



OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

December 8, 2023

Emily Dine
State and Federal Registrations Manager
ISK BIOSCIENCES CORPORATION
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Concord, OH 44077

Subject: PRIA Label Amendment – Add additional food uses on barley and wheat, and addition of aerial application for all uses.
Product Name: Tolpyralate 400SC Herbicide
EPA Registration Number: 71512-29 & 1F8958
Application Date: 09/30/2021
Case Number: 480344, 477346 & 474608

Dear Emily Dine:

The application referred to above, submitted under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable under FIFRA section 3(c)(5).

You must submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions, please contact Francisco Llarena-Arias at 202-566-2816 or at llarena-arias@epa.gov.



Nathan Mellor, Acting Branch Chief
Fungicide-Herbicide Branch
Registration Branch 7505T
Office of Pesticide Programs

Enclosure

TOLPYRALATE 400SC HERBICIDE

For broadleaf and grass weed control in wheat*, barley*, fallow areas, field corn, sweet corn, and popcorn.

*Not for use in the state of California.

ACTIVE INGREDIENT: TOLPYRALATE*	35.7 %
OTHER INGREDIENTS:	64.3 %
TOTAL:	100.0 %

*1-[[1-Ethyl-4-[3-(2-methoxyethoxy)-2-methyl-4-(methylsulfonyl)benzoyl]-1H-pyrazol-5-yl]oxy]ethyl methyl carbonate

Tolpyralate 400SC Herbicide is formulated as a suspension concentrate (SC) and contains 3.33 pounds of active ingredient per gallon of formulated product (400 grams per liter).

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 this label, find someone to explain it to you in detail).

FIRST AID

- | | |
|-------------------------------|--|
| If swallowed | <ul style="list-style-type: none"> • 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 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. |

HOT LINE NUMBER

For information on this pesticide product (including general health concerns or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378, Monday through Friday, 8:00 AM to 12:00 PM Pacific Standard Time.

In the event of a medical emergency, call your poison control center at 1-800-222-1222.

[For **Chemical Emergency**, Spill, Leak, Fire or Accident, call **CHEMTREC 1-800-424-9300**.]

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

See inside pages for complete precautionary statements.

Read entire label carefully and use only as directed.

EPA Registration No. 71512-29

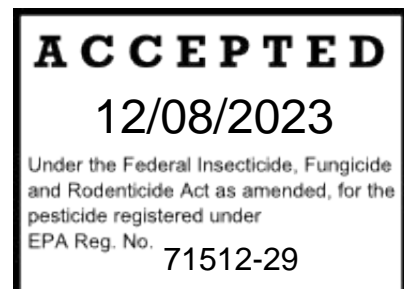
EPA Establishment No.

Net Contents: xx gallons

ISK Biosciences Corporation

7470 Auburn Road, Suite A

Concord, Ohio 44077



PRECAUTIONARY STATEMENTS

Hazard to Humans and Domestic Animals

CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

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

Engineering Controls

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 Requirements

Discard clothing and 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 exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

USERS SHOULD:

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

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates. **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 rinse water. **DO NOT** apply where/when conditions could favor runoff.

Ground Water Advisory

Tolpyralate has properties and characteristics associated with chemicals detected in groundwater. Tolpyralate may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

Surface Water Advisory

This product may impact surface water due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having high potential for reaching surface

water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features including ponds, streams, and springs will reduce the potential loading of Tolpyralate from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

DIRECTIONS FOR USE

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

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, including plants, soil, or water, is:

- Coveralls,
- Chemical-resistant gloves made of any waterproof materials,
- Shoes plus socks.

Sod and seed farms are within the scope of the Worker Protection Standard.

Tolpyralate 400SC Herbicide must be used only in accordance with directions on this label. To the extent consistent with applicable law, ISK Biosciences Corporation will not be responsible for losses or damage resulting from use of this product in any manner not specifically directed by ISK Biosciences.

PRODUCT INFORMATION

Mode of Action

Tolpyralate 400SC Herbicide is a Group 27 (WSSA) or Group F₂ (HRAC) herbicide. Following the absorption of Tolpyralate 400SC Herbicide by actively growing plant tissue, inhibition of p-hydroxyphenyl pyruvate dioxygenase (HPPD) occurs in susceptible weeds and growth ceases. Inhibition of HPPD typically results in bleaching symptomology observed in the growing points.

Efficacy

Tolpyralate 400SC Herbicide applied at 1.0 to 1.35 fl oz per acre (0.026 to 0.035 lb ai per acre) can control or suppress the growth of many young and actively growing broadleaf and grass weeds in wheat, barley, corn and fallow areas (Table 1).

Table 1. Broadleaf and grass weeds controlled (C) or suppressed (S) in wheat, barley, corn and fallow areas by applications of Tolpyralate 400SC Herbicide applied to actively growing weeds at 1.0 to 1.35 fl oz per acre (0.026 to 0.035 lb ai per acre).

	Scientific Name	Common Name	Tolpyralate 400SC Herbicide	Tolpyralate 400SC Herbicide + Atrazine ¹ or Bromoxynil
Broadleaf Weeds	<i>Abutilon theophrasti</i>	Velvetleaf	C	C
	<i>Amaranthus hybridus</i>	Pigweed, smooth	C	C
	<i>Amaranthus palmeri</i>	Amaranth, Palmer	C	C
	<i>Amaranthus powellii</i>	Amaranth, Powell	C	C
	<i>Amaranthus retroflexus</i>	Pigweed, redroot	C	C
	<i>Amaranthus tuberculatus</i>	Waterhemp	C	C
	<i>Ambrosia artemisiifolia</i>	Ragweed, common	C	C
	<i>Ambrosia trifida</i>	Ragweed, giant	C	C
	<i>Bassia scoparia</i>	Kochia	S	C
	<i>Chenopodium album</i>	Lambsquarters, common	C	C
	<i>Chorispora tenella</i>	Mustard, blue	C	C
	<i>Cirsium arvense</i>	Thistle, Canada	S	S
	<i>Erigeron canadensis</i>	Horseweed	C	C
	<i>Helianthus annuus</i>	Sunflower, Volunteer	C	C
	<i>Helianthus annuus</i>	Sunflower, Common	C	C
	<i>Hibiscus trionum</i>	Mallow, Venice	S	S
	<i>Ipomoea hederacea</i>	Morningglory, ivyleaf	S	S
	<i>Ipomoea purpurea</i>	Morningglory, tall	S	S
	<i>Lamium amplexicaule</i>	Henbit	C	C
	<i>Mollugo verticillata</i>	Carpetweed	C	C
	<i>Persicaria pensylvanica</i>	Smartweed, Pennsylvania	S	S
	<i>Solanum nigrum</i>	Nightshade, black	S	C
	<i>Solanum physalifolium</i>	Nightshade, hairy	C	C
	<i>Solanum ptychanthum</i>	Nightshade, eastern black	S	S
	<i>Solanum rostratum</i>	Buffalobur	C	C
	<i>Sonchus oleraceus</i>	Sowthistle, annual	C	C
	<i>Xanthium strumarium</i>	Cocklebur, common	S	C
Grass Weeds	<i>Digitaria sanguinalis</i>	Crabgrass, large	C	C
	<i>Echinochloa crus-galli</i>	Barnyardgrass	S	C ²
	<i>Eleusine indica</i>	Goosegrass	S	C
	<i>Panicum dichotomiflorum</i>	Panicum, fall	S	C
	<i>Panicum miliaceum</i>	Millet, wild proso	S	C
	<i>Setaria faberi</i>	Foxtail, giant	C	C
	<i>Setaria pumila</i>	Foxtail, yellow	C	C
	<i>Setaria viridis</i>	Foxtail, green	C	C
	<i>Sorghum bicolor</i>	Sorghum	S	C ²
	<i>Urochloa platyphylla</i>	Signalgrass, broadleaf	S	S

¹Refer to tank mixture section for details.

²Apply Tolpyralate 400SC Herbicide at 1.35 fl oz per acre (0.035 lb ai per acre) for control.

Crop Sensitivity

Corn has exhibited little to no sensitivity to Tolpyralate 400SC Herbicide, however, crop injury may be observed when applications are made during stressful environmental conditions.

Many crops have high sensitivity to Tolpyralate 400SC Herbicide. Avoid all direct and/or indirect contact of Tolpyralate 400SC Herbicide with crops other than corn (see spray drift management and spray drift advisory sections for more information).

Tolpyralate 400SC Herbicide has not been screened on all inbred corn lines for sensitivity. Contact your seed corn supplier for more information. To the extent consistent with applicable law, ISK Biosciences is not responsible for any crop injury following the use of Tolpyralate 400SC Herbicide in inbred corn lines grown for seed.

Rotational Crop Information

The following rotational crops may be planted after applying Tolpyralate 400SC Herbicide. If Tolpyralate 400SC Herbicide is applied in a tank mixture, review the crop rotational intervals of all tank mixture partners and follow the most restrictive rotational crop interval.

Table 2. Replant and rotational crop restrictions following applications of Tolpyralate 400SC Herbicide.

Crop	Replant and Rotational Intervals (Months)
Corn (field corn, sweet corn, and popcorn), wheat, and barley	Immediate
Oats and rye	3
Alfalfa, bean (dry), bean (green; including seed production), bean (snap), cabbage, canola, cotton, pea (field and edible), peanut, potato, rice, sorghum, soybean, cucurbits, sunflower, and tomato	9
All other crops	12
Sugarbeets	18

PRODUCT CROP USE & APPLICATION INSTRUCTIONS

Tolpyralate 400SC Herbicide is registered for weed control in fallow areas, wheat, barley, field corn, sweet corn, and popcorn. Apply using ground spray equipment or by air*.

*Not permitted for aerial applications in California.

Use Restrictions

- **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** exceed the single maximum application rate of 1.35 fl oz per acre (0.035 lb ai per acre).
- **DO NOT** apply more than two applications of Tolpyralate 400SC Herbicide per year.
- **DO NOT** apply more than a total of 2.70 fl oz per acre per year (0.07 lb ai/acre/year).
- Allow at least 14 days between applications of Tolpyralate 400SC Herbicide.
- **DO NOT** apply Tolpyralate 400SC Herbicide within 45 days of field corn and popcorn grain harvest.
- **DO NOT** apply Tolpyralate 400SC Herbicide within 35 days of fresh market sweet corn harvest.
- **DO NOT** graze or feed treated corn forage or silage for 21 days after application of Tolpyralate 400SC Herbicide.
- **DO NOT** tank mix Tolpyralate 400SC Herbicide with atrazine when applying to wheat or barley.
- **DO NOT** apply more than one application of Tolpyralate 400SC Herbicide to wheat or barley in one growing year.

- **DO NOT** apply Tolpyralate 400SC Herbicide within 50 days of wheat or barley grain harvest.
- **DO NOT** feed straw from treated wheat or barley to livestock for a minimum of 50 days following application.
- **DO NOT** graze livestock or harvest forage for hay from treated wheat or barley for a minimum of 21 days following application.

Corn (All types including field corn, sweet corn, and popcorn)

Apply Tolpyralate 400SC Herbicide to corn at the application rate range and timing shown in the table below.

Application Timing	Rate Range (fl oz/A)	Additional Information & Restrictions
Postemergence	1.0 to 1.35 (0.026 to 0.035 lb ai per acre)	<ul style="list-style-type: none"> • Apply Tolpyralate 400SC Herbicide up to the 6 leaf collar (V6) stage or up to 20 inches tall, whichever is more restrictive. • The use of drop nozzles is advised if the crop canopy prevents adequate weed coverage using ground broadcast application methods. • Refer to weed efficacy information to cross-reference the timing for Tolpyralate 400SC Herbicide applications in corn for control of target weed species. • Apply Tolpyralate 400SC Herbicide with an adjuvant for optimum activity (refer to adjuvant section for details).

Fallow

Apply Tolpyralate 400SC Herbicide to fallow areas at the application rate range and timing shown in the table below.

Application Timing	Rate Range (fl oz/A)	Additional Information & Restrictions
Postemergence	1.0 to 1.35 (0.026 to 0.035 lb ai per acre)	<ul style="list-style-type: none"> • Apply Tolpyralate 400SC Herbicide prior to weeds exceeding 5 inches in diameter and/or height. • Refer to weed efficacy information to cross-reference the timing for Tolpyralate 400SC Herbicide applications for control of target weed species. • Apply Tolpyralate 400SC Herbicide with an adjuvant for optimum activity (refer to adjuvant section for details).

Wheat (including Spring, Durum, and Winter Wheat) and Barley*

*Not for use in the state of California.

Apply Tolpyralate 400SC Herbicide to wheat and barley at the application rate range and timing shown in the table below.

Application Timing	Rate Range (fl oz/A)	Additional Information & Restrictions
Postemergence	1.0 to 1.35 (0.026 to 0.035 lb ai per acre)	<ul style="list-style-type: none"> • Apply Tolpyralate 400SC Herbicide from one leaf to flag leaf emergence. • Refer to weed efficacy information to cross-reference the timing for Tolpyralate 400SC Herbicide applications in wheat for control of target weed species.

		<ul style="list-style-type: none"> • Apply Tolpyralate 400SC Herbicide with an adjuvant for optimum activity (refer to adjuvant section for details). • DO NOT apply more than 1 application per year. • DO NOT apply more than 1.35 fl oz (0.035 lbs ai) per acre per year. • DO NOT tank mix with atrazine
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Spray Carrier

Use clean water (free of mud or clay) when applying Tolpyralate 400SC Herbicide.

Spray Volume – Ground Application

Tolpyralate 400SC Herbicide can be mixed into a final spray solution that will be applied at a volume between 10 and 50 gallons per acre.

Spray Volume – Aerial Application*:

The minimum spray volume for aerial applications of Tolpyralate 400SC Herbicide is 3 gallons of final spray solution per acre. Adequate spray coverage is essential for optimal weed control. When applying for targeting dense weed populations and/or larger weeds, use a minimum of 5 gallons of final spray solution per acre.

*Not permitted for aerial applications in California.

Nozzle Selection

Tolpyralate 400SC Herbicide can be applied through various nozzle types and sizes. Review and follow restrictions from the spray drift management section before making a nozzle selection.

Adjuvants

Always use a methylated seed oil (MSO), crop oil concentrate (COC), or a nonionic surfactant (NIS) when applying Tolpyralate 400SC Herbicide to avoid reduced performance. MSO has been observed to provide the most consistent performance over a wide range of environmental conditions. MSO and COC can be applied at a concentration of 0.5 and 1% v/v (0.5 and 1 gallon per 100 gallon of spray volume), respectively, of the final spray volume. NIS can be applied at a concentration equal to 0.25% v/v (2 pints per 100 gallon of spray volume) of the final spray volume.

The addition of an ammonium nitrogen fertilizer, either a 28% or 32% N urea ammonium nitrate (UAN) or a spray grade ammonium sulfate (AMS), to the final spray solution is allowed. If UAN or AMS is added to the spray mixture, add UAN (or a liquid formulation of AMS) at a concentration of 2.5% v/v (2.5 gallons per 100 gallons or spray volume) and add AMS at a concentration of 8.5 lbs product per 100 gallons of the final spray volume.

Adjuvant Mixtures – Combinations of adjuvant products may be used at doses that are relative to the adjuvant specifications above. It is the user’s responsibility to understand whether the adjuvant mixture quality is equal to or better than the addition of MSO, COC, NIS, and/or fertilizer at the rates specified above.

Tank Mixtures

Tolpyralate 400SC Herbicide may be tank mixed with other herbicides registered for weed control on Corn (All types including field corn, sweet corn, and popcorn), fallow, wheat (including Spring, Durum, and Winter

Wheat) and barley. Read and follow all label directions for each product. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions, limitations, and directions for use on all product labels involved in the tank mixture. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

For tank mixtures, add individual components to the spray tank in the following sequence: water, dry formulated products, liquid formulated products, fertilizer (dry and/or liquid), and then adjuvants. Be sure to reference the product labels for each tank mixture partner to determine if exceptions apply, including the addition of the tank mixture products after the addition and dispersal of fertilizer.

Tolpyralate 400SC Herbicide is compatible with fertilizers and micronutrient products, provided sufficient free water is available for dispersion of all the products in the tank mixture. Use tank mixture combinations only when applicator experience indicates that the tank mixture will not result in objectionable crop injury.

The physical compatibility of Tolpyralate 400SC Herbicide with tank mix partners needs to be evaluated before use (see compatibility test instructions).

Compatibility Test:

Additives and tank mixtures need to be tested for compatibility by mixing in a small container prior to mixing in spray tank.

In a glass jar (~1 quart), add all mix partners, in their relative proportions. Invert, shake or mix the jar thoroughly. If mixture forms precipitates (flakes or sludge), gels, balls up or forms oily films or layers, this indicates incompatibility. Though signs of incompatibility will typically be seen within 5 minutes of mixing, mixture needs to be observed for approximately 30 minutes.

Compatibility agents can be used to facilitate mixing. Add ¼ teaspoon of the compatibility agent to the mix (assuming a mixing rate of 2 pints compatibility agent per 100 gallons spray mix). If compatibility agents do not facilitate mixing, the mixture is incompatible and must not be used.

Tolpyralate 400SC Herbicide plus Atrazine

To improve burndown and broaden the postemergence efficacy, particularly the grass control, as well as increase the preemergence weed spectrum, add atrazine to the tank mixture with Tolpyralate 400SC Herbicide. Tolpyralate 400SC Herbicide can be applied at 1 to 1.35 fl oz per acre (0.026 to 0.035 lb ai per acre) in combination with atrazine. Refer to the atrazine label for appropriate rates.

Tolpyralate 400SC Herbicide plus Bromoxynil

To improve burndown and broaden the postemergence efficacy add bromoxynil to the tank mixture with Tolpyralate 400SC Herbicide. Tolpyralate 400SC Herbicide can be applied at 1 to 1.35 fl oz per acre (0.026 to 0.035 lb ai per acre) in combination with bromoxynil. Refer to the bromoxynil label for appropriate rates.

Tolpyralate 400SC Herbicide plus Insecticides

Tolpyralate 400SC Herbicide has no restrictions for use with registered insecticides.

Sprayer Mixing

Mixing and Loading Instructions

Prepare no more spray mixture than is needed for the immediate application-and avoid overnight storage of Tolpyralate 400SC Herbicide in spray mixtures.

1. Ensure the spray system is free of residues from previous applications.
2. Fill the tank 1/2 full of clean water.
3. Turn on the tank agitation system.
4. Add the required amount of Tolpyralate 400SC Herbicide and continue agitation until the Tolpyralate 400SC Herbicide is completely dispersed.
5. As the tank is filling, add the required spray adjuvants.

Maintain-agitation during mixing and application.

MANDATORY SPRAY DRIFT DIRECTIONS

Aerial Applications*

- **DO NOT** release spray at a height greater than 10 ft above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to use a medium or coarser droplets as indicated in nozzle manufacturers' catalogues and in accordance with American Society of Agricultural & Biological Engineers Standard (ASABE S641).
- The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.
- if the windspeed is 10 miles per hour or less, applicators must use ½ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use ¾ swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

*Not permitted for aerial applications in California.

Ground Boom Applications

- Apply with the nozzle height directed by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- For all applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

Boom-less Ground Applications

- Applicators are required to use a Medium or coarser droplet size (ASABE S572.1) for all applications.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

Spray Drift Advisories

- THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.

- BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.
- IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Aircraft*

- Adjust Nozzles - Follow nozzle manufacturer's directions for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

*Not permitted for aerial applications in California.

Controlling Droplet Size – Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure directed for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

- BOOM HEIGHT – Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

- SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

- TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

- TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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. Avoid applications during temperature inversions.

- WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

- **BOOM-LESS GROUND APPLICATIONS**
Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.
- **HANDHELD TECHNOLOGY APPLICATIONS**
Take precautions to minimize spray drift.

Calibration

Equipment must be calibrated regularly according to manufacturer's specifications.

Spray Tank Cleaning

Clean application equipment thoroughly by using a strong detergent or commercial spray cleaner according to the manufacture's direction, followed by triple rinsing the equipment before and after applying this product.

PRODUCT STEWARDSHIP INFORMATION

Resistance Management

For resistance management, Tolpyralate 400SC herbicide is a Group 27 (WSSA) or Group F2 (HRAC) herbicide which inhibits carotenoid biosynthesis in plants. Any weed population may contain or develop plants naturally resistant to Tolpyralate 400SC herbicide or several other herbicide modes of action (triazine (Group 5), ALS (Group 2), PPO (Group 14), glyphosate (Group 9), auxin (Group 4), HPPD (Group 27) and etc.). The resistance biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. To manage the development and spread of herbicide resistant weed species, it is important to use herbicides with different modes of action either as tank mixes or in sequential applications and in rotations along with altering cultural practices.

To delay herbicide resistance, take one or more of the following steps:

- Rotate the use of Tolpyralate 400SC or other Group 27 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Fields should be scouted prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species.

- If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further seed production.
- If a weed population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- If a weed population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact [ISK Biosciences at 1-877-706-4640].

To help reduce the development of resistance to HPPD inhibitors (Group 27), always apply the full labeled rate and at the specified application timing listed on the label. Contact your local sales representative, crop advisor, or extension agent to determine if there is suspected HPPD resistant weeds in your region. If HPPD resistant biotypes of target weeds have been reported, use the specified application rates of this product specified for your conditions and add tank mix products so that there are multiple effective mechanisms of actions for each target weed.

To manage a known herbicide resistant weed population, it is important to use herbicides with varying effective modes of action as tank mix partners, in sequential applications within a growing year, and/or in a multi-year weed management plan.

Integrated Pest Management (IPM)

Tolpyralate 400SC herbicide must be used as part of an integrated pest management strategy. Consult with local university extension and agricultural professional's for IPM strategies specific for your area.

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.

Pesticide 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 Handling: Non-refillable plastic container (equal to or less than 5 gallons). **DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Nonrefillable plastic container (greater than 5 gallons). **DO NOT** reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Recap and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

LIMITATION OF WARRANTY AND DAMAGES

Seller warrants to those persons lawfully acquiring title to this product that at the time of first sale of this product by Seller that this product conformed to its chemical description and was reasonably fit for the express purposes stated on the label when used in accordance with Seller's directions under normal conditions of use as described on the label. To the extent consistent with applicable law, Buyers and users of this product assume the risk of any use contrary to such directions. **TO THE FULLEST EXTENT PERMITTED BY LAW, EXCEPT AS PROVIDED ELSEWHERE IN WRITING CONTAINING AN EXPRESS REFERENCE TO THIS LIMITATION OF WARRANTY AND LIMITATION OF DAMAGES, SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OR GUARANTY, AND SELLER EXPRESSLY DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE AND EXPRESSLY DISCLAIMS ALL OTHER EXPRESS OR IMPLIED WARRANTIES THAT MAY EXIST UNDER APPLICABLE LAW, COURSE OF DEALING OR USAGE OF TRADE. NO AGENT OF SELLER IS AUTHORIZED TO GRANT ANY WARRANTY IN EXCESS OF THAT GRANTED IN THIS LIMITATION OF WARRANTY AND LIMITATION OF DAMAGES. TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT. TO THE FULLEST EXTENT PERMITTED BY LAW, SELLER'S LIABILITY FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT SHALL NOT EXCEED THE PURCHASE PRICE OF THE PRODUCT AS TO WHICH A CLAIM IS MADE.** To the fullest extent permitted by law, Buyers and users of this product are responsible for all loss or damage from use or handling of this product that results from conditions beyond the control of Seller, including, but not limited to, incompatibility with other products (unless otherwise expressly provided for in the Directions for Use of this product), weather conditions, cultural practices, moisture conditions or other environmental conditions outside of the ranges that are commonly recognized as being conducive to good agricultural and/or horticultural practices.