Sharda USA LLC

QUIZALOFOP EC

HERBICIDE

EMULSIFIABLE CONCENTRATE

Active Ingredients	*By Weight*
Quizalofop P-Ethyl Ethyl(R)-2-[4-(6-chloroquinoxalin-2-yl oxy)-phenoxy]propionate	10.3%*
Inert Ingredients	89.7%
TOTAL	100.0%

Contains petroleum-based distillates

* Equivalent to 0.88 lb ai per gallon

ACCEPTED
with COMMENTS
In EPA Letter Dated:
12-16-08
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No.
83525-15

EPA Reg. No.

EPA Est. No.

Net Contents: 1 gallon

KEEP OUT OF REACH OF CHILDREN

DANGER - PELIGRO

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

FIRST AID

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

IF ON SKIN OR CLOTHING: Take of contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

For 24-hour medical emergency assistance (human or animal) call toll free at 1-800-222-1222. For chemical emergency assistance (spill, leak, fire, or accident) call CHEMTREC at 1-800-424-9300.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER! Causes irreversible eye damage. Harmful if swallowed, inhaled, or absorbed through the skin. Avoid contact with eyes, skin, or clothing. Avoid breathing vapor or spray mist.

PERSONAL PROTECTIVE EQUIPMENT

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

Applicators and other handlers must wear:

Long-sleeved shirt and long pants.
Chemical-resistant gloves, such as barrier laminate or Viton.
Shoes plus socks.
Protective eyewear.

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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 STATEMENTS

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 part 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. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and invertebrates. Do not apply directly to water, or 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 or rinsate.

This product may contaminate water through drift of spray in wind. This product has a potential for runoff for several months or more after application. Poorly drained soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which the product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion practices will reduce this product's contribution to surface water contamination.

PHYSICAL AND CHEMICAL HAZARDS

Combustible. Keep away from heat, sparks, and open flames. Keep container closed.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Sharda Quizalofop EC should be used only in accordance with recommendations on this label.

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 (PPE) 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 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.

Chemical-resistant gloves, such as barrier laminate or Viton.

Shoes plus socks.

Protective eyewear.

NON-AGRICULTURAL USE REQIREMENTS

The requirements in this section 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.

Weed control in "Non-Agricultural Uses" is not within the scope of WPS. Keep unprotected persons out of treated areas until sprays have dried.

ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

Quizalofop EC is a systemic herbicide that is rapidly absorbed by treated foliage and translated to the roots and other growing points of the plant. When affected, younger plant tissues become chlorotic/necrotic and eventually die, leaving treated plants stunted and noncompetitive. In general, these symptoms are first observed within 7 to 14 days after application depending on the grass species treated and the environmental conditions.

The degree of control and duration of the effect of Quizalofop EC depend upon the rate used, weed spectrum, weed size and variability, growing conditions at and following treatment, soil moisture, precipitation, tank mixtures, and spray adjuvant used.

Conditions conducive to healthy, actively growing plants optimize the performance of Quizalofop EC. Unacceptable control may occur if Quizalofop EC is applied to grasses stressed from:

- Abnormal weather (excessive heat or cold, or widely fluctuating temperatures),
- hail damage,
- drought,
- water saturated soils,
- mechanical injury, or
- prior herbicide injury.

Grasses under these conditions are often less sensitive to herbicide activity. Delay application until the stress passes and weeds and crop resume growth. Before making applications of Quizalofop EC to crops previously under stress, or injured from other pesticide applications, the crop needs to be fully recovered and growing vigorously. Quizalofop EC is rainfast 1 hour after application.

APPLICATION INFORMATION

Agricultural Uses

Quizalofop EC is a selective herbicide that controls annual and perennial grasses in canola, crambe, cotton, crops grown for seed, eucalyptus, dry beans, including Chickpea, dry and succulent peas, flax, hybrid poplar plantings, lentils, mint (spearmint and peppermint), pineapple, ryegrass grown for seed, snap beans, soybeans, sugarbeets, sunflowers and non-crop areas. Quizalofop EC does not control sedges or broadleaf weeds. Applied at specified rates and timings, Quizalofop EC controls the grasses listed in the chart labeled, "Weeds Controlled and Rate Selection." See the section titled, "Seasonal Use Limits and Harvest Intervals" for the specific crop.

Quizalofop EC herbicide is a selective post-emergence herbicide registered for control of annual and perennial grasses in alfalfa, onion, carrot, garlic, Swiss chard, spinach, radish, Chinese cabbage, and red beets grown specifically under contract as non food/non feed crops for seed production only. See "Restrictions" portion of label before using. Applied at specified rates and timings, Quizalofop EC herbicide will control emerged grasses. Subsequent flushes of grasses require additional treatment.

Non-Agricultural Uses

Non-Crop Areas

Sharda Quizalofop EC is registered for postemergence control of certain grasses on non-crop sites such as fence rows, roadsides, equipment storage areas, and other similar areas.

Make a single application of Sharda Quizalofop EC at a rate of 12 to 16 fluid ounces per acre to actively growing grasses.

Non-Crop Areas - to aid in establishment of Wildflowers

- Since Sharda Quizalofop EC controls many grasses but not most broadleaf plants, it may be used to enhance establishment and growth of certain broadleaf plants on non-crop sites (that is, plants identified as "wildflowers" such as indian blanket, cone flowers, bachelor button, dwarf cornflower, coreposis, white yarrow, oxeye daisy, dames-rocket, blue flax, evening primrose, black-eyed susan, marigolds, impatiens, bluebonnet, indian paintbrush, verbena, gaillardia, chrysanthemum, catchfly and scarlet pimpernel).
- For this use refer to use rates in the Weeds Controlled area of this label, and not the rates in the NON-CROP section above.

Application Timing

Crop and Non-Crop Uses

Apply Quizalofop EC to young, actively growing grasses according to the rate chart that follows. If a field is to be irrigated, apply Quizalofop EC after the irrigation. Applications made to grasses that are larger than the sizes listed in the rate charts or to grasses under stress may result in unsatisfactory control.

Sequential Applications

Do not exceed the maximum use rate per acre per year, as specified for the specific crop (see section: Seasonal use limits and Harvest Intervals, page Quizalofop EC).

Annual Grasses

In the event of a subsequent flush of grass, or of regrowth of previously treated grass, a second application of Quizalofop EC may be applied. Select the appropriate rate for the grassy weed from the "Weeds Controlled - Rate selection" chart.

Perennial Grasses

If perennial grasses regrow, reapply Quizalofop EC at 6-7 fluid ounces of product per acre. Application timing should be as follows: bermudagrass (3" tall or up to 6" runners), rhizome johnsongrass (6"-10"), quackgrass (4"-8"), wirestem muhly (4"-8").

Spray Adjuvants

Applications of Quizalofop EC must include either a crop oil concentrate or a nonionic surfactant. Consult local Sharda fact sheets, technical bulletins, and service policies prior to using other adjuvant systems. If another herbicide is tank mixed with Quizalofop EC to increase the weed spectrum, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40 CFR 1001).

Petroleum Crop Oil Concentrate (COC)

- Petroleum-based crop oil concentrates are the preferred adjuvant system in arid areas.
- Apply petroleum-based crop oil concentrate at 1% v/v (1gallon per 100 gallons spray solution) or 2% under arid conditions. Note - in soybeans and sunflowers, up to 2% v/v may be used based on local conditions.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.
- For aerial applications apply 0.5% v/v (2 quarts product per 100 gallons spray solution).

Nonionic Surfactant (NIS)

- Apply at 0.25% v/v (1 quart of product per 100 gallons spray solution).
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

Ammonium Nitrogen Fertilizer

- An ammonium nitrogen fertilizer may be added to the spray mixture, in addition to crop oil concentrate or nonionic surfactant, but is not required to optimize performance of this product.
- Use 2 quart/acre of a high-quality urea ammonium nitrate (UAN), such as 28%N or 32%N, or 2 lb./acre of a spray-grade ammonium sulfate (AMS). Use 4 quart/acre UAN or 4 lb./acre AMS under arid conditions.
- Do not use liquid nitrogen fertilizer as the total carrier solution.

Special Adjuvant Types

- Combination adjuvant products may be used at doses that provide the required amount of NIS, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.
- In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality.

WEEDS CONTROLLED AND RATE SELECTION

	Size at Application (inches)	Quizalofop EC Applied Alone (fluid ounces product per acre	Quizalofop EC Tank Mixed with Broadleaf Herbicide (fluid ounces product per acre[1]
Annual Grasses[2]			
Barnyardgrass *(Echinochloa crus-galli)*	2-6	8-10	Split†
Broadleaf Signalgrass *(Brachiaria platyphylla)*	2-6	10	Split†
Crabgrass, Large *(Digitaria sanguinalis)*	2-6‡	8-10	Split†
Crabgrass, Smooth *(Digitaria ischaemum)*	2-6‡	8-10	Split†
Crowfootgrass *(Dactyloctenium aegyptium)*	2-6	7-8	8
Downy Brome *(Bromus tectorum)*	2-6	10-12	12
Fall Panicum *(Panicum dichtomiflorum)*	2-6	7-8	8
Field Sandbur *(Cenchrus incertus)*	2-6	7-8	8
Foxtail, Bristly *(Setaria verticillata)*	2-6	7-8	8
Foxtail, Giant *(Setaria faberi)*	2-4 (pretiller)	5-8	5
Foxtail, Giant *(Setaria faberi)*	4-8	7-8	7
Foxtail, Green *(Setaria viridis)*	2-4	7-8	8
Foxtail, Yellow *(Setaria lutescens)*	2-4	7-8	Split†
Goosegrass *(Eleucine indica)*	2-6‡	7-8	8
Italian Ryegrass *(Lolium multiflorum)*	2-6	10-12	12
Itchgrass *(Rottboellia exaltata)*	2-8	7-8	8
Johnsongrass, Seedling *(Sorghum halepense)*	2-8	5-8	5
Jointed Goatgrass *(Aegilops cylindrical)*	2-6	10-12	12
Junglerice *(Echinochloa colonum)*	2-6	8-10	10
Red Rice *(Oryza sativa)*	1-4	9-10	Split†
Shattercane *(Sorghum bicolor)*	6-12	5-8	5
Sprangletop *(Leptochloa filiformis)*	2-6	7-8	8
Texas Panicum *(Panicum texanum)*††	2-4	8-10	Split†
Volunteer Barley *(Hordeum vulgare)*	2-6	7-8	8
Volunteer Corn *(Zea mays)*‡‡	6-30	5-8	4-8
Volunteer Oats *(Avena sativa)*	2-6	7-8	8
Volunteer Rye *(Secale cereale)*	2-6	7-8	8
Volunteer Wheat *(Triticum aestivum)*	2-6	7-8	8
Wild Oat *(Avena fatua)*	2-6	7-8	8
Wild Proso Millet *(Panicum miliaceum)*	2-6	5-8	7
Windgrass *(Bromus mollis)*	2-6	10-12	12
Witchgrass *(Panicum capillare)*	2-6	7-8	8
Woolly Cupgrass *(Eriochloa villosa)*	2-4§	9-10	Split†
Perennial Grasses[2]			
Bermudagrass *(Cynodon dactylon)*	3" tall, or up to 6" runners	10-12	Split†
Johnsongrass, Rhizome *(Sorghum halepense)*	10-24	10-12	10
Quackgrass *(Agropyron repens)*	6-10	10-12	Split†
Wirestem Muhly *(Muhlenbergia frondosa)*	4-8	8-10	Split†

[1] See "Applications With Broadleaf Herbicides."

[2] For annual and perennial grasses, up to 12 fl. oz./acre may be applied, based on local recommendations. **Under arid conditions the higher rate is recommended.**

‡‡ Control includes "Roundup" Ready (glyphosate resistant), Liberty Link, and IMI-Corn. Apply 4 fl. oz./acre [xxxx] for up to 12 inch tall corn. Apply 5 fl. oz./acre [xxxx] for 12-18 inch volunteer corn; use 8 fl. oz./acre for 18-30 inch volunteer corn.

† Split = Split Application. May not be controlled adequately using a tank mix with broadleaf herbicides. For best results, alternate applications of [xxxx] with a broadleaf herbicide, ensuring that [xxxx] is applied either 24 hours before or 7 days after the broadleaf herbicide.

‡ Length of lateral growth.

§ Size in height or diameter, whichever is more restrictive. Applications to plants with more than three tillers may result in unsatisfactory control.

†† **In Texas and other areas of the arid west, 10 fl. oz. is the recommended use rate for control of Texas panicum. Use of lower rates may result in unsatisfactory control.**

Specific Weed Problems

Volunteer Glyphosate-Resistant Corn

For Control of volunteer glyphosate-resistant corn in other glyphosate-resistant crops, Sharda Quizalofop EC may be used in a tank mix with glyphosate as follows:

- Apply Quizalofop EC at a rate of 4 fl oz./acre for up to 12 inch volunteer corn, 5 fl oz./acre for 12-18 inch volunteer corn, and 8 fl oz./acre for 18-30 inch volunteer corn, tank mixed with a labeled rate of glyphosate.

Quizalofop EC may be used in a tank mix with glyphosate as follows:

- If the glyphosate formulation does not include a built-in adjuvant system, a nonionic surfactant or petroleum based crop oil concentrate must be included, per directions on this label.
- If the glyphosate formulation contains a built-in adjuvant system (i.e. "Roundup WeatherMax"), additional adjuvant is still required. Add nonionic surfactant at a rate of 0.125% v/v (1 pt. per 100 gal spray solution). Under arid conditions consider adding a petroleum based crop oil concentrate at 1% v/v (1 gallon per 100 gallons spray solution) instead of a nonionic surfactant.

Rhizome Johnsongrass - South East States

For control of rhizome johnsongrass in the states of Alabama, Arkansas, Florida, Georgia, Louisiana, Maryland, Mississippi, Tennessee, Virginia, and West Virginia, a reduced rate of Quizalofop EC may be used if applied in a sequential application program as follows:

1. Apply Quizalofop EC at 5 fl oz./acre when johnsongrass is 10-24 inches tall.
2. Apply Quizalofop EC a second time at 5 fl oz./acre when johnsongrass regrowth is 6-10 inches tall.

Do not apply Quizalofop EC in a tank mix with postemergence broadleaf herbicides when using this reduced rate, sequential program. Do not exceed the maximum specified rate/acre/season for the crop that is going to be planted when additional applications are made to control Rhizome Johnsongrass.

Rhizome Johnsongrass

Quizalofop EC herbicide will provide control of weeds in Fallow, including emerged Rhizome and Seedling Johnsongrass. Note that, when applied to at specific rates and timings to control grass weeds, Quizalofop EC herbicide will provide control of emerged grasses only. Subsequent flushes of grasses require additional treatment.

1. Apply Quizalofop EC at 8 oz./acre when seedling johnsongrass is 2-6 inches tall.
2. Apply Quizalofop EC at 12 oz./acre when rhizome johnsongrass is 12-16 inches tall.
3. If rhizome johnsongrass regrows, reapply Quizalofop EC at 8 oz./acre. Application timing should be when johnsongrass regrowth is 6-10 inches tall.

Tank mixes of Quizalofop EC with postemergence broadleaf herbicides may result in reduced grass control. If grass control is reduced, an additional application of Quizalofop EC may be required after grass plants begin to develop new leaves.

Specific Crop Uses

For Use On Non Food/Non Feed Crops Grown Under Contract For Seed Production

Quizalofop EC herbicide is registered for control of annual and perennial grasses in alfalfa, onion, carrot, garlic, Swiss chard, spinach, radish, Chinese cabbage, and red beets grown specifically under contract as non food/non feed crops for seed production only in these states: Idaho, Montana, Oregon, Washington and Wyoming. See "Restrictions" portion of this label before using. Applied at specific rates and timings, Quizalofop EC will control emerged grasses. Subsequent flushes of grasses require additional treatment.

Spray Additives

Always include a nonphytotoxic petroleum based crop oil concentrate at 1% v/v (1 gallon/100 gallons) or a nonionic surfactant at 0.25% v/v (1 quart/100 gallons). Crop oil concentrate is the preferred adjuvant in arid areas.

Tank Mix Applications

Tank mixtures of Quizalofop EC with any pesticide or spray adjuvant is not recommend except as directed on this label or on other supplemental labels.

For Use In Eucalyptus Plantations

How To Use

Quizalofop EC herbicide is registered for control of annual and perennial grasses in Eucalyptus plantations in the state of Hawaii. Use a tractor sprayer properly calibrated to a constant speed and rate of delivery.

Apply Quizalofop EC as a broadcast spray at a rate of 15-30 fl oz./acre per application in Eucalyptus fields. A maximum of 4 applications may be made per year.

Weeds Controlled

Para grass *(Panicum muticum)*

Crab Grass *(Digitara spp.)*

Weeds Partially Controlled

Torpedo grass *(Panicum repens)*

For Establishment Of Hybrid Poplar Plantings

Quizalofop EC is registered for the control of grasses to aid in the establishment of hybrid poplar plantings in the states of Maine and Minnesota.

Quizalofop EC may be applied over hybrid poplar following planting. Apply at the rate of 5-10 fl oz./acre. Refer to the table for the appropriate size or growth stage of the grasses to be controlled. Follow recommendations regarding the use of surfactants, spray additives and tank mix partners.

For Use in Pineapple

Quizalofop EC herbicide is registered for control of annual and perennial grasses in pineapple in Hawaii and Puerto Rico. Apply at specified rates and timing, Quizalofop EC will control emerged grasses. Subsequent flushes of grasses require additional treatment.

How To Use

Use a sprayer properly calibrated to a constant speed and rate of delivery. Mix the proper amount of Quizalofop EC in water.

- Foliar applications: Apply Quizalofop EC at 15-30 fl oz./acre per applications. A maximum of 4 applications may be made per harvest.
- Directed spot treatments for perennial grasses: Spray perennial grasses postemergence to wet (50-100 gallons per acre depending on size) with 15-30 fl oz./100 gallons of water as a spot treatment. A maximum of 4 applications may be made per harvest.

Weeds Controlled

Sour Grass (Tricachne insularis)
Crabgrass (Digitaria spp.)
Natal Red Top (Agrostis alba)

Weeds Partially Controlled

Guineagrass (Panicum maximum)
Wiregrass (Eleusine Indica)
Molasses Grass (Melinis Minutiflora)

For Use In Grass Control in Non-Food/Non-Feed Quizalofop EC Tolerant Perennial Ryegrass Crops Grown Only For Seed Production

Quizalofop EC herbicide is registered for control of annual and perennial grasses in non-food/non-feed Quizalofop EC tolerant perennial ryegrass crops grown specifically for seed production in the state of Minnesota. See "Restrictions" portion of this label before using. Quizalofop EC will control emerged grasses when applied at specified rates and timings. Subsequent flushes of grasses require additional treatment.

How To Use

Apply Quizalofop EC at 10 fl oz./acre prior to the boot stage in the spring of the second year of Quizalofop EC tolerant perennial ryegrass growth. Application at this stage is for vegetative suppression of quackgrass growth and preventing quackgrass seed contamination during ryegrass harvest.

- Application of Quizalofop EC at 10 fl oz./acre may be made in the first season of Quizalofop EC tolerant perennial growth for control of heavier quackgrass infestations. Such applications can be made anytime from planting until the end of August.
- Fall application of Quizalofop EC should be avoided on Quizalofop EC tolerant perennial ryegrass because seed production may be reduced.

TANK MIXES

Refer to the labels of all tank mix products for information regarding use information (such as rates, timing, application information, and sprayer cleanup) and product precautions and restrictions (especially adjuvants - Quizalofop EC requires the use of an adjuvant). The most restrictive provisions apply. If those instructions conflict with this label, do not tank mix the herbicide with Quizalofop EC.

Sharda also recommends that you consult your state experiment station, university, or extension agent, or agricultural dealer as to the potential for any adverse interactions (resulting in unacceptable grass control and/or crop injury) before using new herbicide, insecticide and fungicide mixtures. If no information is available, limit initial use of Quizalofop EC and the new herbicide, insecticide or fungicide product to a small area.

Always conduct a jar test to evaluate physical compatibility before applying a particular mixture to crops for the first time.

Application With Insecticides and Fungicides

Quizalofop EC may be tank mixed with postemergence insecticides, fungicides or bactericides registered for use in the specific crop.

Application With Broadleaf Herbicides

For best results, apply Quizalofop EC alone or in sequence with a broadleaf herbicide. Tank mixtures of Quizalofop EC with chlorimuron-ethyl or with cloransulam-methyl containing herbicides may fail to control certain grass species normally controlled by Quizalofop EC when applied alone. Under arid or stressful environmental conditions, tank mixtures with other broadleaf herbicides may show a small reduction in control of some grass species. Activity of the postemergence broadleaf herbicide in the tank mixture is not affected.

Split Applications with Postemergence Broadleaf Herbicides

Applying Quizalofop EC immediately prior to or following an application of a postemergence broadleaf herbicide may reduce control of some grasses. For best results, follow these recommendations when making split applications:

- Apply postemergence broadleaf herbicides at least 24 hours after applying Quizalofop EC.
- Apply Quizalofop EC when grass begins to develop new leaves (generally 7 days after the postemergence broadleaf herbicide application) in fields treated with a postemergence broadleaf herbicide.

Dry Beans, Dry and Succulent Peas in Idaho, Montana, Oregon and Washington

Sharda Quizalofop EC can be tank mixed with "Basagran" herbicide for selective post emergence weed control of annual and perennial grasses and broadleaf weeds in dry beans, dry peas and succulent peas.

When tank mixing Quizalofop EC with "Basagran," annual grass antagonism can be minimized by increasing the specified use rate of Quizalofop EC by 2 ounces per acre. Refer to the "Seasonal Use Rates and Harvest Intervals" section of this label for seasonal maximum use rates.

Quizalofop EC herbicide requires the use of a spray adjuvant (surfactant, crop oils, etc.). Refer to the "Basagran" label for application information and restrictions regarding rates, weeds controlled, crop size, use of adjuvants (adjuvant type, temperature and geography), rotational crop intervals, sprayer cleanup, use precautions and other information. the most restrictive provisions on either label will apply. Do not use the tank mix if any restrictions on the "Basagran" label conflict with instructions on the Quizalofop EC label. Do not tank mix Quizalofop EC and adjuvants with "Basagran" when temperatures exceed 80° F, as excessive leaf burn may occur.

Soybeans: Tank Mixes with Postemergence Broadleaf Herbicides

Quizalofop EC can be tank mixed with postemergence soybean broadleaf herbicides, such as CLASSIC® and SYNCHRONY® XP herbicide, "Flexstar," or "Basagran" for use on soybeans to control broadleaf weeds and selected grasses.

Include ammonium nitrogen fertilizer if specified on the tankmix partner label. Include either a crop oil concentrate or a nonionic surfactant as specified in the following table:

Sharda Quizalofop EC Tank Mix Partner	Ground			Aerial		
	COC	or	NIS	COC	or	NIS
CLASSIC	8		2	4		2
HARMONY® GT	--*		1-2†	--*		1-2†
SYNCHRONY® XP	--*		1-2†	--*		1-2†
"Basagran"	8		--	4		--
"Flexstar"	8		--	4		--

* Do not use "Dash" or crop oil concentrate when tank mixing Quizalofop EC with HARMONY® GT, CLASSIC® + HARMONY® GT or SYNCHRONY® XP.

† Using the higher rate of nonionic surfactant, particularly under hot, humid conditions, may increase temporary crop injury.

SPOT/SMALL AREA SPRAY INSTRUCTIONS

To spot treat small areas of annuals (i.e., volunteer corn) or perennials (i.e., rhizome johnsongrass), use a 0.375% v/v solution of Quizalofop EC and water.

SPRAY VOLUMES FOR SMALL AREAS

Spray Volume (gallon)	Quizalofop EC (fl. oz. of product)	+	Crop Oil Concentrate (fluid ounces)	OR	Nonionic Surfactant (fluid ounces)
1	0.5 (1 Tbsp.)		1.25 (2.5 Tbsp.)		0.3 (2 tsp.)
25	12 (3/4 pint)		32 (1 quart)		8 (1 cup)
50	24 (1.5 pint)		64 (2 quart)		16 (1 pint)
100	48 (3 pint)		128 (1 gallon)		32 (1 quart)

Do not spot treat grasses using a tank mix of Quizalofop EC and broadleaf herbicides.

- Include a nonphytotoxic crop oil concentrate at 1 gallon per 100 gallons of spray solution (1% v/v) or a nonionic surfactant at 1 qt. per 100 gallons of spray solution (0.25% v/v).
- Treat plants on a spray-to-wet basis to ensure good coverage.
- Do not treat >10% of the total treated area as spot/small area treatment. Do not exceed the maximum rate/acre/season for the crop that is going to be planted when additional applications are made as spot treatment or small area treatment.

CULTIVATION

A timely cultivation may be necessary to control suppressed weeds, weeds that were beyond the maximum size at application, or weeds that emerge after an application of Quizalofop EC.

Cultivation up to 7 days before the postemergence application of Quizalofop EC may decrease weed control by pruning weed roots, placing the weeds under stress, or covering the weeds with soil and preventing coverage by Quizalofop EC.

To allow Quizalofop EC to fully control weeds, cultivation is not recommended within 7 days before or after application. Optimum timing for cultivation is 7-14 days after a postemergence application of Quizalofop EC.

CROP ROTATION

Do not rotate crops other than Canola, Cotton, Crambe, Dry Beans (including Chickpea), Flax, Lentils, Mint (Spearmint and Peppermint), Peas (Dry and Succulent Peas), Snap Beans, Soybeans, Sunflowers or Sugarbeets within 120 days after application.

GRAZING

Do not graze livestock in treated areas. In addition, do not feed forage, hay, or straw from treated areas to livestock.

APPLICATION EQUIPMENT

See SPRAY DRIFT MANAGEMENT section for additional information and precautions.

Ground Application

Broadcast Application

- Use flat fan or hollow cone nozzles at 25-60 psi.
- Do not use flood, rain drop, whirl chamber, or any other nozzle types that produce coarse, large spray droplets. In addition, do not use controlled droplet applicator (CDA) type nozzles as poor weed control or excessive spray drift may result.
- Use a minimum of 10 gallons of water per acre in non-arid areas.
- Us a minimum of 15 gallons of water per acre in arid areas.
- Do not exceed 40 gallons of water per acre.
- Increase spray volume and pressure as weed or crop density and size increase.

Band Application

- Because band application equipment sprays a narrower area than broadcast application equipment, calibrate equipment to use proportionately less spray solution.
- To avoid crop injury, carefully calibrate the band applicator not to exceed the label rate.
- Carefully follow the manufacturer's instructions for nozzle type, nozzle orientation, distance of the nozzles from the crop and weeds, spray volumes, calibration, and spray pressure.

Aerial Application

- Use nozzle types and arrangements that provide optimum spray distribution and maximum coverage.
- Use a minimum of three gallons of water per acre in non-arid areas.
- Use a minimum of five gallons of water per acre in arid areas.

MIXING INSTRUCTIONS

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of Sharda Quizalofop EC. If Quizalofop EC and a tank mix partner are to be applied together, consult the tank mix partner label for information on which should be added first (normally granules and powders are added first).
3. Continue agitation until the Quizalofop EC is fully dispersed, at least five minutes.
4. Once Quizalofop EC is fully dispersed, maintain agitation and continue filling tank with water.
5. As the tank is filling, add the required volume of spray additives. Always add these to the spray tank last.
6. Apply Quizalofop EC spray mixture within a reasonable period of time of mixing to avoid product degradation (24-48 hours). If the spray mixture stands for any period of time, thoroughly re-agitate before using.

SPRAYER CLEANUP

The spray equipment must be cleaned before Quizalofop EC is sprayed. Follow the cleanup procedures specified on the labels of the previously applied products. If no directions are provided, follow the six steps outlined in After Spraying Quizalofop EC. It is very important that any buildup of dried pesticide deposits which have accumulated in the application equipment be removed prior to spraying Quizalofop EC. Steam-cleaning spray tanks to facilitate the removal of any caked deposits of previously applied products will help prevent accidental crop injury.

At the End of the Day

It is recommended that during periods when multiple loads of Quizalofop EC are applied, at the end of each day of spraying the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses flushed. This will prevent the buildup of dried pesticide deposits which can accumulate in the application equipment.

After Spraying Quizalofop EC and Before Spraying Crops Other Than Those Listed in the Crop Rotation Section

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of Quizalofop EC as follows:

1. Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gallon of household ammonia* (contains 3% active) for every 100 gallons of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 minutes. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
4. Repeat step 2.
5. If only ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) recommended on this label. Do not exceed the maximum labeled use rate. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

* Equivalent amounts of an alternate-strength ammonia solution can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your ag dealer or applicator for a listing of approved cleaners.

Notes:

1. CAUTION: Do not use chlorine bleach with ammonia as dangerous gases will form. Do not clean equipment in an enclosed area.
2. Steam-cleaning spray tanks is recommended prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
3. When Sharda Quizalofop EC is tank mixed with other pesticides, all cleanout procedures should be examined and the most rigorous procedure should be followed.
4. In addition to this cleanout procedure, all precleanout guidelines on subsequently applied products should be followed as per the individual labels.
5. Where routine spraying practices include shared equipment frequently being switched between applications of Quizalofop EC and applications of other pesticides to Quizalofop EC-sensitive crops during the same spray season, it is recommended that a sprayer be dedicated to Quizalofop EC in order to further reduce the chance of crop injury.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets (>150-200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE CONDITIONS! See "Wind, Temperature, and Humidity" and "Temperature Inversions" sections of this label.

Controlling Droplet Size - General Techniques

Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows product larger droplets.

Pressure -Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.

Nozzle Type -Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

Controlling Droplet Size - Aircraft

Number of Nozzles - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.

Nozzle Orientation - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream, will produce larger droplets than other orientations.

Nozzle Type - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.

Boom Length - The boom length should not exceed 3/4 of the wing or rotor length - longer booms increase drift potential.

Application Height - Application more than 10 feet above the canopy increases the potential for spray drift.

Boom Height

Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

Wind

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

Temperature Inversions

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Shielded Sprayers

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

Air Assisted (Air Blast) Field Crop Sprayers

Air Assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift is not occurring.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Consult the application equipment section of this label to determine if use of an air assisted sprayer is recommended.

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 field, 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 biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, 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 fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer 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 field 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/crop systems in your area.

IMPORTANT PRECAUTIONS

Injury to or loss of desirable trees, vegetation, or adjacent sensitive crops may result from failure to observe the following:

- Do not use on lawns, walks, driveways, tennis courts, or similar areas.
- Prevent drift of spray to desirable plants.
- Take all necessary precautions to avoid all direct or indirect contact (such as spray drift) with non-target plants or areas. Most grass crops, including wheat, barley, rye, oats, sorghum, rice, and corn are highly sensitive to Sharda Quizalofop EC.
- Carefully observe all sprayer cleanup instructions both prior to and after using this product, as spray tank residue may damage crops other than those included in the crop rotation section.
- Do not contaminate any body of water.
- Do not apply this product through any type of irrigation system.

Sharda will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by this label.

SEASONAL USE LIMITS AND HARVEST INTERVALS

Crop[1]	PHI[2] (days)	Maximum Use Rate (fl. oz./acre/season)	Maximum applications per acre per season	Remarks
Beans - Dry including Chickpeas	30	24		
Canola and Crambe	60	18		
Cotton	80	18		
				Do not apply within 14 days of anticipated bloom.
				All seed crops treated with Quizalofop EC are to be tagged at the processing facility, "Not For Human Or Animal Consumption." It shall be the growers' responsibility to notify the processing facility of any seed crop that has been treated with Quizalofop EC
Crops Grown for Seed		25	2	After using Quizalofop EC, do not divert any portion of crop (seed, sprouts, screenings, forage, hay, etc.) to use for human or animal consumption.
				Grazing of treated crop area is prohibited.
				Most grass crops, including wheat, barley, rye, oats, sorghum, rice and corn are highly sensitive to Quizalofop EC, and all direct or indirect contact (such as spray drift) should be avoided.
Eucalyptus		60*		*60 fl. oz/acre/YEAR
Flax	70	24		
Lentils	60	14		
Mint (Spearmint and Peppermint)	30	24	2	
Peas Dry	60	14		
Peas Succulent	30	14		
				Do not apply Quizalofop EC after boot stage of growth of Quizalofop-tolerant ryegrass.
Perennial Ryegrass Grown for Seed		20	2	After using Quizalofop EC, do not divert any portion of crop (seed, sprouts, screenings, forage, hay, etc.) to use for human or animal consumption.
				Most grass crops, including wheat, barley, rye, oats, sorghum, rice and corn are highly sensitive to Quizalofop EC, and all direct or indirect contact (such as spray drift) should be avoided.
Pineapple	160	60		Do not graze treated fields or harvest for forage or hay.
Snap Beans	15	14		
Soybeans	80	18		Do not apply to soybeans after pod set.
Sugarbeets	45	25	4	Do not feed beet tops within 60 days of last application.
Sunflowers	60	18		

[1] For all crops:
- Do not reapply Quizalofop EC within 7 days of application. Allow for regrowth before reapplication.
- Do not apply Quizalofop EC through any type of irrigation system.

[2] PHI - Pre-Harvest Interval. Do not apply within pre-harvest interval period.

PESTICIDE STORAGE AND DISPOSAL

Pesticide Storage: Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place.

Product Disposal: Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL

For Plastic Containers: Triple rinse (or equivalent), then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

For Fiber Sacks: Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration if allowed by State and local authorities.

For Fiber Drums With Liners: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner.

For Bags Containing Water Soluble Packets: Do not reuse the outer box or the resealable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple-rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above.

For Metal Containers (non-aerosol): Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

For Paper and Plastic Bags: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read this Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at once, Unopened, and the Purchase Price Will Be Refunded.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Sharda. These risks can cause: ineffectiveness of the product, crop injury, or injury to non-target crops or plants. WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.

Sharda warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for use under normal conditions.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, SHARDA MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL SHARDA OR SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BUYER'S OR USER'S BARGAINED-FOR EXPECTATION IS CROP PROTECTION. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE EXCLUSIVE LIABILITY OF SHARDA OR SELLER, FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, TORT OR STRICT LIABILITY), WHETHER FROM FAILURE TO PERFORM OR INJURY TO CROPS OR OTHER PLANTS, AND RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT, OR AT THE ELECTION OF SHARDA OR SELLER, THE REPLACEMENT OF THE PRODUCT.

To the extent consistent with applicable law that allows such requirement, Sharda must have prompt notice of any claim so that an immediate inspection of buyer's or user's growing crops can be made. Buyer and all users shall promptly notify Sharda of any claims, whether based on contract, negligence, strict liability, other tort or otherwise, or be barred from any remedy.

This Limitation of Warranty and Liability may not be amended by any oral or written agreement.

Manufactured for:
Sharda USA LLC
7460 Lancaster Pike
Suite 9
Hockessin, DE 19707

Notice to Buyer: Purchase of this material does not confer any rights under patents of countries outside of the United States.

DATE OUT: 16 Oct 2008

SUBJECT: **PRODUCT CHEMISTRY REVIEW** **MP [ ] EP [x]**
DP BARCODE No.: D356860
Reg. File Symbol No.: 83529-RL
PRODUCT NAME: Quizalofop EC Herbicide
COMPANY: Sharda USA LLC
Decision No.: 399745 **PC CODE:** 128709
FOOD USE: [x] **Integrated Formulation [ ]**

FROM: Bruce F. Kitchens, Chemist
Technical Review Branch
Registration Division (7505P)

Bruce F. Kitchens
16 Oct 2008

TO: RM #25, Jim Tompkins/Eric Kraft
Herbicide Branch (7505P)
Registration Division (7505P)

SRW 10-17-08

INTRODUCTION:

The registrant, Sharda USA LLC, is submitting an application to register the proposed end-use product, Quisalofop EC Herbicide. The active ingredient In this product is Quizalofop P-Ethyl (97.8% a.i.) at a label nominal concentration of 10.3% a.I. This product is intended for use as an herbicide. In addition, the registrant states that the proposed product is substantially similar to EPA Reg. No. 352-541 DuPont Assure II Herbicide. In support of this request, the registrant has submitted a basic Confidential Statement of Formula (CSF) dated 27 Aug 2008, a draft label and product chemistry data contained in MRID# s 475319-01, 475319-02, and 475319-03. The Technical Review Branch (TRB) has been asked to review this submission.

SUMMARY OF FINDINGS

TRB has reviewed this submission and reports the following findings:

1. This product is produced from a registered source of the active ingredient.

2. All inert ingredients are approved for use in formulated pesticide products. In addition, all inert ingredients are exempt from the requirement of a food tolerance when applied to growing crops.

3. The nominal concentration of the active ingredient listed on the proposed basic CSF and the draft label are the same.

4. The draft label contains the appropriate storage and disposal statements.

5. The active ingredient's certified limits as proposed on the basic CSF are acceptable.

6. The comparison of the proposed and cited product reveals that both products have the same active ingredient, the same active ingredient nominal concentration, and similar inert ingredients. However, the cited product contains an unregistered source of the active ingredient and lists technical impurities as a component.

CONCLUSIONS:

TRB has reviewed this submission and concludes the following:

1. The basic formula CSF for the proposed end-use product, Quizalofop EC Herbicide dated 27 Aug 2008 is acceptable.

2. This submission (MRID#s 475319-01 & 475319-02) satisfies the data requirements as specified in 40 CFR 158.320, 158.325, 158.335, 158.340, 158.350, and 158.355 with respect to product identity and composition, description of materials used to produce the product, description of formulation process, discussion of formation of impurities, certified limits, and enforcement analytical method.

3. Except for storage stability/corrosion characteristics studies, the remaining product chemistry Group B data (MRID# 475319-03) adequately fulfill the data requirements specified in 40 CFR 158.310 with respect to physical and chemical properties. The registrant states that studies are in progress to satisfy the product chemistry data requirements and will be submitted to the Agency upon completion.

4. The proposed product has been determined to be substantially similar in composition to EPA Reg. No. 352-541DuPont Assure II Herbicide from a product chemistry standpoint.

PRODUCT CHEMISTRY DATA (SERIES 830 Subgroup A)

Subgroup A – Product Identity and Composition	Data Required Fulfilled	MRID No.
830.1550. Chemical Identity	Y	475319-01
830.1600. Beginning Materials	Y	475319-01
830.1650. Formulation Process	Y	475319-01
830.1670. Discussion of Impurities	Y	475319-01
830.1700. Preliminary Analysis	NA	
830.1750. Certified Limits	Y	see csf 4/27/08
830.1800. Enforcement Analytical Method	Y	475319-02

PRODUCT CHEMISTRY DATA (SERIES 830 Subgroup B)

Subgroup B – Physical and Chemical Properties	Data Required Fulfilled	Value or Qualitat. Descrip.	MRID No.
830.6302. Color	Y	Amber	475319-03
830.6303. Physical State	Y	Liquid	475319-03
830.6304. Odor	Y	Pungent odor	475319-03
830.6314. Oxidation/Reduction Action	Y	Product did not react when mixed with H_2O, ammonium phosphate, Fe powder. & gasoline. When mixed with potassium permanganate an 11°C increase was noted after 1 minute.	475319-03
830.6315. Flammability	Y	>202°F (setaflash)	475319-03
830.6316. Explodability	NA	Product does not contain explosive characteristics	
830.6317. Storage stability	I	In progress	
830.6319. Miscibility	NA	Product is an EC but not mixed with petroleum solvents	
830.6320. Corrosion Characteristics	I	In progress	
830.6321. Dielectric Breakdown Voltage	NA	Product not used around electrical equipment	
830.7000. Ph	Y	5.38	475319-03
830.7100. Viscosity	Y	7.69 centpoise @ 25°C 4.79 centipoise @ 40°C	475319-03
830.7000. Density/Bulk Density	Y	1.007 g/cm^3 @ 22°C	475319-03

Explanations: A = The Requirements Were Fulfilled; N = The Requirements Were Not Fulfilled; NA = Not Applicable; G = Data Gap; U = Requires Upgrading; I = Incomplete or In Progress; W = Waived.

Enforcement Analytical Method: (MRID No. 475319-02)

The active ingredient content for Quizalofop P-Ethyl was determined by high performance liquid chromatography (HPLC) using ultraviolet detection (UV) at nm and an external standard by Analytical method AF-1493/2.

Equipment and Parameters

Instrument:	Perkin-Elmer High Performance Liquid Chromatograph (HPLC)
Detector:	Ultraviolet detector
Wavelength:	335 nm
Column:	Prodigy ODS3, 4.6 x 250 mm, 5 µm,
Sample Size:	10 µl
Mobile Phase:	35:65 (A:B) Mobile Phase A – 0.1% (v/v) phosphoric acid in deionized water Mobile Phase B - Acetonitrile
Flow Rate:	1.5 – 2.5 ml/min

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

TECHNICAL REVIEW BRANCH
SIMILARITY CLINIC DETERMINATION

06/NOV/2008

MEMORANDUM

Subject:	Name of Pesticide Product:	Quizalofop EC
	EPA Reg. No. /File Symbol:	83529-RL
	DP Barcode:	D356862
	Decision No:	399745
	Action Code:	R300
	PC Code:	128709 (quizalofop p-ethyl)
From:	Eugenia McAndrew, Biologist Technical Review Branch Registration Division (7505P)	E. McAndrew
To:	Erik Kraft, RM Team 25 Herbicide Branch Registration Division (7505P)	
Applicant:	Sharda USA LLC 7460 Lancaster Pike, Suite 9 Hockessin, DE 19707	

FORMULATION FROM LABEL:

Active Ingredient(s):	% by wt.
Quizalofop P-Ethyl	10.3
Inert Ingredient(s):	89.7
Total:	100.0%

ACTION REQUESTED: The Risk Manager requests: "Please determine if this product is substantially similar to 352-541 and determine the appropriate precautionary language."

BACKGROUND: Sharda USA LLC has applied for registration of Quizalofop EC, EPA File Symbol 83529-RL, claiming similarity to DuPont Assure II, EPA Reg. No. 352-541. Both products are emulsifiable concentrates with 10.3% quizalofop p-ethyl as the active ingredient. The Registrant is using the cite-all method of data support to satisfy the acute toxicity data requirements.

RECOMMENDATIONS: TRB has evaluated the formulations of the proposed product, 83529-RL, and the cited product, 352-541, and has determined that the two products are substantially similar. TRB recommends that the proposed product use the same precautionary labeling as the cited product.

The proposed basic CSF dated August 27, 2008 has been accepted by the TRB Product Chemistry Team (Kitchens; D356860; 16/OCT/2008).

This memorandum pertains only to the decision concerning whether the subject product is similar to the cited product from an acute toxicological view point. For the purposes of this action, TRB has made no further determination of the adequacy of the toxicological data base or the precautionary label of the cited product.