bluegrass

Product Manufacturer Name: Power Zone Broadleaf Herbicide for Turf

- EPA registration no. 2217-834
- Active ingredients: MCPA, 2-ethylhexyl/ester, Mecoprop-p acid, Dicamba acid, and Carfentrazone-ethyl.
- Precautionary statement: Causes moderate eye irritation. Harmful if absorbed through skin. Harmful if swallowed.

Product Manufacturer Name: Bayer Revolver Herbicide

- EPA registration no. 432-1266
- Active ingredient: Foramsulfuron
- Precautionary statement: Causes moderate eye irritation. Avoid contact with eyes, skin, and clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

***See attached label and SDS sheet**

***Dates are subject to change due to weather**



ACTIVE INGREDIENTS:

MCPA, 2-ethylhexyl ester.....	41.98%
Mecoprop-p acid.....	5.39%
Dicamba acid.....	2.69%
Carfentrazone-ethyl.....	0.48%

OTHER INGREDIENTS:	49.46%
	TOTAL 100.00%

THIS PRODUCT CONTAINS:

- 2.21 lbs. 2-methyl-4-chlorophenoxyacetic acid equivalent per gallon or 26.92%.
- 0.44 lb. (+)-R-2-(2-methyl-4-chlorophenoxy) propionic acid equivalent per gallon or 5.39%.
- 0.22 lb. 3,6-dichloro-o-anisic acid equivalent per gallon or 2.69%.
- 0.04 lb. Ethyl α,2-dichloro-5-[4(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]-4-fluorobenzenepropanoate per gallon or 0.48%.

Contains petroleum distillates.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

Si Usted no entiende la etiqueta, busque a alguien para que se la explique a Usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)



**READ THE ENTIRE LABEL FIRST.
OBSERVE ALL PRECAUTIONS AND
FOLLOW DIRECTIONS CAREFULLY.**

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION: Causes moderate eye irritation. Harmful if absorbed through the skin. Avoid contact with skin, eyes, or clothing. Harmful if swallowed. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE)

Some materials that are chemical resistant to this product are made of barrier laminate, butyl rubber, nitrile rubber, or viton. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

Mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks, and
- Chemical-resistant gloves.

User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

Engineering Control Statements

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (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.

User Safety Recommendations

- Users should wash hands 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.

First Aid	
If swallowed:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Do not induce vomiting unless told to by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
If in eyes:	<ul style="list-style-type: none"> • 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 on skin or on clothing:	<ul style="list-style-type: none"> • 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 inhaled:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for treatment advice.
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-877-800-5556 for emergency medical treatment advice.</p> <p>NOTE TO PHYSICIAN: Contains petroleum distillates - vomiting may cause aspiration pneumonia.</p>	

Environmental Hazards

This pesticide may adversely affect non-target plants. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

DIRECTIONS FOR USE

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

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.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170.

This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- coveralls worn over short-sleeved shirt and short pants,
- chemical-resistant footwear plus socks,
- chemical-resistant gloves made of any water-proof material,
- chemical-resistant headgear for overhead exposure and
- protective eyewear.

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 Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Reentry Statement: Do not enter or allow others to enter the treated area until sprays have dried.

PRODUCT DESCRIPTION:

PowerZone® Broadleaf Herbicide For Turf contains four active ingredients including carfentrazone-ethyl that broaden the spectrum of weed control. Carfentrazone-ethyl is in the aryl triazolinone family and inhibits protoporphyrinogen oxidase (Protox), a pivotal enzyme in chlorophyll production.

PowerZone offers these advantages:

- Excellent postemergent activity with proven performance for broadleaf weed control in turfgrass.
- Superior cool weather performance.
- High selectivity (turfgrass safety) in established cool season turfgrass and warm season turfgrass.
- Carfentrazone-ethyl combinations provide rapid and effective weed control for common and troublesome weed species in turfgrass, e.g. spurge, pennywort (dollarweed), dandelion, and white clover.
- Fast acting with evidence of injury within hours. The speed of action (rate of phytotoxicity) and the early injury symptoms are unique features of carfentrazone-ethyl combinations. Generally, the injury symptoms can be noticed within hours of the application and plant death can occur within 7 to 14 days.

SPRAY PREPARATION AND TANK MIXTURES:

PowerZone is an emulsifiable concentrate intended for dilution with water. In certain applications, liquid fertilizer may replace part of the water as a diluent.

Water as diluent:

Add one-half the required amount of water to the spray tank, then add PowerZone slowly with agitation, and complete filling the tank with water. To prevent separation of the emulsion, mix thoroughly and continue agitation while spraying.

This product forms an emulsion and can separate upon extended or prolonged standing. Re-agitate to assure uniformity of the spray mixture. Storage of the spray mixture beyond 72 hours is not recommended.

Do not use tank additives that alter the pH of the spray solution below pH 5 or above pH 8. Buffer the spray solution to alter the pH range as appropriate.

Liquid fertilizers as diluents:

Use suitable sources and rates of fertilizer based upon local recommendations. Refer to the mixing directions on the labels of the liquid fertilizers (eg. UAN or urea solutions). Always perform a jar compatibility test before large scale mixing.

GROUND EQUIPMENT:

Power sprayers fitted with a boom or spray wand/gun may be used for broadcast applications and spot treatments. For best spray distribution and coverage, select a spray volume and delivery system that will ensure accurate and uniform coverage. Boom sprayers equipped with appropriate flat fan nozzles, tips, and screens are suitable for broadcast applications. Do not use flood nozzles, Raindrop®, or nozzle tips larger than 8008. Spray droplets larger than 400 microns may reduce coverage and subsequent loss in weed control.

Spray volumes of 3 to 175 gallons per acre with spray pressures adjusted to 20 to 40 psi are appropriate. Use higher spray volumes for dense weed populations.

Hand operated sprayers including backpack sprayers, compression sprayers, and knapsack sprayers are appropriate for small turfgrass areas when power equipment is unavailable, uneconomical, or impractical.

This product may cause injury to susceptible/nontarget plants at the use site by contacting the foliage, stems, or roots. To prevent injury to susceptible crops and other desirable broadleaf plants including but not limited to cotton, legumes, tobacco, tomatoes, garden/vegetable crops, and ornamentals (flowers, trees, and shrubs) avoid contact with the spray solution, spray droplets, and spray mist (fine droplets). Do not apply when conditions are conducive to spray drift from the use site to untreated areas.

After using this product, clean sprayer with soap or detergent and water, or an approved spray tank cleaner and rinse thoroughly before applying other pesticides.

Do not apply by air.

WHERE TO USE:

PowerZone provides selective broadleaf control in warm season and cool season turfgrass in five (5) use sites.

- **Institutional sites** are defined as turf areas around properties or facilities providing a service to public or private organizations including, but not limited to hospitals, nursing homes, schools, museums, libraries, sport facilities, golf courses (fairways, aprons, and roughs), and office buildings.
- **Ornamental sites** include turfgrass established around residences, parks, streets, retail outlets, cemeteries, industrial and institutional buildings, recreation areas, fairgrounds, and areas adjacent to athletic fields.
- **Residential/domestic sites** are defined as areas associated with the household or home life including, but not limited to apartment complexes, condominiums, and patient care areas of nursing homes, mental institutions, hospitals, or convalescent homes.
- **Agricultural site:** Commercial sod production
- **Noncropland Sites:** Highway rights-of-way (principal, interstate, county, private, and unpaved roads): Roadsides, roadside ditches, road shoulders, road embankments, dividers, and medians. Municipal, state, and federal lands: Airports and military installations.

Prohibitions of Sites:

- Do not apply to any body of water such as lakes, streams, rivers, ponds, reservoirs, or estuaries (salt water bays). Do not apply to any shorelines (noncropland sites adjacent to the edges of a body of water) for lakes, streams, rivers, ponds, reservoirs, or estuaries (salt water bays).
- Do not apply to wetlands (swamps, bogs, potholes, or marshes).
- Do not apply to agricultural irrigation water or on agricultural irrigation ditchbanks and canals.
- Do not apply to agricultural drainage water or on agricultural ditchbanks.
- Do not apply this product to bentgrass greens, carpetgrass, dichondra, legumes, and lawns where desirable clovers are present.
- Do not apply this product to St. Augustinegrass during spring green-up which is the transition period between dormancy and active growth.
- Cultivars of St. Augustinegrass vary in tolerance to this product. Do not apply to 'Floritam' St. Augustinegrass.
- Do not use this product on or near desirable plants, including contact of spray on exposed root systems or adventitious shoots within the drip line of desirable trees and shrubs, since injury may result.
- Do not apply by air.

Turfgrass tolerance:

The turfgrass tolerance to PowerZone may vary and temporary turfgrass yellowing may occur on certain varieties of hybrid bermudagrass. Environmental conditions and certain spray tank additives (eg. adjuvants, wetting agents, surfactants), liquid fertilizers, and tank mixtures containing other emulsifiable concentrates may reduce the selectivity on the turfgrass.

These cool season and warm season turfgrass species may be treated:

Cool Season Turf

- Kentucky bluegrass
- Annual bluegrass
- Annual ryegrass
- Perennial ryegrass
- Tall fescue
- Red or fine leaf fescues
- Mixtures of cool season species in noncropland areas established for roadside vegetation management or for low maintenance. (Kentucky bluegrass, tall fescue, smooth brome grass, and orchardgrass)

Warm Season Turf

- Common bermudagrass
- Hybrid bermudagrass
- Zoysiagrass

APPLICATION SCHEDULES:

Early postemergent applications of PowerZone are recommended for annual, biennial, and perennial weeds. Apply PowerZone to broadleaf weeds that are young and actively growing for the best results. PowerZone combines a contact herbicide with systemic herbicides and provides little or no residual activity at specified use rates.

PowerZone may be applied as a single broadcast application or as a split/sequential broadcast applications in the spring, summer, or fall. Spring and fall treatments under adequate soil moisture conditions are preferred to the summer treatments. Generally, summer broadcast applications to older, drought stressed weeds are less effective.

Apply sequential broadcast applications or followup applications as spot treatments at a minimum interval of 30 days.

Spot treatments during the summer may be appropriate for sparse infestations, or as a follow-up treatment, or any time broadleaf weeds are susceptible. Apply on a spray-to-wet basis for the best results.

Extremes in environmental conditions e.g. temperature and moisture, soil conditions, and cultural practices may affect the activity of PowerZone. Under warm moist conditions, herbicide symptoms may be accelerated. While under very dry conditions, the expression of herbicide symptoms is delayed, and weeds hardened off by drought are less susceptible to PowerZone.

For newly seeded areas:

The application of PowerZone to grass seedlings is recommended after the second mowing.

For newly sodded, sprigged, or plugged areas:

The application of PowerZone to newly sodded, sprigged, or plugged grasses should be delayed until 3 to 4 weeks after the sodding, sprigging, or plugging operations.

For dormant turf:

Applications to dormant bermudagrass, and dormant zoysiagrass are suggested.

Prohibitions for application schedules:

Do not broadcast apply when air temperatures exceed 90°F; some injury may be expected with spot treatments when air temperatures exceed 90°F.

HOW MUCH TO USE: USE RATES AND SPRAY VOLUMES FOR TURFGRASS:

Generally, the lower application rates within the specified range will provide satisfactory control of sensitive weed species. The higher application rates within the specified range will be required for dense infestations of perennial weeds, for adverse/extreme environmental conditions, or for weeds beyond the appropriate growth stages.

Use rates and spray volumes of PowerZone as broadcast treatments for use on turfgrass are presented in Table 1.

TABLE 1. USE RATES FOR SOD FARMS, ORNAMENTAL LAWNS AND TURFGRASS.

Species	Amount of Product for SENSITIVE WEEDS	Amount of Product for HARD-TO-CONTROL WEEDS	Spray Volume	
			Gallons Per Acre	Gallons Per 1,000 sq. ft.
<p>Cool-Season Turf: Kentucky bluegrass, Annual bluegrass, Annual ryegrass, Perennial ryegrass, Tall Fescue, Red or Fine Fescue.</p> <p>Mixtures of cool-season species in non-cropland areas established for roadside vegetation management or for low maintenance. (Kentucky bluegrass, tall fescue, smooth bromegrass & orchardgrass).</p>	3.5 to 4 Pints/Acre (1.3 to 1.5 fl. oz. per 1,000 sq. ft.)	4 to 5 Pints/Acre (1.5 to 1.8 fl. oz. per 1,000 sq. ft.)	3 to 175	0.1 to 4.0
<p>Warm Season Turf: Common and Hybrid Bermudagrass, Zoysiagrass.</p>	2 to 3 Pints/Acre (0.75 to 1.1 fl. oz. per 1,000 sq. ft.)	3 to 4 Pints/Acre (1.1 to 1.5 fl. oz. per 1,000 sq. ft.)	3 to 175	0.1 to 4.0

Limitations on broadcast treatments for turfgrass on all use sites:

The maximum application rate is 5.0 pints of product per acre per application (1.38 lb. MCPA ae, 0.28 lb. MCPP-p ae, and 0.14 lb. dicamba ae per acre per application). The maximum number of broadcast applications is limited to 2 per year with a minimum of 30 days between applications. The maximum seasonal rate is 10 pints of product per acre per year (2.76 lb. MCPA ae, 0.55 lb. MCPP-p ae, and 0.28 lb. dicamba ae per acre per year), excluding spot treatments.

SPOT TREATMENTS WITH HAND OPERATED SPRAYERS (INCLUDING BACKPACK SPRAYERS, COMPRESSION SPRAYERS, AND KNAPSACK SPRAYERS):

- For cool season turfgrass, mix 1.5 to 2.2 fl. oz. of PowerZone per one (1.0) gallon of water for treatment of approximately 1,000 sq. ft. of turfgrass. Apply any time the emerged broadleaf weeds are susceptible. Spray the target weeds thoroughly and wet the entire leaf surface of the undesirable plants.
- For warm season turfgrass, mix 0.75 to 1.5 fl. oz. of PowerZone per one (1.0) gallon of water for treatment of approximately 1,000 sq. ft. of turfgrass. Apply any time the emerged broadleaf weeds are susceptible. Spray the target weeds thoroughly and wet the entire leaf surface of the undesirable plants.

Limitations on spot treatments for turfgrass on all use sites:

Spot treatment is defined as a treatment area no greater than 1,000 sq. ft. per acre. The maximum application rate is 2.2 fl. oz. per 1,000 sq. ft. per application (0.33 lb. MCPP-p acid equivalent per acre). The maximum number of spot treatments is limited to 2 per year with a minimum of 30 days between applications.

Tank Mixtures:

PowerZone may be tank mixed with other herbicides EPA-registered for use on turfgrass to broaden the weed control spectrum compared to the products alone. These tank mixtures must be used according to the most restrictive label limitations and precautions. No label dosage rate should be exceeded. Follow the labeling of each companion product for precautionary statements, directions for use, dosage rates, and application schedules. Tank mixture recommendations are for use only in states where the companion products and application site are registered.

CULTURAL TIPS FOR IMPROVED CONTROL:

Irrigation:

- Do not apply this product through any type of irrigation system.
- Do not apply this product immediately before rainfall or irrigation. Do not irrigate or water the turfgrass within 24 hours after application

Mowing:

- Delay mowing 1 to 2 days before and after the application of this product.

Reseeding interval:

- Treated areas may be reseeded 2 weeks after application.

SPRAY DRIFT MANAGEMENT

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

Apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed

Apply only when the wind speed is 2 to 10 mph at the application site. Do not apply at wind speeds greater than 10 mph.

Additional requirements for ground boom application:

Do not apply with a nozzle height greater than 4 feet above the crop canopy.

BROADLEAF WEEDS CONTROLLED:

PowerZone will control or suppress the following broadleaf weeds and will control or suppress other broadleaf weeds that are susceptible to MCPA.

BROADLEAF WEEDS

Annual fleabane	Field oxeye-daisy (*creeping oxeye)	Prostrate knotweed (*knotweed)
Aster, white heath & white prairie	Field pennycress	Puncturevine
Bedstraw	Filaree, whitestem & redstem	Purple cudweed
Beggarticks	Florida pusley	Purslane
Beggarweed, creeping	Ground ivy	Ragweed
Bindweed	Groundsel	Redweed
Birdsfoot trefoil	Hairy bittercress	Red sorrel (*sheep sorrel)
Black medic	Hawkweed	Roundleaf greenbriar
Broadleaf plantain	Healall	Shepherd's purse
Buckhorn plantain	Henbit	Spotted spurge
Bull thistle	Horsenettle	Spurge, prostrate
Burclover	Horseweed	Star-of-Bethlehem
Burdock, common	Innocence (Blue-eyed Mary)	Sunflower
Buttercup, creeping	Jimsonweed	Thistle
Carpetweed	Kochia	Velvetleaf (*buttonweed)
Chickweed, common	Lambsquarters	Venice mallow
Chicory	Lawn burweed	Veronica (*corn speedwell)
Cinquefoil	Lespedeza, common	Virginia buttonweed
Clover	Mallow, common	Virginia creeper
Cocklebur	Matchweed	Western salsify
Common mullein	Mouseear chickweed	White clover (*Dutch clover, honeysuckle clover, white trefoil, & purplewort)
Compassplant	Mustard	Wild carrot
Curly dock	Nettle	Wild garlic
Dandelion	Old world diamond flower	Wild geranium
Dayflower	Oxalis (*yellow woodsorrel & creeping woodsorrel)	Wild lettuce
Deadnettle	Parsley-piert	Wild mustard
Dock	Pennsylvania smartweed	Wild onion
Dogfennel	Pennywort (*dollarweed)	Wild strawberry
Dovefoot geranium	Pepperweed	Wild violet
English daisy	Pigweed	Yarrow
False dandelion (*spotted catsear & common catsear)	Pineappleweed	Yellow rocket
Field bindweed (*morninggloory & creeping jenny)	Plantain	
Field madder	Poison ivy	
	Poison oak	

*Synonyms

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

PESTICIDE STORAGE: Store in original container in a locked storage area inaccessible to children or pets. Keep from freezing.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container. 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.

(cont. on next page)

STORAGE AND DISPOSAL (cont.)

Triple rinse or pressure 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.

OR

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

LIMITED WARRANTY AND DISCLAIMER

IMPORTANT: Read this LIMITED WARRANTY AND DISCLAIMER before buying or using this product. By opening and using this product, buyer and all users agree to accept the terms of this LIMITED WARRANTY AND DISCLAIMER in their entirety and without exception. If the terms are not acceptable, return this product unopened immediately to the point of purchase, and the purchase price will be refunded in full.

It is impossible to eliminate all risks inherently associated with use of this product. Damage to the treated article, ineffectiveness, or other unintended consequences can result from use of the product under abnormal conditions such as weather, presence of other materials, or the manner of use or application, etc. Such factors and conditions are beyond the control of the manufacturer, and **BY PURCHASING AND USING THIS PRODUCT THE BUYER AND ALL USERS OF THIS PRODUCT AGREE TO ACCEPT ALL SUCH RISKS.** Buyer and all users further agree to assume all risks of loss or damage from the use of the product in any manner that is not explicitly set forth in or that is inconsistent with label instructions, warnings and cautions.

The manufacturer warrants only that this product conforms to the chemical description given on the label, and that the product is reasonably suited for the labeled use when applied according to the Directions for Use, subject to the inherent risks described below. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE MANUFACTURER NEITHER MAKES NOR INTENDS ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXPRESSLY DISCLAIMED.**

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF BUYER AND ALL USERS OF THIS PRODUCT, AND THE EXCLUSIVE LIABILITY OF THE MANUFACTURER, FOR ANY AND ALL LOSSES, DAMAGES, OR INJURIES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER OR NOT BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE, SHALL BE LIMITED, AT THE MANUFACTURER'S OPTION, TO REPLACEMENT OF OR THE REPAYMENT OF THE PURCHASE PRICE FOR THE QUANTITY OF PRODUCT WITH RESPECT TO WHICH DAMAGES ARE CLAIMED. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO CASE SHALL THE MANUFACTURER BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. The Manufacturer must be promptly notified in writing of any claims, whether based in contract, tort, negligence, strict liability, or otherwise, to be eligible to receive either remedy stated above.

The terms of this LIMITED WARRANTY AND DISCLAIMER cannot be varied by any written or verbal statements or agreements at the point of sale or elsewhere. No employee or agent of the manufacturer or seller is authorized to vary or exceed the terms of this Limited Warranty and Disclaimer in any manner.

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653/12-2018 AP110409
EPA REG. NO. 2217-834



**MANUFACTURED BY
PBI/GORDON CORPORATION
P.O. BOX 860350
SHAWNEE, KANSAS 66286
PBIGordonTurf.com**

ATTENTION: This specimen label is provided for informational use only. This product may not yet be available for sale in your state or area. The information found in this label may differ from the information found on the product label you are using. Always follow the instructions for use and precautions on the label of the product you are using.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name PowerZone® Broadleaf Herbicide for Turf

Other means of identification

Product Code PBI FP 6531076
EPA Pesticide Registration Number 2217-834
Product Size 4/1 U. S. Gal.

Recommended use of the chemical and restrictions on use

Recommended Use Herbicide.
Uses advised against No information available.

Details of the supplier of the safety data sheet

Supplier	Manufacturer	Company Name
PBI Gordon Corporation	PBI Gordon Corporation	PBI Gordon Corporation
P.O. Box 860350	P.O. Box 860350	P.O. Box 860350
Shawnee, KS 66286	Shawnee, KS 66286	Shawnee, KS 66286
Emergency telephone number		
Emergency Telephone	Chemtrec 1-800-424-9300	

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute Oral Toxicity	Category 4
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Gases	Category 4
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Skin Corrosion/Irritation Category	Category 2
Serious eye damage/eye irritation	Category 2B
Skin Sensitization	Category 1
Aspiration Toxicity	Category 1
Acute Aquatic Toxicity	Category 1
Chronic Aquatic Toxicity	Category 1
Flammable liquids	Category 4

Label elements

Emergency Overview

Danger

Hazard statements

Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes skin irritation. Causes eye irritation. May cause an allergic skin reaction. May be fatal if swallowed and enters airways. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
 Combustible liquid.



Appearance Liquid

Physical state Liquid

Odor Esters

Precautionary Statements - Prevention

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Wear protective gloves/protective clothing/eye protection/face protection
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Avoid release to the environment
- Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Precautionary Statements - Response

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- IF ON SKIN: Wash with plenty of soap and water
- Call a POISON CENTER or doctor/physician if you feel unwell
- Wash contaminated clothing before reuse
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- Do NOT induce vomiting
- In case of fire: Use CO2, dry chemical, or foam for extinction
- Collect spillage

Precautionary Statements - Storage

- Store locked up
- Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

- Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Have the product label with you when calling a poison control center or doctor or going in for treatment. You may also contact 1-877-800-5556 for emergency medical treatment advice.

Other information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight-%
MCPA EH Ester	29450-45-1	41.98
Trade Secret	Proprietary	10-20*
Trade Secret	Proprietary	0-10*
R(+)-2(2 Methyl-4-chlorophenoxy)propionic acid (MCP)	16484-77-8	5.39
3,6-Dichloro-o-anisic acid (Dicamba)	1918-00-9	2.69
Carfentrazone-ethyl	128639-02-1	0.48

* The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

Description of first aid measures

General advice	If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
Inhalation	Move to fresh air in case of accidental inhalation of vapors or decomposition products. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately.
Self-protection of the first aider	Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Contains petroleum distillate - vomiting may cause aspiration pneumonia.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Foam. Carbon dioxide (CO₂). Dry chemical.

Specific hazards arising from the chemical

No information available.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Dam up. Soak up with inert absorbent material. Cover liquid spill with sand, earth or other non-combustible absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.
--------------------------------	--

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep in properly labeled containers. Keep from freezing.
Incompatible materials	None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines	Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).
Other Information	

Appropriate engineering controls

Engineering Controls	Ensure adequate ventilation, especially in confined areas.
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Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles. Face protection shield.
Skin and body protection	Wear protective gloves and protective clothing.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations	When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odor	Esters
Appearance	Liquid	Odor threshold	No information available
Color	Amber		
Property	Values	Remarks • Method	
pH	Not Applicable		
Melting point/freezing point	<35 °F		
Boiling point / boiling range	> 93 °C / 200 °F		
Flash point	> 93 °C / > 200 °F	Pensky-Martens Closed Cup (PMCC)	

Evaporation rate	< 1
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	>1
Specific Gravity	0.9813
Water solubility	Emulsifiable
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Oxidizing properties	No information available

Other Information

Density 8.18 pounds/gallon

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization

Will not occur.

Conditions to avoid

Keep out of reach of children.

Incompatible materials

None known.

Hazardous decomposition products

May emit toxic fumes under fire conditions. Hydrogen chloride. Nitrogen oxides (NOx). Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Irritant, moderate respiratory.
Eye contact	Moderately irritating to the eyes.
Skin Contact	Moderate skin irritation.
Ingestion	Ingestion of large amounts can cause abdominal discomfort, nausea, and vomiting.

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
MCPA EH Ester 29450-45-1	= 1300 mg/kg (Rat)	-	-
Trade Secret	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
Trade Secret	= 1870 µL/kg (Rat)	= 1110 µL/kg (Rabbit)	-

R(+)/2(2 Methyl-4-chlorophenoxy)propionic acid (MCP) 16484-77-8	= 1050 mg/kg (Rat)	> 4 g/kg (Rat)	-
3,6-Dichloro-o-anisic acid (Dicamba) 1918-00-9	= 1039 mg/kg (Rat)	= 1716 mg/kg (Rabbit) > 1 g/kg (Rat) > 2 g/kg (Rabbit)	-
Carfentrazone-ethyl 128639-02-1	= 5143 mg/kg (Rat)	> 4000 mg/kg (Rat)	= 5.09 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization May cause sensitization by skin contact.
Germ cell mutagenicity No information available.
Carcinogenicity The International Agency for Research on Cancer (IARC) lists chlorophenoxy herbicides in its Group 2B (limited evidence for Carcinogenicity in humans.) The US EPA has given the chlorophenoxy Herbicides 2,4-D, 2,4-DP, MCP, and MCPA a Class D classification (not classifiable as to human carcinogenicity.) More current 2,4-D lifetime feeding studies in rats and mice did not show carcinogenic effects and a recent World Health Organization (WHO) review of 2,4-D toxicology has concluded that 2,4-D is not a carcinogen. The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
MCPA EH Ester 29450-45-1		Group 2B		
R(+)/2(2 Methyl-4-chlorophenoxy)propionic acid (MCP) 16484-77-8		Group 2B		X

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic toxicity Avoid repeated exposure. Repeated contact may cause allergic reactions in very susceptible persons.
Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

Unknown Toxicity 1 % of the mixture consists of ingredient(s) of unknown toxicity

LD50 Oral VALUE (mg/kg) > 2000 mg/kg Rat-male Rat-female

LD50 Dermal VALUE > 2000 mg/kg Rat-female Rat-male

LC50 Inhalation (DUST) VALUE > 2.06 mg/L Rat-male Rat-female

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (inhalation-gas) 2732 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life with long lasting effects

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
MCPA EH Ester 29450-45-1	0.46: 72 h Pseudokirchneriella subcapitata mg/L EC50 0.43: 96 h Pseudokirchneriella subcapitata mg/L EC50	3.2 - 4.6: 96 h Lepomis macrochirus mg/L LC50 flow-through 3.2: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.55: 96 h Lepomis macrochirus mg/L LC50 static		0.29: 48 h Daphnia magna mg/L EC50
Trade Secret		2.2: 96 h Lepomis macrochirus mg/L LC50 static 2.4: 96 h Oncorhynchus mykiss mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through		4720: 96 h Den-dronereides heteropoda mg/L LC50
Trade Secret		1.8: 96 h Oncorhynchus mykiss mg/L LC50		

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Do not reuse container, unless specified by the manufacturer.

14. TRANSPORT INFORMATION

DOT

Not regulated

TDG

Not regulated

MEX

Not regulated

ICAO (air)

UN/ID no.

UN3082

Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Hazard class

9

Packing group

III

Special Provisions

A97, A158, A197

Description

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA EH Ester, Carfentrazone-ethyl), 9, III

IATA

Limited quantity applies with an inner packaging less than 5 L or gross package weight less than 30 kg.

UN number

UN3082

UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Transport hazard class(es)

9

Packing group

III

Special Provisions

A97, A158, A197

Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA EH Ester, Carfentrazone-ethyl), 9, III
IMDG	Limited quantity applies with an inner packaging less than 5 L or gross package weight less than 30 kg.
UN number	UN3082
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es)	9
Packing group	III
EmS-No.	F-A, S-F
Special Provisions Description	274, 335, 969
	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MCPA EH Ester, Carfentrazone-ethyl), 9, III, Marine Pollutant

15. REGULATORY INFORMATION

U.S. EPA Label Information

EPA Pesticide Registration Number 2217-834

Federal Insecticide, Fungicide, Rodenticide Act Regulations

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label

Caution

Keep out of the reach of children

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION: Causes moderate eye irritation. Harmful if absorbed through the skin. Avoid contact with skin, eyes, or clothing. Harmful if swallowed. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Environmental Hazards

This pesticide may adversely affect non-target plants. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

International Inventories

TSCA	Not Listed
DSL/NDSL	Not Listed
EINECS/ELINCS	Not Listed
ENCS	Not Listed
IECSC	Not Listed
KECL	Not Listed
PICCS	Not Listed
AICS	Not Listed

Legend:

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

Chemical name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
MCPA EH Ester				X			X			X

Trade Secret	X	X		X			X	X	X	X
Trade Secret	X	X					X	X	X	X
R(+)/2(2) Methyl-4-chlorophenoxypropionic acid (MCPP)				X						
3,6-Dichloro-o-anisic acid (Dicamba)				X		X		X	X	X
Carfentrazone-ethyl							X			

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
3,6-Dichloro-o-anisic acid (Dicamba) - 1918-00-9	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
3,6-Dichloro-o-anisic acid (Dicamba) 1918-00-9	1000 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
3,6-Dichloro-o-anisic acid (Dicamba) 1918-00-9	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
3,6-Dichloro-o-anisic acid (Dicamba) 1918-00-9	X	X	X

International Regulations

Mexico - Grade Moderate risk, Grade 2

16. OTHER INFORMATION

<u>NFPA</u>	Health hazards 2	Flammability 1	Instability 0	Physical and Chemical Properties -
<u>HMIS</u>	Health hazards 2	Flammability 1	Physical hazards 0	Personal protection X

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of PBI Gordon Corporation's knowledge, information and belief at the date of this publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process, unless specified in the text. PBI GORDON CORPORATION MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. Given the variety of factors that can affect the use and application of this product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. Each user is also responsible for evaluating the conditions of use and designing the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. PBI Gordon Corporation assumes no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the product.

End of Safety Data Sheet



REVOLVER™

HERBICIDE

Specimen Label

* *A Herbicide for the Control of Annual and Perennial Grasses in Bermudagrass and Zoysiagrass*

ACTIVE INGREDIENTS: Foramsulfuron* (CAS Number 173159-57-4)	2.34%
OTHER INGREDIENTS:	97.66%
TOTAL:	100.00%

This product is a suspension concentrate containing 0.19 lb ai/gal.

This product contains petroleum distillates.

*Protected by U.S. Patent No 5,922,646

Shake well before use

EPA Reg No. 432-1266

E.P.A. Est. No.

KEEP OUT OF REACH OF CHILDREN CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577
For PRODUCT USE Information Call 1-800-331-2867

FIRST AID

IF SWALLOWED:	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • 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.
<p>For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577. Have the product container or label with you when calling a poison control center or doctor or going for treatment.</p>	

NET CONTENTS:

**BACKED
by BAYER™**

PRECAUTIONARY STATEMENTS

CAUTION

HAZARD TO HUMANS AND DOMESTIC ANIMALS

Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical resistance category selection chart.

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

Engineering control statement:

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (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.

USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not drain or rinse equipment near desirable vegetation.

Do not apply when conditions favor drift from treated areas.

Non-target plants may be adversely affected if the pesticide is allowed to drift from areas of application. To prevent damage to crops and other desirable plants, read and follow all directions and precautions on this label before using.

DIRECTIONS FOR USE

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

Read entire label before using this product.

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 same area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticides.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil or water, is coveralls over long-sleeved shirt and long pants, socks and shoes and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

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 Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. Keep unprotected persons out of the treated areas until sprays have dried.

STORAGE AND DISPOSAL

Pesticide Storage: Do not contaminate water, food or feed by storage or disposal.

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

Container Disposal: Empty containers should be triple rinsed (or equivalent), then offered for recycling or reconditioning; or puncture and disposed of in a sanitary landfill, or by incineration; or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

GENERAL INFORMATION

USES

REVOLVER Herbicide is a postemergent sulfonylurea herbicide for application as a foliar spray. REVOLVER is intended for professional use on golf course turf, sports fields, commercial lawns, cemeteries, parks, campsites, recreational areas, home lawns, roadsides, schools grounds, and sodfarms to control cool season grasses and weeds from tolerant grasses.

SYMPTOMS

Weed growth ceases within hours after application. Symptoms progress from yellowing to necrosis generally resulting in eventual plant death within 1-4 weeks after application. The speed of symptom development varies with temperature and will be faster at warmer temperatures than cooler temperatures.

TURF TOLERANCE

REVOLVER Herbicide has been tested and can be used on the following warm season turfgrass cultivars.

Bermudagrass: Common, Tifway 419, Tifgreen 328, Tifspout, Tifdwarf, Vamont

Zoysiagrass: Meyer

Other warm season turfgrass and their cultivars may be tolerant to foramsulfuron; however, tolerance testing should be done prior to use

Cool season turfgrasses, such as Bentgrass, Ryegrass, Fescues, and Kentucky Bluegrass are intolerant to Revolver.

MOVEMENT

Revolver must dry on the treated area before irrigation or rainfall occurs. Revolver does not need to be watered in after application. Do not allow the spray to drift onto the non-tolerant turfgrasses. **Do not use on warm season turfgrass collars surrounding bentgrass greens.**

Tracking:

Revolver must dry on the treated turf before traffic is allowed through the treated area.

APPLICATION METHODS, MIXING, AND COMPATIBILITY

Uniform, thorough spray coverage is important to achieve consistent weed control. Select spray nozzles and pressure that deliver **MEDIUM** spray droplets as indicated in nozzle manufacturer's catalogs and in accordance with ASAE Standard S-572. Nozzles that deliver **COARSE** spray droplets may be used to reduce spray drift provided spray volume per acre (GPA) is increased to maintain coverage of weeds.

Application

Broadcast:

REVOLVER Herbicide can be applied as a broadcast treatment in a minimum of 25 gallons of water per acre. For weed control in dense weed populations or under adverse growing conditions, higher spray volumes up to 60 gallons per acre are recommended. Rates are listed in the weed control recommendation table.

Hand held sprayer for spot treatment:

For hand held pump type sprayers, mix 0.5 to 1 fluid ounce of Revolver per gallon of water, depending on the weed and stage of growth. Use the higher rate for the more difficult to control or larger weeds. Spray to wet. Do not apply beyond runoff.

SPRAY SOLUTION pH

The efficacy of REVOLVER Herbicide may be affected by the pH of the spray solution. A pH near 7 is ideal. If pH is less than 6, add a buffer.

Mixing Instructions

REVOLVER Herbicide must be applied with clean and properly calibrated equipment. Prior to adding REVOLVER Herbicide, ensure that the spray tank, filters and nozzles have been thoroughly cleaned.

1. Fill spray-tank with 25% to 50% of the required volume of water, and begin agitation prior to the addition of REVOLVER Herbicide.
2. Continue agitation to ensure full dispersion of REVOLVER Herbicide.
3. If REVOLVER Herbicide is applied in a tank mixture with other pesticides, add REVOLVER Herbicide to the spray tank first and ensure it is thoroughly dispersed before adding other pesticides.
4. Continue to fill the spray tank with water to the desired volume and agitate while adding spray adjuvants and nitrogen fertilizers.

Continue agitation during application to ensure a uniform spray mixture.

RE-SUSPENDING SUSPENSION CONCENTRATE PRODUCTS IN SPRAY SOLUTION

Like other suspension concentrates, REVOLVER Herbicide will settle if left standing without agitation. If the spray solution is allowed to settle for one hour or more, re-agitate the spray solution.

COMPATIBILITY

If REVOLVER Herbicide is to be tank mixed with other pesticides not listed specifically on this label, compatibility should be tested prior to mixing. To test for compatibility, use a small container and mix a small amount (0.5 to 1qt) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop (precipitation, settling, changes in color) do not use this mixture for spraying. Indications of incompatibility usually occur within 5-15 minutes after mixing. Read and follow the label of each tank mix product used for precautionary statements, directions for use, geographic and other restrictions.

WEED CONTROL AND TRANSITION RECOMMENDATIONS

RYEGRASS: TRANSITION TO BERMUDAGRASS

REVOLVER Herbicide can be applied to Bermudagrass for removal of ryegrass and *Poa annua* during the spring transition. Treatments should be applied when Bermudagrass has resumed active growth and removal of ryegrass is desired. Rate and temperature will influence the speed of removal. Higher labeled rates and warmer spring temperatures will result in faster removal. The best time for application within the transition period will vary by location. Addition of nitrogen fertilizer in the tank mixture at the time of application may improve turf quality by increasing Bermudagrass growth during the transition. Rates are listed in the weed control recommendation table.

VOLUNTEER RYEGRASS, TALL FESCUE, AND OTHER COOL SEASON GRASSES

REVOLVER Herbicide can be used to remove clumps of cool season grasses from desired turf. Herbicide rate and temperature will influence the speed of removal. Higher labeled rates and air temperatures will result in quicker removal. Rates are listed in the weed control recommendation table.

ANNUAL BLUEGRASS (*POA ANNUA*)

REVOLVER Herbicide may be used to control annual bluegrass.

Non Overseeded warm season turfgrass:

Revolver may be used at any time on desired turf that has not been overseeded with a cool season grass. Later germinating annual bluegrass will require additional applications.

Overseeded warm season turfgrass:

On overseeded desired grasses, Revolver may be used up to two weeks prior to overseeding. Best results are obtained when the annual bluegrass plants are smaller. Herbicide rate and temperature will influence the speed of removal and influence the timing of applications in non overseeded situations. Higher labeled rates and air temperatures will result in quicker removal.

As Revolver does not have significant preemergent weed control activity, applications can be made in conjunction with a preemergent such as Ronstar(herbicide to obtain pre and post activity. Always follow the most restrictive overseeding interval on the products used. Rates are listed in the weed control recommendation table.

OVERSEEDED BERMUDAGRASS, GREENS, TEES, COLLARS, AND APPROACHES

REVOLVER Herbicide may be used to remove *Poa trivialis*, *Poa annua*, ryegrass, and bentgrass from Bermudagrass greens, tees, collars and approaches surrounding Bermudagrass greens. Application should be made to Bermudagrass during the spring transition. Higher labeled rates and air temperatures will result in faster removal. Bermudagrass should be actively growing prior to transitional use of REVOLVER to ensure fill in. Rates are listed in the weed control recommendation table. Do not use more than 0.4 fluid ounces per 1000 square feet on these areas per application.

GOOSEGRASS

Make two applications of REVOLVER Herbicide to control goosegrass 7-14 days apart. The lower rate may be used for control of goosegrass at the 1-3 leaf stage while the higher rate should be used on goosegrass with 1-3 tillers. Rates are listed in the weed control recommendation table.

CENTIPEDEGRASS

Apply REVOLVER herbicide to suppress centipede grass. Rates are listed in the weed control recommendation table.

Weed Resistance

ALS-resistance exists in some biotypes. These biotypes are not controlled by REVOLVER Herbicide. Consider using herbicides with other modes of action to control resistant species.

TANK MIX RECOMMENDATIONS FOR REVOLVER HERBICIDE

The following products have been tested for physical compatibility and have shown to be compatible.

When using REVOLVER Herbicide in tank mix combinations, follow the precautions and directions of the most restrictive label. Test compatibility with other unlisted pesticides prior to use.

Herbicides

Atrazine	Trimec® Plus
Illoxan*	Image**
Manage®	MSMA*
Sencor**	Ronstar®
Dicamba	

*Note that tank mixtures of REVOLVER Herbicide with Image, Sencor or MSMA may increase temporary discoloration (yellowing) on Bermudagrass.

RATE RECOMENDATION TABLE FOR WEED CONTROL

REVOLVER Herbicide should be applied at a rate of 0.1 to 0.6 ounces of product per 1000 sq. ft. Because REVOLVER Herbicide provides control of emerged weeds and has limited soil residual, sequential applications or residual tank mixtures may be required to control weeds emerging after application. **Broadcast applications of REVOLVER Herbicide should not exceed a maximum of 1.25 ounces of product per 1000 sq. ft per use season. In situations where multiple applications on the same treated area might approach this limit, do not treat more than 10,000 square feet per acre of turf area.**

Weed or Turf Species Controlled	Product Application Rate Ounces/1000 sq. ft.	Product Application Rate Ounces/5000 sq. ft.	Product Application Rate Ounces/Acre
Ryegrass (transition)	0.2, 0.4	1, 2	8.8, 17.4
Volunteer ryegrass, tall fescue, and other cool season grasses	0.2, 0.4, 0.6	1, 2, 3	8.8, 17.4, 26.2
Annual bluegrass	0.2, 0.4	1, 2	8.8, 17.4
<i>Poa trivialis</i> , <i>Poa annua</i> , and bentgrass in overseeded bermudagrass greens, tees, collars, and approaches	0.1, 0.2, 0.4	0.5, 1, 2	4.4, 8.8, 17.4
Goosegrass	0.4, 0.6	2, 3	17.4, 26.2
Centipedegrass (suppression)	0.6	3	26.2
Henbit, Doweweed	0.4	2	17.4

* Multiple applications may be required to control Goosegrass, large volunteer ryegrass, or where 0.1 oz rate is used

Insecticides

Sevin®

Soil Insecticide Interaction

Application of REVOLVER Herbicide to turf previously treated with an organophosphate (OP) insecticide in the same growing season may cause injury.

Foliar Insecticide Interaction

Foliar applications of an OP insecticide should not be made within 7 days of a REVOLVER Herbicide application or injury may result.

Tank Mixtures with Fungicides

26GT®

TANK CLEANUP PROCEDURE

1. Drain the tank completely, then wash out tank, boom and hoses with clean water. Drain again.
2. Fill the tank half full with clean water and add ammonia (i.e. 3% domestic ammonia solution) at a dilution rate of 1% (i.e. 1 gallon of domestic ammonia for every 100 gallons of rinsate). Completely fill the tank with water. Agitate/recirculate and flush through boom and hoses. Leave agitation on for 10 minutes. Drain tank completely.
3. Repeat Step 2.
4. Remove nozzles and screens and soak them in a 1% ammonia solution. Inspect nozzles and screens and remove visible residues.
5. Flush tank, boom, and hoses with clean water.
6. Inspect tank for visible residues. If present, repeat Step 2.

PRECAUTIONS FOR USE

1. Rainfall within 2 hours may necessitate treatment with REVOLVER Herbicide or may result in reduced weed control. Applications should be made to actively growing weeds. Weed control may be reduced if application is made in the presence of heavy dew, fog, and mist/rain or when weeds are under stress due to drought.
2. DO NOT apply when wind causes drift to off-site vegetation as injury may occur. Small amounts of REVOLVER Herbicide delivered via drift or spray tank contamination can damage other plants. Careful management of spray drift and tank cleanout is recommended.
3. DO NOT broadcast more than 1.25 oz/1000 sq. ft. of REVOLVER Herbicide exhibiting injury from previous applications of other products.

4. Do not apply this product by air or through any type of irrigation system.
5. Apply Revolver Herbicide spray mixtures within 24 hours of mixing to avoid product degradation.
6. Do not apply REVOLVER Herbicide on turf exhibiting injury from previous applications of other products.
7. Do not apply REVOLVER HERBICIDE within 2 weeks of Bermudagrass sprigging.
8. Do not apply REVOLVER HERBICIDE within 2 weeks prior to overseeding Bermudagrass with a cool season grass such as ryegrass, some temporary stunting may occur for up to two weeks.
9. Avoid excessive mechanical disruptions such as aeration and verticutting within 1 week prior to or after application.

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and should be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Turf injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Bayer Environmental Science. All such risks shall be assumed by the user or buyer.

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WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT BAYER ENVIRONMENTAL SCIENCE'S ELECTION, THE REPLACEMENT OF PRODUCT.

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Bayer Environmental Science
95 Chestnut Ridge Road, Montvale, NJ 07645
www.bayerprocentral.com
PRODUCT OF GERMANY

REVOLVER Herbicide Revised First Aid and layout.
Rev-SL-0404

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name REVOLVER® HERBICIDE

Product code (UVP) 79644205, 86252163

SDS Number 102000022418

EPA Registration No. 432-1266

Relevant identified uses of the substance or mixture and uses advised against

Use Herbicide

Restrictions on use See product label for restrictions.

Information on supplier

Supplier Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

Responsible Department Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577

Product Information Telephone Number 1-800-331-2867

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200

Skin sensitisation: Category 1

Skin irritation: Category 2

Aspiration hazard: Category 1

Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Danger

Hazard statements

Causes skin irritation.

May cause an allergic skin reaction.

May be fatal if swallowed and enters airways.

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Precautionary statements

Wash thoroughly after handling.
Wear protective gloves.
Avoid breathing mist/ spray.
Contaminated work clothing should not be allowed out of the workplace.
IF ON SKIN: Wash with plenty of water/ soap.
If skin irritation or rash occurs: Get medical advice/ attention.
IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician.
Specific treatment (see supplemental first aid instructions on this label).
Take off contaminated clothing and wash before reuse.
Do NOT induce vomiting.
Store locked up.
Dispose of contents/container in accordance with local regulation.

Hazards Not Otherwise Classified (HNOC)

No physical hazards not otherwise classified.
No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Foramsulfuron	173159-57-4	2.34
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	34.76
Calcium dodecylbenzenesulfonate, branched	70528-83-5	1.8
1-Octanol	111-87-5	1.2
Naphthalene	91-20-3	0.35

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Inhalation Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Skin contact Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Eye contact 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 physician or poison control center immediately.

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Ingestion Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Risks Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.

Treatment Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Water spray, Carbon dioxide (CO₂), Foam, Sand

Unsuitable High volume water jet

Special hazards arising from the substance or mixture In the event of fire the following may be released: Carbon monoxide (CO), Carbon dioxide (CO₂), Hydrogen cyanide (hydrocyanic acid), Nitrogen oxides (NO_x), Sulphur dioxide (SO₂), Dangerous gases are evolved in the event of a fire.

Advice for firefighters

Special protective equipment for firefighters Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Further information Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Flash point 128 °C

Auto-ignition temperature No data available

Lower explosion limit No data available

Upper explosion limit No data available

Explosivity Not applicable

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SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

Additional advice Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.

Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use only in area provided with appropriate exhaust ventilation. Handle and open container in a manner as to prevent spillage.

Hygiene measures Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Protect from freezing.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Foramsulfuron	173159-57-4	10 mg/m ³		OES BCS*

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Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Non-aerosol.)	64742-94-5	(TWA) 200 mg/m ³ (TWA)	03 2014	ACGIH
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	400 mg/m ³ /100 ppm (REL)	2010	NIOSH
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	100 mg/m ³ (REL)	2010	NIOSH
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	400 mg/m ³ /100 ppm (PEL)	02 2006	OSHA Z1
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	400 mg/m ³ /100 ppm (TWA)	1989	OSHA Z1A
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	400 mg/m ³ /100 ppm (TWA)	06 2008	TN OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	1,600 mg/m ³ /400 ppm (TWA PEL)	08 2010	US CA OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	1,350 mg/m ³ /300 ppm (TWA PEL)	09 2013	US CA OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	1,800 mg/m ³ /400 ppm (STEL)	09 2013	US CA OEL
1-Octanol	111-87-5	265 mg/m ³ /50 ppm (TWA)	2010	WEEL
Naphthalene	91-20-3	10 ppm (TWA)	02 2012	ACGIH
Naphthalene	91-20-3	50 mg/m ³ /10 ppm (REL)	2010	NIOSH
Naphthalene	91-20-3	75 mg/m ³ /15 ppm (STEL)	2010	NIOSH
Naphthalene	91-20-3	50 mg/m ³ /10 ppm (PEL)	02 2006	OSHA Z1
Naphthalene	91-20-3	75 mg/m ³ /15 ppm	06 2008	TN OEL

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		(STEL)		
Naphthalene	91-20-3	50 mg/m ³ /10 ppm (TWA)	06 2008	TN OEL
Naphthalene	91-20-3	0.5 mg/m ³ /0.1 ppm (TWA PEL)	10 2014	US CA OEL
Naphthalene	91-20-3	10 ppm (TLV)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Biological occupational exposure limits

Components	CAS-No.	Parameters	Biological specimen	Sampling time	Conc.	Basis
Naphthalene	91-20-3	1-Naphthol, with hydrolysis + 2-Naphthol, with hydrolysis		Sampling time: End of shift.		ACGI H BEI

Exposure controls

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection

Chemical resistant nitrile rubber gloves

Eye protection

Tightly fitting safety goggles

Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.
Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	beige
Physical State	Liquid
Odor	aromatic
Odour Threshold	No data available
pH	5.0 - 7.0 (10 %) (23 °C) (deionized water)
Vapor Pressure	No data available

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Vapor Density (Air = 1)	No data available
Density	ca. 0.96 g/cm ³ (20 °C)
Evaporation rate	No data available
Boiling Point	No data available
Melting / Freezing Point	No data available
Water solubility	dispersible
Minimum Ignition Energy	Not applicable
Decomposition temperature	No data available
Partition coefficient: n-octanol/water	No data available
Viscosity	25 - 100 mPa.s (20 °C) Velocity gradient 20 /s 20 - 60 mPa.s (20 °C) Velocity gradient 100 /s
Flash point	128 °C
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not applicable
Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition	No data available
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	No data available
Incompatible materials	No data available
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Ingestion, Inhalation
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Immediate Effects

Eye Moderate eye irritation.

Skin Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. May cause skin irritation.

Ingestion May be harmful if swallowed.

Information on toxicological effects

Acute oral toxicity LD50 (Rat) > 5,000 mg/kg

Acute inhalation toxicity LC50 (Rat) > 5.25 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.

Acute dermal toxicity LD50 (Rat) > 5,000 mg/kg

Skin corrosion/irritation Moderate skin irritation. (Rabbit)

Serious eye damage/eye irritation Slight irritant effect - does not require labelling. (Rabbit)

Respiratory or skin sensitisation Skin: Sensitising (Guinea pig)
OECD Test Guideline 406, Buehler test

Assessment STOT Specific target organ toxicity – repeated exposure

Foramsulfuron did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Foramsulfuron was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Foramsulfuron was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	Group A3
Naphthalene	91-20-3	Group A3

NTP

Naphthalene	91-20-3
-------------	---------

IARC

Naphthalene	91-20-3	Overall evaluation: 2B
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OSHA

None.

Assessment toxicity to reproduction

Foramsulfuron did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

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Foramsulfuron did not cause developmental toxicity in rats and rabbits.

Further information

Acute toxicity studies have been bridged from a similar formulation(s).
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 6.9 mg/l Exposure time: 48 h
Toxicity to aquatic plants	EC50 (Raphidocelis subcapitata (freshwater green alga)) > 5 mg/l Growth rate; Exposure time: 96 h EC50 (Lemna gibba (gibbous duckweed)) 0.75 µg/l Growth rate; Exposure time: 7 d
Biodegradability	Foramsulfuron: Not rapidly biodegradable
Koc	Foramsulfuron: Koc: 38 - 151
Bioaccumulation	Foramsulfuron: Does not bioaccumulate.
Mobility in soil	Foramsulfuron: Mobile in soils
Additional ecological information	The ecological data refer to a similar formulation. No other effects to be mentioned.
Environmental precautions	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not apply when weather conditions favor runoff or drift. Drift or runoff from treated areas may adversely affect non-target plants. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Dispose in accordance with all local, state/provincial and federal regulations. Never place unused product down any indoor or outdoor drain.
Contaminated packaging	Do not re-use empty containers. Triple rinse containers.

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Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke. Follow advice on product label and/or leaflet.

RCRA Information

Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR

UN number	3082
Class	9
Packaging group	III
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (NAPHTHALENE)
RQ	Reportable Quantity is reached with 28,571 lb of product.

IMDG

UN number	3082
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKYL (C3-C6) BENZENE SOLUTION)

IATA

UN number	3082
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ALKYL (C3-C6) BENZENE SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 432-1266

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US Federal Regulations

TSCA list

Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5
Calcium dodecylbenzenesulfonate, branched	70528-83-5
1-Octanol	111-87-5

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
Not applicable.

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

None.

US States Regulatory Reporting

CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	CT, NJ, RI
1-Octanol	111-87-5	CT, MN, RI

EPA/FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements: Moderate eye irritation.
Avoid contact with skin, eyes and clothing.
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances

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ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Instability - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1 Flammability - 1 Physical Hazard - 0 PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 2: Hazards Identification. Reviewed and updated for general editorial purposes.

Revision Date: 05/10/2019

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