IN THE UNITED STATES COURT OF APPEALS FOR
THE NINTH CIRCUIT

CENTER FOR BIOLOGICAL DIVERSITY and CENTER FOR FOOD SAFETY, Petitioners, v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, Respondent.	No. _____

PETITION FOR REVIEW

1. The Center for Biological Diversity and Center for Food Safety ("Petitioners") seek review by the United States Court of Appeals for the Ninth Circuit of the Environmental Protection Agency's ("EPA") failure to comply with the requirements of the Endangered Species Act ("ESA"), 16 U.S.C. § 1531 *et seq*., and Federal Insecticide Fungicide and Rodenticide Act ("FIFRA"), 7 U.S.C. § 136 *et seq,* in unconditionally registering for use the fungicide active ingredient inpyrfluxam, Docket # EPA-HQ-OPP-2018-0038-0040 (August 27, 2020) [Exhibit A]; the following pesticide products: S-2399 2.84 SC Fungicide, EPA

Reg. # 59639-230 (August 31, 2020) [Exhibit B]; S-2399 3.2 FS Fungicide, EPA Reg. # 59639-231 (August 31, 2020) [Exhibit C]; S-2399 Technical Fungicide, EPA Reg. # 59639-233 (August 31, 2020) [Exhibit D]; and V-10417 FS Fungicide, which combines inpyrfluxam, ethaboxam, and metalaxyl, EPA Reg. # 59639-232 (August 31, 2020) [Exhibit E]; and all subsequent pesticide products made with the fungicide active ingredient inpyrfluxam approved by EPA in these decisions.

2. EPA has violated the Endangered Species Act ("ESA") by failing to ensure that its registration of inpyrfluxam, and the technical products developed from this registration, would not jeopardize any listed species or destroy or adversely modify their critical habitat and by failing to consult with the U.S. Fish and Wildlife Service ("FWS") and the National Marine Fisheries Service ("NMFS"), in violation of 16 U.S.C. § 1536 (a)(2). EPA acknowledges this violation when it admits in their response to comments that the registration "does not include a complete ESA analysis and effects determinations for specific listed species or their designated critical habitat." Docket # EPA-HQ-OPP-2018-0038-0039 at 6 of 16.

3. EPA has further violated FIFRA by registering a pesticide that will result in "unreasonable adverse effects on the environment", 7 U.S.C. §

136a(c)(5), via a determination that cannot be "supported by substantial evidence when considered on the record as a whole." 7 U.S.C. § 136n(b).

4. This petition is submitted pursuant to § 16(b) of FIFRA, 7 U.S.C. § 136n(b).

Respectfully submitted this 23rd day of October, 2020.

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RULE 26.1 DISCLOSURE STATEMENT

Pursuant to Fed. R. App. P. 26.1, Petitioners make the following disclosures:

Center for Biological Diversity: Center for Biological Diversity has no parent companies, and no publicly held company has a ten percent or greater ownership interest in Center for Biological Diversity.

Center for Biological Diversity, a corporation organized and existing under the laws of the State of California, is a national non-profit organization dedicated to the protection and enjoyment of the environment.

Center for Food Safety: Center for Food Safety has no parent companies, and there are no publicly held companies that have a ten percent or greater ownership interest in the Center for Food Safety.

Center for Food Safety, a corporation organized and existing under the laws of the District of Columbia, is a national non-profit organization dedicated to improving the quality of the human environment and protecting the nation's endangered natural resources.

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Respectfully submitted this 18th day of June, 2015.

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Exhibit A

to Petition for Review

Final Registration Decision for the New Active Ingredient Inpyrfluxam

Approved by: Ed Messina Digitally signed by EDWARD MESSINA Date: 2020.08.27 14:24:32 -04'00'

Ed Messina, Esq., Acting Director
Office of Pesticide Programs
US Environmental Protection Agency

Date: August 27, 2020

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I. SUMMARY

The U.S. Environmental Protection Agency (referred hereafter as "EPA" or "the Agency") is unconditionally registering under 3(c)(5) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the new active ingredient inpyrfluxam (3-(difluoromethyl)-*N*-[(3*R*)-2,3-dihydro-1,1,3-trimethyl-1*H*-inden-4-yl]-1-methyl-1*H*-pyrazole-4-carboxamide). Inpyrfluxam was jointly reviewed by EPA and Canada's Pest Management Regulatory Agency (PMRA) with Mexico's pesticide officials involved as an observing member.

Inpyrfluxam is a new pyrazolecarboxamide fungicide that is a Complex II succinate dehydrogenase inhibitor (SDHI) that acts by inhibiting production of succinate dehydrogenase, which is a functional part of the tricarboxylic acid cycle and linked to the mitochondrial electron transport chain. It is classified by the Fungicide Resistance Action Committee (FRAC) as a Group 7 fungicide. The chemical provides protection against *Rhizoctonia* species causing seed decay, seedling damping-off and root rot.

In its original application for registration, Valent USA, LLC requested the use of inpyrfluxam as a flowable concentrate for seed treatment (FS) and as a suspension concentrate (SC) for soil and foliar application. The FS formulations are for seed treatment of cereal grains crop group 15, dry seeded rice, sorghum, legume vegetables crop group 6, rapeseed, crop subgroup 20A, field corn, pop corn, sweet corn, soybean and sugar beet. The SC formulation is for use as a foliar application to apple, peanut, soybean and sugar beet, or as an in-furrow soil application at planting to corn (field, sweet, and pop). Valent initially requested a foliar use on rice (in addition to the dry seeded rice treatment), but later withdrew the foliar rice use request.

Valent USA, LLC has been granted registration of four products, including one technical product. Table 1 lists out the products with their formulation type and crop use sites.

Table 1. Product Formulation Type and Crops Use Site

Registration No./File Symbol No.	Product Name	Formulation Type	Crops Use Site
59639-233	S-2399 Technical Fungicide	For Formulation Purposes Only	• Technical active ingredient; no direct crop application
59639-230	S-2399 2.84 SC Fungicide	SC	For foliar application: • Soybean • Sugar beet • Apple • Peanut For in-furrow application: • Corn (field, sweet, pop)

59639-231	S-2399 3.2 FS Fungicide	FS	For seed treatment: • Cereal Grains Crop Group 15 [except Corn, Rice and Sorghum (milo)]: Barley; buckwheat; millet, pearl; millet, proso; oats; rye; teosinte; triticale; wheat • Dry seeded rice • Sorghum (milo) • Legume Vegetables, Succulent or Dried, Crop Group 6 (except Soybean) • Rapeseed, Canola Varieties Only, Crop Subgroup 20A • Field Corn • Popcorn • Sweet Corn • Soybean • Sugar Beet
59639-232	V-10417 FS Fungicide	FS	For seed treatment: • Legume Vegetables, Succulent or Dried (Crop Group 6)

Application methods include aerial, groundboom, airblast, chemigation, handheld, and commercial and on-farm seed treatment equipment. Foliar/soil application rates range from 0.044 to 0.089 lb. ai/A, depending on the crop/use site. Seed treatment application rates range from 0.002 to 0.103 lb. ai/100 lb. seed.

II. REQUESTED ACTION

On October 30, 2017, the EPA received an application from Valent USA, LLC for registration of a new fungicide active ingredient, inpyrfluxam (CAS Number 1352994-67-2), as specified in Section I. Valent USA, LLC submitted this application for simultaneous review by Canada's Pest Management Regulatory Agency.

III. USE PROFILE

Valent USA, LLC requested that inpyrfluxam be applied through handheld, ground, chemigation, aerial and commercial and on-farm seed treatment equipment depending on the use site. The end use product label (S-2399 2.84 SC Fungicide; 59639-230) includes a prohibition on greenhouse use.

The restricted-entry interval (REI) for inpyrfluxam is 12 hours. Two of the three end-use labels (containing inpyrfluxam as the sole active ingredient) require an REI of 12 hours. The third end-use label (V-10417 FS Fungicide; EPA reg # 59639-232) requires a 24-hour REI because the product contains an additional active ingredient that has a longer 24-hour REI.

Tables 2 and 3 outline the requested use patterns for inpyrfluxam according to the use sites as submitted on original draft labels.

Table 2. Summary of Directions for Foliar/Soil Uses of Inpyrfluxam

Formulation Product Name [EPA Reg. No.]	Crop	Application Method [1]	Application Rate		Max. No. Application per Year	Max. Annual Application Rate (lb. ai/A)	PHI [2] (days)	Use Directions and Limitations [3]
			fl oz/A	lb. ai/A				
Liquid S-2399 2.84 SC Fungicide (31.25% ai; 2.84 lb. ai/gal) [59639-230]	Apple	Aerial, Airblast, Chemigation, Handheld	4	0.089 (0.00089 lb. ai/gallon)	2	0.178	NS	• Do not apply after petal fall. • RTI: 10 days • GPA: ground = 100 and aerial = 15
	Corn (Field, Pop and Sweet)	Groundboom, Chemigation	2	0.044	1	0.044	NS	• Make application to the soil in-furrow at planting. • GPA: 3
	Peanut	Aerial, Groundboom, Chemigation	4	0.089	4	0.178	40	• RTI: 14 - 21 days • GPA: ground = 10 and aerial = 5
	Soybean	Aerial, Groundboom, Chemigation	3	0.067	2	0.134	R5	• RTI = 14 days • Do not apply prior to V3 (Vegetative Stage 3) or after R5 (Reproductive Stage 5). • GPA: ground = 10 and aerial = 5

Table 2. Summary of Directions for Foliar/Soil Uses of Inpyrfluxam								
Formulation Product Name [EPA Reg. No.]	**Crop**	**Application Method [1]**	**Application Rate**		**Max. No. Application per Year**	**Max. Annual Application Rate (lb. ai/A)**	**PHI [2] (days)**	**Use Directions and Limitations [3]**
			fl oz/A	lb. ai/A				
	Sugar Beet (broadcast application)	Aerial, Groundboom, Chemigation	4	0.089	2	0.178	50 days	• RTI = 21 days. • Apply at the 2-8 leaf stage. • GPA: ground = 10 and aerial = 5
	Sugar Beet (banded application)	Groundboom	4	0.089	1	0.089	50 days	• Apply in a 6-7 inch band over the crop row. • Apply at the 2-8 leaf stage.

1 For chemigation applications apply this product only through center pivot, solid set, hand move systems. Do not apply this product through any other type of irrigation system.
2 PHI = post-harvest interval; NS = not specified.
3 GPA = gallons per acre; RTI = retreatment interval.

Table 3. Summary of Directions for Seed Treatment Uses of Inpyrfluxam				
Formulation Product Name [EPA Reg. No.]	**Crop**	**Application Method**	**Application Rate**	
			Product rate	**lb. ai/100 lb. seed**
Liquid S-2399 3.2 FS Fungicide (34.05% ai; 3.2 lb. ai/gal) [59639-231]	Cereal Grains Crop Group 15 [except Corn, Rice and Sorghum (milo)]: Barley; buckwheat; millet, pearl; millet, proso; oats; rye; teosinte; triticale; wheat	Commercial and On-Farm equipment (not for planter box or hopper box use)	0.08 fl oz/100 lb. seed	0.002
	Dry seeded rice		0.4 fl oz/100 lb. seed	0.01
	Sorghum (milo)		0.2 fl oz/100 lb. seed	0.005
	Legume Vegetables, Succulent or Dried, Crop Group 6 (except Soybean)		0.2 fl oz/100 lb. seed	0.005
	Rapeseed, Canola Varieties Only, Crop Subgroup 20A		0.2 fl oz/100 lb. seed	0.005
	Field Corn		0.1 fl oz/80,000 seeds (assumed 2,000 seeds/lb.)[2]	0.006
	Popcorn		0.1 fl oz/80,000 seeds	0.015

Table 3. Summary of Directions for Seed Treatment Uses of Inpyrfluxam				
Formulation Product Name [EPA Reg. No.]	Crop	Application Method	Application Rate	
			Product rate	lb. ai/100 lb. seed
			(assumed 4,760 seeds/lb.)[2]	
	Sweet Corn		0.1 fl oz/80,000 seeds (assumed 4,500 seeds/lb.)[2]	0.014
	Soybean		1.6 fl oz/140,000 seeds (assumed 3,600 seeds/lb.)[2]	0.103
	Sugar Beet		0.0088 fl oz/100,000 seeds (assumed 40,000 seeds/lb.)[2]	0.009
Liquid V-10417 FS Fungicide[1] (4.71% ai; 0.428lb ai/gal) [59639-232]	Legume Vegetables, Succulent or Dried [Crop Group 6]		1.5 fl oz/100 lb. seed	0.005

1. Product contains multiple active ingredients; including ethaboxam and metalaxyl
2. Seeds/lb. taken from Memo: Becker, J and Ratnayake, S. 2011. "Acres Planted per Day and Seeding Rates of Crops Grown in the United States."

IV. EVALUATION

In evaluating a pesticide registration application, the EPA assesses a wide variety of exposure information (i.e., where and how the pesticide is used) and environmental-fate (i.e., how the chemical will move in the environment) and toxicity studies (i.e., effects on humans and other non-target organisms) to determine the likelihood of adverse effects (i.e., risk) from exposures associated with the use of the product. Risk assessments are developed to evaluate the environmental fate of the compound as well as how it might affect a wide range of non-target organisms including humans, terrestrial and aquatic wildlife (plants and animals). In addition, a biological and economic benefits assessment may be conducted. On the basis of these assessments, the EPA evaluates the risks and benefits and determines whether additional labeling restrictions or registration conditions are needed to ensure that when balanced against the benefits, potential risks are mitigated to meet the standard of no unreasonable adverse effects to human health or the environment. It is a FIFRA violation to use a pesticide in a manner inconsistent with its labeling.

EPA requires a wide range of studies in order to assess a pesticide use scenario. For the uses of inpyrfluxam, the database of studies required to support the assessment of risk to human health is

considered complete. Additionally, the database required to evaluate the environmental fate and ecological effects of inpyrfluxam is complete and is considered adequate to support the assessment of ecological risk and for registration of the use patterns discussed in this document.

A. Assessment of Risks to Human Health

1. Toxicology Profile

This section, *Assessment of Risks to Human Health*, is a summary of the standard assessment that the Agency conducts; the full Human Health Risk Assessment can be found in docket ID number be found in docket ID number EPA-HQ-OPP-2018-0038 at www.regulations.gov .

The target organs are the liver and thyroid (rats, mice, and dogs). Liver effects include increased liver weight, elevated liver enzymes, and increased incidences of diffuse hepatocellular hypertrophy. Thyroid effects include increased incidences of follicular cell hypertrophy.

Decreased motor activity was seen in the acute neurotoxicity study in female rats, but no gross or microscopic morphological changes occurred. There was no neurotoxicity observed in the subchronic neurotoxicity in rats or in any other studies. No dermal hazard was identified in the 28-day dermal toxicity study.

There was evidence of quantitative sensitivity in the developmental toxicity study in rats. In this study, decreased fetal weights were observed at a dose lower than the presence of maternal toxicity. No quantitative susceptibility was observed in the developmental toxicity study in rabbits and the two-generation reproduction study in rats. In the two-generation reproduction study in rats, no reproductive effects were observed, offspring toxicity (decreased pup weights in F1 and F2 generations) was observed in the presence (same dosage) of parental toxicity (thyroid weight changes and histopathology in P and F1 generations).

In the chronic toxicity/carcinogenicity studies in rats and mice, there was no evidence of carcinogenicity. The mutagenicity battery was negative. Inpyrfluxam is classified as "Not likely to be carcinogenic to humans."

Technical grade inpyrfluxam has moderate acute oral toxicity (Toxicity Category II), and low dermal and inhalation acute toxicity (Toxicity Category III, IV respectively). It is not an eye or dermal irritant, and not a dermal sensitizer.

All three of the end-use products have low acute toxicity, with the highest route of exposure being Category III (for acute oral) and requiring the Signal word CAUTION. These products are negative for skin sensitization.

An uncertainty factor of 100X (10X for interspecies extrapolation, 10X for intraspecies variation, and a reduced Food Quality Protection Act Safety Factor (FQPA SF) 1X is applied). A clear no-observed adverse-effect level (NOAEL) and lowest-observed adverse-effect level (LOAEL) was established, and the points of departure (PODs) selected for risk assessment purposes are

protective of the developmental or offspring effects. The FQPA SF has been reduced to 1X because: (1) the toxicity database is adequate to characterize potential pre- and post-natal risk for infants and children; (2) decreased motor activity was observed in females in the acute neurotoxicity study; however, no neurotoxicity was observed in the subchronic neurotoxicity or in any other studies in the inpyrfluxam database; (3) in the 2-generation reproduction study in rats, no reproductive effects were observed, offspring toxicity (decreased pup weights in F1 and F2 generations) was observed in the presence of parental toxicity (thyroid weight changes and histopathology in P and F1 generations); (4) although there were developmental effects (decreased fetal weights) in the developmental study in rats in the absence of maternal toxicity, a clear NOAEL and LOAEL were identified; and (5) the PODs selected for risk assessment purposes are protective of the developmental effects seen in the database.

Based on submitted studies, the nature of the residues of inpyrfluxam is considered to be adequately understood in plants and livestock commodities. Plant metabolism of inpyrfluxam was investigated in a variety of crops including seed treatment (potato, corn, sorghum, and canola), foliar application (apples and soybean) and granular soil application (rice). The metabolic pathways in the submitted studies are similar and provide adequate information on the metabolism of inpyrfluxam in plants. Inpyrfluxam involves oxidation to form 1-CH_2OH-S-2840 (A&B), and to a lesser extent 3-OH-S-2840. Metabolite 1-CH_2OH-S-2840 is then conjugated with sugars or further oxidized to the acid metabolite, 1'-COOH-S-2840 (A&B).

The toxicological endpoints and PODs used in the human health risk assessment are summarized below in Tables 4 and 5.

Table 4. Summary of Toxicological Doses and Endpoints for Inpyrfluxam for Use in Dietary and Non-Occupational Human Health Risk Assessments

Exposure/ Scenario	Point of Departure POD	Uncertainty Factors/FQPA Safety Factors	RfD, PAD, Level of Concern for Risk Assessment	Study and Toxicological Effects
Acute Dietary (All Populations)	NOAEL = 30 mg/kg/day	UF_A = 10X UF_H = 10X FQPA SF = 1X	Acute RfD = 0.3 mg/kg/day aPAD = 0.3 mg/kg/day	Acute neurotoxicity - rat MRID 49706062 LOAEL = 100 mg/kg/day based on decreased motor activity in female rats.
Chronic Dietary (All Populations)	NOAEL = 26 mg/kg/day	UF_A = 10X UF_H = 10X FQPA SF = 1X	Chronic RfD = 0.3 mg/kg/day cPAD = 0.3 mg/kg/day	Two-Generation Reproduction study - rat MRID 49706480 LOAEL = 86 mg/kg/day based on thyroid weight changes and histopathology (increased incidences of follicular cell hypertrophy) in P and F1 generations females and decreased pup weights in F1 and F2 generations.

Table 4. Summary of Toxicological Doses and Endpoints for Inpyrfluxam for Use in Dietary and Non-Occupational Human Health Risk Assessments				
Exposure/ Scenario	**Point of Departure POD**	**Uncertainty Factors/FQPA Safety Factors**	**RfD, PAD, Level of Concern for Risk Assessment**	**Study and Toxicological Effects**
Incidental Oral and Adult Oral Short-Term (1-30 days)	NOAEL = 26 mg/kg/day	UF_A = 10X UF_H = 10X FQPA SF = 1X	LOC for MOE<100	Two-Generation Reproduction study - rat MRID 49706480 LOAEL = 86 mg/kg/day based on thyroid weight changes and histopathology (increased incidences of follicular cell hypertrophy) in P and F1 generations females and decreased pup weights in F1 and F2 generations.
Cancer (oral, dermal, inhalation)	Classification: Not likely to be carcinogenic to humans.			

Point of departure (POD) = A data point or an estimated point that is derived from observed dose-response data and used to mark the beginning of extrapolation to determine risk associated with lower environmentally relevant human exposures. NOAEL = no-observed adverse-effect level. LOAEL = lowest-observed adverse-effect level. UF = uncertainty factor. UF_A = extrapolation from animal to human (interspecies). UF_H = potential variation in sensitivity among members of the human population (intraspecies). FQPA SF = FQPA Safety Factor. PAD = population-adjusted dose (a = acute, c = chronic). RfD = reference dose. MOE = margin of exposure. LOC = level of concern.

Table 5. Summary of Toxicological Doses and Endpoints for Inpyrfluxam for Use in Occupational Human Health Risk Assessments				
Exposure/ Scenario	**Point of Departure POD**	**Uncertainty Factors**	**Level of Concern for Risk Assessment**	**Study and Toxicological Effects**
Dermal Short-(1-30 days) and Intermediate-Term (1-6 months)	NOAEL = 26 mg/kg/day DAF = 12%	UF_A = 10X UF_H = 10X	LOC for MOE<100	Two-Generation Reproduction study - rat MRID 49706480 LOAEL = 86 mg/kg/day based on thyroid weight changes and histopathology in P and F1 generations females and decreased pup weights in F1 and F2 generations.
Inhalation Short-(1-30 days) and Intermediate-Term (1-6 months)	NOAEL= 26 mg/kg/day	UF_A=10X UF_H=10X	LOC for MOE<100	Two-Generation Reproduction study - rat MRID 49706480 LOAEL = 86 mg/kg/day based on thyroid weight changes and histopathology (increased incidences of follicular cell hypertrophy) in P and F1 generations females and decreased pup weights in F1 and F2 generations.

Table 5. Summary of Toxicological Doses and Endpoints for Inpyrfluxam for Use in Occupational Human Health Risk Assessments				
Exposure/ Scenario	**Point of Departure POD**	**Uncertainty Factors**	**Level of Concern for Risk Assessment**	**Study and Toxicological Effects**
Cancer (oral, dermal, inhalation)	Classification: Not likely to be carcinogenic to humans.			

Point of departure (POD) = A data point or an estimated point that is derived from observed dose-response data and used to mark the beginning of extrapolation to determine risk associated with lower environmentally relevant human exposures. NOAEL = no-observed adverse-effect level. LOAEL = lowest-observed adverse-effect level. UF = uncertainty factor. UF_A = extrapolation from animal to human (interspecies). UF_H = potential variation in sensitivity among members of the human population (intraspecies). MOE = margin of exposure. LOC = level of concern. DAF = dermal absorption factor.

2. Dietary (Food + Water) Risks

An unrefined dietary risk assessment was conducted which used anticipated residues to account for the metabolites of concern, 100 percent crop treated (% CT), and incorporated the Agency's 2018 default processing factors. Modeling for residues in drinking water included parent inpyrfluxam, and four additional residues: 3'-OH-S-2840, 1'-COOH-S-2840, 1'keto-S-2840, and N-des-Me-S-2840. Drinking water was incorporated directly into the dietary assessment and used the ground water concentration, generated by the Pesticide Root Zone Model Groundwater (PRZM-GW). Based on the radiotracer studies, the canola, corn, sorghum, legume vegetables, and sugar beet seed treatments uses were classified as nonfood and were not included in the dietary assessment.

The acute dietary (food and drinking water) exposure and risk estimates do not exceed the Agency's level of concern (< 100% of the acute population-adjusted dose [aPAD]) at the 95th exposure percentile for the general U.S. population (2.3% of the aPAD) and all population subgroups. The most highly exposed population subgroup is all infants (<1 yr. old) at 6.3% of the aPAD. The chronic dietary (food and drinking water) exposure and risk estimates for the general U.S. population and all population subgroups are below the Agency's level of concern (LOC). The chronic dietary exposure estimate to the general U.S. population is <1% of the chronic population-adjusted dose (cPAD) and children 1-2 years old, the most highly exposed population subgroup, is 1.6% of the cPAD.

Inpyrfluxam is classified as "Not likely to be carcinogenic to humans." No treatment-related increases in tumors were observed in carcinogenicity studies in rats or mice. Additionally, there is no evidence of mutagenicity *in vivo* or *in vitro*.

3. Occupational Exposure Risks

Occupational handler exposure is expected from the requested uses based on the labeling, and the types of equipment and techniques that may be used.

Occupational Handler Non-Cancer Exposure and Risk Estimates

Foliar/Soil Uses: None of the occupational handler scenarios for the foliar/soil uses result in short-and intermediate-term combined (dermal plus inhalation) risk estimates of concern (i.e., MOEs ≥ 100; LOC = 100) with baseline Personal Protective Equipment (PPE) (i.e., single layer of clothing, no gloves and no respirator).

Seed Treatment Uses: None of the occupational handler scenarios for the seed treatment uses result in short-and intermediate-term combined (dermal plus inhalation) risk estimates of concern (i.e., MOEs ≥ 100; LOC = 100) with baseline PPE.

Aerial applicators are assessed using the engineering control (enclosed cockpits) and baseline attire (long-sleeved shirt, long pants, shoes, and socks). Per the Agency's Worker Protection Standard stipulations for engineering controls, pilots are not required to wear protective gloves for the duration of the application. With this level of protection, risk estimates are below the LOC for aerial applicators.

Dermal Post-Application Exposure and Risk Estimates

There is potential for occupational post-application dermal exposure for workers performing activities with agricultural crops that have been treated with inpyrfluxam. Short- and intermediate-term dermal post-application risk estimates were not of concern on day 0 (12 hours following application) for all post-application activities. For use on corn, a dermal post-application assessment has not been conducted since the use directions on the label indicate that the product must be applied to the soil in-furrow at planting. Therefore, post-application exposure is anticipated to be negligible.

4. Residential Handler Risks

Residential handler exposures are not anticipated based on the use sites of inpyrfluxam and, therefore, have not been quantitatively assessed. Associated end-use products are not intended for homeowner use and inpyrfluxam labels require that handlers wear specific clothing and personal protective equipment. Additionally, the registrant added the statement "Not for residential use" to the S-2399 2.84 SC Fungicide label (EPA reg# 59639-230).

5. Aggregate Risk

There are no residential uses of inpyrfluxam. Therefore, the aggregate assessment was limited to food and water exposure. As a result, the aggregate assessments are equivalent to the dietary assessments and are below the LOC.

6. Cumulative Risk

Unlike other pesticides for which EPA has followed a cumulative risk approach based on a common mechanism of toxicity, EPA has not made a common mechanism of toxicity finding as

to inpyrfluxam and any other substances; and inpyrfluxam does not appear to produce a toxic metabolite produced by other substances. For the purposes of this action, therefore, EPA has not assumed that inpyrfluxam has a common mechanism of toxicity with other substances.

B. Assessment of Environmental and Ecological Risks

This section, *Assessment of Assessment of Environmental and Ecological Risks,* is a summary of the standard assessment that the Agency conducts; the full Environmental and Ecological Risk Assessment can be found in docket ID number be found in docket ID number EPA-HQ-OPP-2018-0038 at www.regulations.gov .

The ecological risk assessment integrates the results of the exposure and ecotoxicity data to evaluate the likelihood of adverse ecological effects. The means of integrating the results of exposure and ecotoxicity data is called the quotient method. For this method, risk quotients (RQs) are calculated by dividing exposure estimates by ecotoxicity values, both acute and chronic (RQ = Exposures/Toxicity). RQs are then compared to the Agency's levels of concern (LOCs). The LOCs are criteria used by the EPA to indicate potential risk to non-target organisms. The criteria indicate whether a pesticide, when used as directed, has the potential to cause adverse effects to non-target organisms.

The database required to evaluate the environmental fate and ecological effects of inpyrfluxam is complete and is considered adequate to support the assessment of ecological risk and for registration of the use patterns discussed in this document.

1. Environmental Fate Profile

Volatilization is insignificant for inpyrfluxam as the vapor pressure is low (9.00×10^{-10} mmHg at 25 °C). Inpyrfluxam is moderately persistent to persistent in all fate studies and moderately mobile with a mean organic carbon normalized soil-water distribution coefficient (K_{oc}) of 691 L/kg-oc in soil based on FAO mobility classification (range of 500 to 913 L/kg, n=7). Major routes of dissipation of inpyrfluxam in the environment following application may include spray drift, runoff on eroded sediment/soil, leaching through the soil profile, and transformation. The octanol:water partition coefficient ($\log K_{ow} = 3.65$) suggests that inpyrfluxam may bioconcentrate. The fish bioconcentration factor (BCF) study indicates rapid depuration (98.3% by day three at the low dose rate, and 91.1% by day three at the higher dose rate), and a steady state BCF of 173 and 190 at the low and high dose, respectively. Inpyrfluxam is water soluble at 16.4 mg/L (20 °C).

In aquatic environments, inpyrfluxam is essentially stable to hydrolysis, aqueous photolysis, and anaerobic aquatic metabolism. Under aerobic aquatic conditions, microbial bacteria may contribute to transformation with half-lives ranging from 319 days to stable (n=5), although carbon dioxide generation was less than 1%. Aquatic metabolism studies indicate that inpyrfluxam partitions to the sediment, which was also observed in the aquatic field dissipation studies. In the aquatic field dissipation studies, the concentration of inpyrfluxam in sediment

appears to increase over time, though the data are variable. The aquatic field dissipation studies were not conducted long enough to properly assess the potential for accumulation.

In terrestrial environments, inpyrfluxam is persistent to photolysis on soil (half-life of 627 days, n=1), and to anaerobic soil metabolism (half-lives ≥ 1,212 days, n=4). The aerobic soil metabolism half-lives range from 121 days to 1,720 days (n=4). The two soil systems that produce this range in data are similar in the fact that both systems result in about a 50% loss of parent material by study termination, but differ by the rate in which they get to that 50%. The shorter half-life is indicative of a single first order (SFO) decline and was generated from a soil with low organic matter (0.51%). The longer half-life is indicative of a biphasic, double first order in parallel (DFOP) decline as described by a quick decline, followed by a much slower decline until study termination, with a soil comprised of 6.5% organic matter. Organic matter was found to be a contributing factor to the adsorption capability of inpyrfluxam in the batch equilibrium study. Thus, it is possible that inpyrfluxam binding influenced the transformation rate in these studies. Ultimately, both systems are indicative of the general persistence of inpyrfluxam in soil.

The batch equilibrium study indicated that inpyrfluxam is moderately mobile in soil, and organic matter is a contributing factor to the adsorption capability of inpyrfluxam; whereas percent clay, cation exchange capacity, and pH are not indicative of the adsorption capability of inpyrfluxam. In the field studies, inpyrfluxam was not detected deeper than 6 inches (15 cm) in four of the five terrestrial field dissipation studies; however, one study did detect inpyrfluxam at a depth of 31–35 inches (78–90 cm) in one sample. This study noted that while rainfall plus irrigation was 109% of the historical average, extremely heavy rainfall and flooding did occur in some months over the study duration.

The residue of concern for assessing exposure is parent (inpyrfluxam) alone, which is primarily the R-isomer (S-2399). The two major transformation products 3'-OH-S-2840 and 1'-COOH-S-2840 were observed in several environmental fate studies. In addition, a single aerobic soil metabolism study conducted with the 1'-COOH-S-2840 metabolite as the starting material, produced a unique major transformation product (not observed in any other study), 1'-keto-S-2840. This determination to assess inpyrfluxam parent only is based on the overall stability of the parent as well as the available toxicity data.

2. Environmental Effects

The exposure and toxicity effects data are integrated to evaluate the risks of adverse ecological effects on non-target species. EPA uses a deterministic approach or the quotient method to compare toxicity to environmental exposure. In the deterministic approach, an RQ is calculated by dividing a point estimate of exposure by a point estimate of effects. This ratio is a simple, screening-level estimate that identifies high- or low-risk situations. Calculation of RQs are based upon ecological effects data, pesticide use data, fate and transport data, and estimates of exposure to the pesticide. In this method, the estimated environmental concentration (EEC) is compared to an effect level, such as an LC_{50} (the concentration of a pesticide where 50% of the organisms die).

For aquatic organisms, the risk assessment concluded the following:

- Inpyrfluxam is classified as "very highly toxic" to freshwater fish and "highly toxic" to estuarine/marine fish on an acute exposure basis. For acute exposure, data are available from seven freshwater fish species with LC_{50} values ranging from 31 to 800 µg a.i./L. For estuarine/marine fish, the sheepshead minnow is the only species tested (LC_{50} =150 µg a.i./L). On a chronic exposure basis, the toxicity test with the fathead minnow, resulted in a NOAEC of 7.5 µg a.i./L based on a 22% reduction in post hatch survival and 16-21% reductions in growth at the LOAEC (13 µg a.i./L). The results of the early life stage (ELS) test with an estuarine/marine fish are generally similar in range.

- All of the foliar uses exceed the acute LOC of 0.5 for freshwater fish (acute RQs for freshwater fish range from 0.51– 1.22). Acute RQs are below the LOC for estuarine/marine fish.

- All of the foliar RQs exceeded the chronic LOC of 1 for freshwater and estuarine/marine fish with RQs ranging from 3.1-7.6 for freshwater, and 1.7-4.1 for estuarine/marine.

- Soil applications for sugar beet resulted in exceedance of the chronic LOC of 1 with RQs of 2.3 for freshwater fish, and 1.2 for estuarine/marine fish.

- All fish RQs for seed treatments and soil in-furrow applications are below the acute and chronic LOCs (acute LOC=0.5; chronic LOC=1).

- All of the acute and chronic RQs were below the LOC (acute LOC=0.5; chronic LOC=1) for aquatic invertebrates (free-swimming and benthic), and below the LOC of 1 for aquatic plants.

For terrestrial organisms, the risk assessment concluded the following:

- For the foliar uses, the acute LOC of 0.5 is exceeded for acute exposure to small birds (and terrestrial-phase reptiles and amphibians) feeding on short grass only (the upper-bound dose-based RQs ranged from 0.64-0.88 for the short grass/20-gram bird; LOC=0.5). In general, the risk estimates for birds from acute exposure to foliar residues is low based on the limited exceedances to one size/dietary class and use of upper-bound EECs.

- For the foliar uses, predicted environmental exposures are below levels that caused sublethal/chronic effects in birds (RQs = 0.01 to 0.32; LOC=1); thus, this use does not pose a risk concern to birds.

- The highest labeled rate for soybean seed results in a potential risk to birds that exclusively feed on treated seed. Risk estimates to small and medium birds from seed treatment is low due to seed size limitations; however, risk cannot be precluded for large birds that consume treated seeds (RQs range from 0.37-5.8; LOC=1). There is uncertainty with the chronic non-definitive (less-than) endpoint, which is based on a reduction in the

number of eggs laid at all treatment levels and a poor dose response (*e.g.,* the reduction in number of eggs compared to the control was 26%, 9%, 18% and 25% at the 123, 249, 536, and 1060 mg a.i./kg concentrations, respectively). All of the reductions were statistically significant with the exception of the 9% reduction at the 249 mg a.i./kg concentration. No other effects were observed in this study (or the other avian reproduction study), thus, use of the 123 mg a.i./kg is likely conservative for risk estimation.

- For the foliar uses, there are no acute (LOC=0.5) or chronic (LOC=1) RQ exceedances for mammals (acute: RQs range from <0.01 to 0.09; chronic: dose-based RQs range <0.01 to 0.61).

- For the seed uses, there is no acute risk for mammals, but the chronic LOC of 1 is exceeded for mammals based on the highest treatment rate for soybean seeds (RQs range of 1.1-2.5). However, EECs are below the LOAEL which is the level where body weight effects were observed, thus, considering the modest effect on bodyweight, the exceedance of the NOAEL is likely conservative of effects in the field.

- Risk estimates to terrestrial plants are below the LOC, except for dicots in semi aquatic areas (RQ=0.79-1.9; LOC of 1) when inpyrfluxam is applied at the maximum rate of 0.089 lb. a.i./A.

- For terrestrial invertebrates, there is no acute or chronic adult honeybee risk identified (acute LOC=0.4; chronic LOC=1). There is also no acute larval honeybee risk identified. However, the RQ based on the chronic larval honeybee endpoint approaches the LOC for foliar uses at the highest rate (RQ = 0.76-1.0) when contaminated pollen and nectar are brought back to the hive. The RQ of 1 indicates a risk at the level of concern, meaning that the exposure is approaching the threshold of potential chronic adverse effects when applied as a foliar treatment to bee-attractive crops (apples, peanuts at the maximum rate of 0.089 lb. a.i./A). For characterization, the EECs are lower than the LOAEL (*i.e.,* the concentration where effects were observed, which varies from 25% effect at the LOAEL to 16% effect at the next highest concentration). Considering the low toxicity to bees in the other tests, the variability in the dose response, and that the larval exposure estimates do not account for pesticide decline or dilution that may occur in the hive, the overall risk for effects is low (and approaching risk at the maximum rate).

C. Benefits

This section, *Benefits*, is a summary of the standard assessment that the Agency conducts; the full Benefits Assessment can be found in docket ID number be found in docket ID number EPA-HQ-OPP-2018-0038 at www.regulations.gov .

The Agency reviewed the benefits and product performance data of inpyrfluxam as claimed by the registrant Valent USA, LLC. The benefits assessment is based on several factors including its efficacy in managing a pest or pests in comparison with registered alternatives on different crops, crop yields, produce quality improvement, higher economic return, its role in

pesticide resistance management and/or integrated pest management. The registrant submitted information on the efficacy of inpyrfluxam in comparison with market leader fungicides in controlling fungal diseases on apple, corn (field, pop and sweet), peanut, rice, soybean, and sugar beet. In some cases, the yield benefits and its role in fungicide resistance management was discussed in the submission. The Agency also used publicly available information for the benefits review. Valent withdrew the foliar rice use after the benefits assessment had been completed.

Potential benefits of inpyrfluxam vary considerably under large scale commercial field conditions in different parts of the United States. The Agency determined that the high benefits of inpyrfluxam use are on soybean and sugar beet because it adds a new mode of action (MOA) against key fungal pests. On soybean, inpyrfluxam provides a new MOA to control *Rhizoctonia* Aerial Blight disease that can cause high yield losses. Only two other fungicide MOAs - strobilurins (FRAC Code 11 - azoxystrobin, pyraclostrobin, trifloxystrobin) and triazoles (FRAC Code 3 - propiconazole, difenoconazole, tetraconazole) are registered to control this pest. On sugar beet, inpyrfluxam provides a new MOA to control *Rhizoctonia* Root and Crown Rot (RRCR) for which only strobilurins and triazole fungicides are registered. Inpyrfluxam is also likely to play a role in fungicide resistance management on soybean and sugar beet. On other crops (apple, corn, peanut and rice), inpyrfluxam appears to be comparable to currently available alternative fungicides. Potential benefits of using inpryfluxam on canola, cereal grains, legume vegetables and sorghum were not reviewed as no information was submitted by the registrant.

D. Hazard Comparison

To support the registration decision, a hazard comparison is provided for the foliar-applied fungicides that inpyrfluxam could compete with for controlling various fungal pests. The Agency developed a list of the top fungicides that are used for controlling the target pests for the uses on apples, peanuts, rice, soybean and sugar beets. The list of alternative active ingredients includes the following eight fungicides: chlorothalonil, pyraclostrobin, azoxystrobin, trifloxystrobin, tebuconazole, captan, mancozeb, and sulfur. The ecotoxicity profile of inpyrfluxam was compared to the profiles of the eight unique fungicide active ingredients. It is important to note that a hazard comparison only describes whether a pesticide could elicit an adverse effect at certain exposure levels. It does not provide an indication of the likelihood of the adverse effect occurring in the environment. For that, the hazard of a pesticide must be considered together with the exposure assessment to develop an ecological risk assessment.

Ecotoxicity Comparison
In this analysis, the Agency compared the toxicity data for inpyrfluxam to the available endpoints for the alternative fungicides on a chemical-by-chemical basis. This comparison indicates inpyrfluxam has higher acute toxicity to freshwater fish than half of the registered alternatives and roughly equivalent toxicity to several other active ingredients (chlorothalonil, pyraclostrobin, trifloxystrobin). For chronic exposure to fish, the inpyrfluxam endpoints were generally in a similar range of toxicity to the alternatives. Inpyrfluxam has similar to lower toxicity to aquatic invertebrates and is generally less toxic to aquatic plants.

In terms of terrestrial organisms, inpyrfluxam is of similar to or greater toxicity to birds,

mammals, and terrestrial plants compared to the registered alternatives. For birds, passerine data are only available for inpyrfluxam. As a result, the toxicity comparison (for subacute dietary study) is likely reflecting differences in species sensitivity. For example, when comparing to the other two species tested, the toxicity is similar to the alternatives. For terrestrial invertebrates, the comparison of the acute oral toxicity to honeybees generally shows similar to less toxicity than the alternatives.

Of note is that inpyrfluxam has a much lower maximum single application rate than the other fungicide alternatives (up to 100 times lower), thus resulting in lower initial environmental loadings.

E. Synergy

Recently, some chemical companies have made claims in patents that certain combined mixtures of pesticides elicit synergistic effects, meaning that when the chemicals are mixed the combined effect is greater than the sum of the individual effects of each chemical.

The Office of Pesticide Programs (OPP) has developed an interim process to evaluate mixture effects on an active ingredient basis where the U.S. Patent and Trademark Office (PTO) granted a patent on the basis of the applicant showing the combined effects of the mixture are synergistic (*i.e.*, the effect of a mixture of pesticides is greater than the sum of the individual effects). To ensure that mixture effects data that may be relevant to OPP ecological risk assessments are considered, OPP requested that applicants of new chemicals submit mixture toxicity data provided to the U.S. PTO. OPP provided criteria to assist applicants in identifying relevant data for submission. Valent completed a search of U.S. patent data to identify any claims of synergy (or more than additive effects) with other currently registered pesticides according to the criteria* and submitted corresponding data to OPP for the new pesticide inpyrfluxam.

*** Criteria for relevancy**
1. Patent contains comparison of empirical effects
2. Effects relevant to direct effects on tested taxa
3. Tested taxa are relevant to ecological risk assessment
4. Test data for chemical considered for regulation
5. Mixture components tested are registered in U.S.

The applicant conducted a patent search using the keyword inpyrfluxam (including the S isomer, the chemical name without isomer indication, and the chemical structure) and identified two patents relevant to inpyrfluxam under U.S. 9,510,596 and U.S. 10,076,119. Fungicides at this point in time have not raised synergy concerns, unless the synergy claims extend beyond fungi.

The Agency concludes, on the basis of the applicant's submitted report, that all identified patents contain no greater-than-additive effects information relevant to the inpyrfluxam ecological risk assessment as currently conducted by the Agency.

V. PUBLIC COMMENTS

On December 21, 2018 and March 18, 2019, the EPA published a Notice of Receipt (NOR) in the Federal Register of an application for registration of inpyrfluxam and announced a public comment period of 30 days. Five total public comments were received on the two NORs and can be found in docket ID number EPA-HQ-OPP-2018-0038 at www.regulations.gov . Two of these comments are duplicative. The EPA also published a Notice of Filing (NOF) on March 18, 2019 and May 8, 2020 for a 30-day comment period. No comments were received on the NOF dated March 18, 2019. The May 8, 2020 NOF was published in response to a request from Valent to establish livestock commodity tolerances that harmonize with PMRA. Valent also requested that the May 8, 2020 NOF include two additional raw agricultural commodities associated with corn. One comment was received in response to the May 8, 2020 NOF. A response to the NOF comment can be found in the final rule for inpyrfluxam in docket ID number EPA-HQ-OPP-2018-0038 at www.regulations.gov .

The proposed decision was available for 30 day public comment on June 5, 2020; closing on July 7, 2020. The Agency received six comments on the proposed decision document: one from the registrant, Valent USA, LLC; one from the United States Department of Agriculture (USDA) Office of Pest Management Policy (OPMP); two from the Center for Biological Diversity (CBD); one from the California Rice Commission; and one from Washington State Department of Agriculture (WSDA). The Agency's response to comments on both the NOR and proposed decision document can be found in docket ID number EPA-HQ-OPP-2018-0038 at www.regulations.gov . None of the comments received changed the Agency's final regulatory decision.

VI. FINAL REGULATORY DECISION

In accordance with FIFRA, the EPA only registers a pesticide unconditionally when sufficient data has been submitted and it is determined that the uses will not cause unreasonable adverse effects on humans or the environment. This also takes into account the economic, social, and environmental costs and benefits of the use of the pesticide. When a registration involves food uses, this determination also includes a finding that dietary risk from pesticide residues in food meet the safety standard of section 408 of the Federal Food, Drug and Cosmetic Act (FFDCA) ("a reasonable certainty of no harm…"). Under FIFRA, the EPA is charged with balancing risks posed by the use of a pesticide against its benefits. The EPA must determine if the benefits in light of its use outweigh the risks in order for the EPA to register a pesticide.

A. Rationale and Risk Mitigation

The EPA has issued registrations for the following four products as part of the registration of the active ingredient, inpyrfluxam:

Name	File Symbol	Active Ingredient(s)
S-2399 Technical Fungicide	59639-233	97.4% inpyrfluxam
S-2399 2.84 SC Fungicide	59639-230	31.25% inpyrfluxam

S-2399 3.2 FS Fungicide	59639-231	34.05% inpyrfluxam
V-10417 FS Fungicide	59639-232	4.71% inpyrfluxam 1.89% metalaxyl 7.07% ethaboxam

The database is complete for assessment of risks to human health and the environment, and there are no data gaps. Considering the assessed risk to human health and the environment, the Agency concludes that inpyrfluxam meets the regulatory standard under FIFRA.

A conservative human health risk assessment was conducted and did not identify any dietary risks of concern. The assessment also did not identify any risks of concern for occupational workers. There are no residential uses approved for inpyrfluxam, and therefore residential handler exposures are not anticipated. The inpyrfluxam labels require that handlers wear specific clothing and personal protective equipment. Additionally, EPA requested that the registrant add the statement "Not for residential use" to the S-2399 2.84 SC Fungicide label (EPA reg# 59639-230) which is the foliar application label. Seed treatments are only applied commercially or on the farm by occupational workers.

The ecological risk assessment conducted for inpyrfluxam identified certain acute and chronic RQ exceedances as noted previously. To mitigate the identified ecological risks associated with the uses, EPA required the following:

- The soybean seed treatment rate was lowered from 3.2 fl oz/100 lb. seed to 1 fl oz/100 lb. seed on the S-2399 3.2 FS Fungicide (EPA reg # 59639-231) label.
- The single application rate was reduced from 3 to 2 fl oz/A (0.044 lb. ai/A) for soybean on the S-2399 2.84 SC Fungicide (EPA reg # 59639-230) label.
- The maximum application rate per year was revised from 6 to 4 fl oz/A (0.089 lb. ai/A) for soybean broadcast application on the S-2399 2.84 SC Fungicide (EPA reg # 59639-230) label.
- The single application rate was reduced from 4 to 2 fl oz/A (0.044 lb. ai/A) for sugar beet S-2399 2.84 SC Fungicide (EPA reg # 59639-230) label.
- The maximum application rate per year was revised from 8 to 4 fl oz/A (0.089 lb. ai/A) for sugar beet broadcast application on the S-2399 2.84 SC Fungicide (EPA reg # 59639-230) label.
- The maximum application rate per year was revised from 4 to 2 fl oz/A (0.044 lb. ai/A) for sugar beet banded application on the S-2399 2.84 SC Fungicide (EPA reg # 59639-230) label.
- A prohibition against aerial application for all foliar uses was placed on the S-2399 2.84 SC Fungicide (EPA reg # 59639-230) label. This restriction will reduce the potential spray drift being deposited directly into waterbodies.
- The maximum application rates for the apple and peanut foliar applications on the S-2399 2.84 SC Fungicide (EPA reg # 59639-230) label remain as originally proposed for both efficacy and resistance management for these crops. However, the following mitigation measures are on the label for these uses in conjunction with a medium to coarse droplet size for groundboom spray application:
    - a 50' buffer zone for apple and peanut to help mitigate drift and runoff. The label restriction reads: "Do not apply this product within 50 feet of any freshwater

lake, pond, river, stream or wetland."

- a vegetative buffer strip language for apple and peanut to help mitigate runoff. The label statement reads: "This product may impact quality of surface water due to runoff after rainfall. Runoff potential of S-2399 2.84 SC Fungicide will be reduced by implementation of level and properly maintained vegetative buffer strips between treated areas and surface water sources (ponds, lakes, springs, streams, rivers)."

- Mandatory and advisory spray drift language was added to the S-2399 2.84 SC Fungicide label which includes a medium to coarse droplet size for all foliar uses and a groundboom height restriction to 4 feet above the ground or crop canopy.

Based on the above identified ecological risk mitigations, new RQs were calculated for the various taxa. These risk mitigations resulted in reductions in risk for a number of taxa. The below table provides an overview of these RQ changes for the taxa where risks had been identified in the ecological assessment. The updated RQs are explained in detail in the memorandum titled *Updated Risk Quotients for the Inpyrfluxam New Active Ingredient Ecological Risk Assessment Based on Label Changes* that is available on the docket (ID number EPA-HQ-OPP-2018-0038).

Table 6. Summary of Ecological Risk Mitigation Impacts for the Label Changes

Taxa	Study Type	Current RQ Range (for all originally proposed uses)	RQ Range with Risk Mitigation Updates (specific to crops affected by risk mitigation)	Comments
Freshwater fish	Acute LOC of 0.5	<0.01-**1.2** (all foliar use sites exceed the LOC; RQs 0.51-1.2)	0.14-**0.7**	Apple and sugar beet no longer exceed the LOC. The LOC is slightly exceeded for peanut and soybean (RQs = **0.56-0.7**)
	Chronic LOC of 1	<0.01-**7.6** (all foliar use sites exceed the LOC; RQs 3.1-7.6)	0.88-**4.4**	Reduced RQs but exceedances remain for all foliar uses. Sugar beet banded drops below LOC.
Estuarine/ marine fish	Acute LOC of 0.5	No LOC exceedance	--	--
	Chronic LOC of 1	<0.01-**4.1** (all foliar use sites exceed the LOC; RQs 1.7-4.1)	0.48-**2.4**	Reduced RQs but exceedances remain for all foliar uses. Sugar beet banded drops below LOC.
Mammal	Chronic LOC of 1	Seed: RQ=**1.1-2.5**	Seed rate reduced (RQ=0.35-0.77)	No exceedances

Birds	Acute LOC of 0.5	Foliar-Dose-based RQ =<0.01-**0.88**	Soybean and Sugar beet (RQs=0.4) Apple and Peanut remain the same (**0.68-0.88**)	Soybean and sugar beet no longer exceed the LOC. For apples and peanut there are marginal LOC exceedances for small birds/short grass diet.
		Seed: RQ=**0.51**	Seed rate reduced (RQ below LOC)	Seed: No LOC exceedance
	Chronic LOC of 1	Seed: RQ=0.37-**5.8**	Seed Rate reduced RQ=**1.8**	Not below LOC but closer to RQ of 1.
Terrestrial Plants	LOC of 1	RQs up to **1.9**	RQs: 0.77-**1.9** Apple (RQ=**1.9**) and Peanut (RQs=**1.6**)	Soybean and sugar beet no longer exceed the LOC. Apple remains the same and peanut RQs are reduced but there still is a minor LOC exceedance (RQ=**1.6**).

Inpyrfluxam has many potential benefits including disease control and resistance management which may vary considerably under large scale commercial field conditions in different parts of the United States. The biggest anticipated benefits are the uses on soybean and sugar beet as inpyrfluxam is a new MOA against key fungal pests. On soybean, the use of this chemical will provide a new MOA to control *Rhizoctonia* Aerial Blight disease which can cause high yield losses. There are currently only two other fungicide MOAs (strobilurins; (FRAC Code 11 and triazoles; FRAC Code 3) registered to control this pest. On sugar beet, inpyrfluxam provides a new MOA to control *Rhizoctonia* Root and Crown Rot (RRCR) for which only strobilurins and triazole fungicides are registered. Additionally, inpyrfluxam is labeled for use on many crops that are grown on fewer than 300,000 acres in the United States, meeting the definition of a minor use under FIFRA 2(II)(1) [(*Lupinus* spp., consisting of lupin, sweet lupin; *Phaseolus* spp., consisting of field beans, kidney bean, lima bean, navy bean; *Vigna* spp., consisting of adzuki bean, asparagus bean, black-eyed peas, catjang; *Pisum* spp., consisting of dwarf bean, edible podded pea, garden pea]. These uses are also potentially important to growers by providing products that aid in resistance management, lower risk than alternatives and may have low economic return.

The EPA is not requiring any additional data at this time to assess risk of inpyrfluxan to human health or the environment. The Agency finds the low human health risk and having this new MOA along with the mitigation measures outweighs the remaining potential risks of concern. Therefore, the EPA concludes that the use of inpyrfluxam as a seed treatment, soil and foliar application on the beforementioned uses will not cause unreasonable adverse effects on the environment and meets the criteria for unconditional registration under FIFRA section 3(c)(5).

B. Label Requirements

Label restrictions and statements on the technical product label (S-2399 Technical Fungicide; EPA reg# 59639-233):

- Precautionary statements for product specific acute toxicity Category II
    - Signal Word: WARNING

- For formulating purposes only
- Only for formulation into a fungicide for the [specified] uses

Label restrictions and statements on the end use product label (S-2399 2.84 SC Fungicide; 59639-230):

- PPE and precautionary statements for product specific acute toxicity Category III.
    - Signal Word: CAUTION
    - Baseline PPE attire: long sleeved shirt and long pants, shoes plus socks, chemical-resistant gloves made of any waterproof material
- Restricted Entry Interval is 12 hours
- Do not apply to greenhouse food crops
- Do not apply this product when weather conditions favor spray drift from treated areas
- Resistance management language is present on the label, including restrictions on the number of applications of inpyrfluxam that may be made prior to rotating to a pesticide of another MOA (see "Food Crop Use Pattern Summary" section).
- Environmental Hazards language as follows: "This pesticide is toxic to fish and aquatic 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. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water by disposing of equipment washwaters or rinsate."

Label restrictions and statements on the end use product label (S-2399 3.2 FS Fungicide; 59639-231):

- PPE and precautionary statements for product specific acute toxicity Category III.
    - Signal Word: CAUTION
    - Baseline PPE attire for mixers, loaders, applicators and other handlers: long sleeved shirt and long pants, shoes plus socks, chemical-resistant gloves made of any waterproof material
    - Baseline PPE attire for baggers, bag sewers and bag stackers: long-sleeved shirt, long pants, socks and shoes
- Restricted Entry Interval is 12 hours
- Do not apply this product in a hopper-box or planter-box at planting time
- Environmental Hazards language as follows: "This pesticide is toxic to fish and aquatic 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. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water by disposing of equipment washwaters or rinsate."
- Standard seed bag label requirements

Label restrictions and statements on the end use product label (V-10417 FS Fungicide; 59639-232):

- PPE and precautionary statements for product specific acute toxicity Category III.
    - Signal Word: CAUTION
    - Baseline PPE attire for workers loading product, treating seed and conducting maintenance and calibration of the treater must wear: long sleeved shirt and long pants, shoes plus socks, chemical-resistant gloves made of any waterproof

material
    - Baseline PPE attire for workers involved with handling treated seed (such as baggers, sewers and bag stackers) must wear: long-sleeved shirt, long pants, sock and shoes
    - Baseline PPE attire for workers who load and plant treated seed must wear: long-sleeved shirt, long pants, sock and shoes and chemical-resistant gloves made of any waterproof material.
- Restricted Entry Interval is 24 hours
- Do not apply this product in a hopper-box or planter-box at planting time
- Standard seed bag label requirements
- Environmental Hazards language as follows: "This pesticide is toxic to aquatic invertebrates, oysters, and shrimp. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water by disposing of equipment washwaters or rinsate." Groundwater Advisory: "Metalaxyl has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow. Therefore, contain any product spills or equipment leaks and dispose of wastes according to the disposal instructions on this label."

Additional label changes:

- Expanded glove statement: chemical-resistant gloves made of any waterproof material (barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or viton ≥ 14 mils)
- The two seed treatment products must have the same PPE requirements for the various occupational workers. Both products must follow the language on the label for V-10417 FS Fungicide product (EPA reg# 59639-232) which requires workers loading product, treating seed and conducting maintenance and calibration of the treater to wear a long sleeved shirt and long pants, shoes plus socks, and chemical-resistant gloves made of any waterproof material. For workers involved with handling treated seed (such as baggers, sewers and bag stackers), they must wear long-sleeved shirt, long pants, sock and shoes. Lastly, for workers who load and plant treated seed, they must wear long-sleeved shirt, long pants, sock and shoes and chemical-resistant gloves made of any waterproof material.
- The following tank mixing statement is required for end use products that allow tank mixing:

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

- For the seed treatment use on legume vegetables (succulent and dried, crop group 6), the labels for the 3.2 lb. ai/gal FS formulation (S-2399 3.2 FS Fungicide; 59639-231) and the 0.428 lb. ai/gal FS formulation (V-10417 FS Fungicide; 59639-232) were revised to

remove the restriction prohibiting the grazing or feeding of legume vegetable forage, hay, or vines to livestock, as the use on soybean seed is a livestock feed item.

- The following statement was added to the three end-use product labels as a residential handler risk assessment was not conducted "Not for residential use".
- The following statement was added to the end use product label (S-2399 2.84 SC Fungicide; 59639-230): "Do not apply this product by aerial application." This should fall under a Restrictions heading to make sure that it is clear for all crops on the label.
- Resistance management language per PRN 2017-1 was added to all end-use labels
- The following mandatory spray drift management statements were added to the foliar end-use label (S-2399 2.84 SC Fungicide; 59639-230):

"MANDATORY SPRAY DRIFT MANAGEMENT

Airblast applications:

- Sprays must be directed into the canopy.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- Do not apply during temperature inversions."

[Note: The above enforceable airblast drift language was placed in the Directions for Use, in a box titled "Mandatory Spray Drift Management" under the heading "Airblast Applications"]

Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy and have minimal bounce.
- Applicators are required to use a Medium to Coarse, or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

[Note: The above enforceable ground boom drift language is placed in the Directions for Use, in a box titled "Mandatory Spray Drift Management" under the heading "Ground Boom Applications"]

Boomless Ground Applications:

- Applicators are required to use a Medium to Coarse, or coarser droplet size (ASABE S572.1) for all applications.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions."

[Note: The above enforceable boom-less ground-sprayer drift language is placed in the Directions for Use, in a box titled "Mandatory Spray Drift Management" under the heading "Boomless Applications"]

- The following advisory spray drift management language statements are on the foliar end-use label (S-2399 2.84 SC Fungicide; 59639-230):

"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 – 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 recommended 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
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."

[Note: The above Advisory drift language should be placed in the Directions for Use, just below the Spray Drift box, under the heading "Spray Drift Advisories"]

Boomless Ground Applications:
Setting nozzles at the lowest effective height will help to reduce the potential for spray drift."

[Note: The above Advisory boom-less ground sprayer drift language should be placed in the Directions for Use, just below the Spray Drift box, under the heading "Spray Drift Advisories"]

Handheld Technology Applications:
Take precautions to minimize spray drift."

[Note: The above Advisory handheld technology drift language should be placed in the Directions for Use, just below the Spray Drift box, under the heading "Spray Drift Advisories"]

VII. SUPPORTING DOCUMENTS

All supporting documents can be found in docket ID number EPA-HQ-OPP-2018-0038 at www.regulations.gov .

Exhibit B

to Petition for Review

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505P)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

NOTICE OF PESTICIDE:
_X_ Registration
___ Reregistration
(under FIFRA, as amended)

EPA Reg. Number:	**Date of Issuance:**
59639-230	8/31/20

Term of Issuance:
Unconditional

Name of Pesticide Product:
S-2399 2.84 SC Fungicide

Name and Address of Registrant (include ZIP Code):

Valent U.S.A., LLC
4600 Norris Canyon Road
San Ramon, CA 94583-0975

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. 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.

2. Make the following label changes before you release the product for shipment:

- Revise the EPA Registration Number to read, "EPA Reg. No. 59639-230."

Signature of Approving Official:	**Date:**
C J Giles-Parker Cynthia L. Giles-Parker, Chief Fungicide Branch Registration Division (7505P)	8/31/20

EPA Form 8570-6

3. Submit one copy of the revised final printed label for the record before you release the product for shipment.

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 the Federal Insecticide Fungicide and Rodenticide Act 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) list 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.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 08/18/2017
- Alternate CSF 1 dated 08/19/2017

If you have any questions, please contact Heather A. Garvie by phone at 703-308-0034 or via email at garvie.heather@epa.gov .

Enclosure – "accepted" label

INPYRFLUXAM	GROUP	7	FUNGICIDE

ACCEPTED
08/31/2020
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 59639-230

[Bracketed text is optional]
[*Bracketed Italicized test is a note to reviewer*]

S-2399 2.84 SC Fungicide

FOR CONTROL OF CERTAIN DISEASES IN APPLE, CORN (FIELD, POP AND SWEET), PEANUT, SOYBEAN AND SUGAR BEET

An INDIFLIN® brand

Active Ingredient	By Wt
Inpyrfluxam*	31.25%
Other Ingredients	68.75%
Total	100.00%

*3-(difluoromethyl)-*N*-[(*R*)-2,3-dihydro-1,1,3-trimethyl-1*H*-inden-4-yl]-1-methyl-1*H*-pyrazole-4-carboxamide

S-2399 2.84 SC Fungicide is a suspension concentrate containing 2.84 lb active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

[SEE NEXT [PAGE][PANEL] FOR ADDITIONAL PRECAUTIONARY STATEMENTS.]

NET CONTENT ___

ALWAYS MIX PRODUCT THOROUGHLY BEFORE USE.

EPA Reg. No. 59639-EGN
EPA Est. _____

FIRST AID	
If swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **800-892-0099** for emergency medical treatment information.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material (barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or viton ≥ 14 mils), socks and shoes.

Follow the 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.

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 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 fish and aquatic 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. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water by disposing of equipment washwaters or rinsate.

DIRECTIONS FOR USE

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

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

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

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 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 (REI). 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) 12 hours.

If product is drenched or soil-injected, workers may enter the area at any time if there will be no contact with anything that has been treated.

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 made of any waterproof material, shoes plus socks.

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PRODUCT INFORMATION

The active ingredient in *S-2399 2.84 SC* Fungicide is inpyrfluxam. *S-2399 2.84 SC* Fungicide is systemic and is quickly absorbed into plant tissue, providing translaminar activity and movement upward, but not downward in the plant.

S-2399 2.84 SC Fungicide is a protectant and must be applied prior to infection for best control of disease. Optimal disease control is achieved when *S-2399 2.84 SC* Fungicide is applied in a regularly scheduled spray program in rotation with other effective fungicides that have different modes of action (i.e., non-FRAC Group 7 fungicides).

RESTRICTIONS AND LIMITATIONS

- Do not apply to greenhouse food crops.
- Not for residential use.
- Do not apply this product by aerial application.

PRECAUTIONS

- It is the responsibility of the applicator to ensure that spray drift does not occur from the application site. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making decisions. Where states have more stringent regulations, they must be followed.

MODE OF ACTION

The active ingredient in S-2399 2.84 SC Fungicide, inpyrfluxam, belongs to the FRAC Group 7, the succinate dehydrogenase inhibitor (SDHI) group of fungicides. As with other Group 7 fungicides, inpyrfluxam acts by inhibiting succinate dehydrogenase, a key enzyme in the fungal respiration chain.

RESISTANCE MANAGEMENT

S-2399 2.84 SC Fungicide and other FRAC Group 7 fungicides, which have a specific mode of action, may become less effective over time if used excessively; frequent use of these products can lead to buildup of resistance in targeted fungal pathogens. Resistance management should be practiced to help delay the emergence of pathogen strains that are insensitive to Group 7 fungicides and to maintain effectiveness of inpyrfluxam and other SDHI fungicides.

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

- **Total number of applications:** Refer to Table 1 Food Crop Use Pattern Summary for application rates and frequency of *S-2399 2.84 SC* Fungicide per year. If using *S-2399 2.84 SC* Fungicide in a program with other SDHI fungicides, each application of *S-2399 2.84 SC* Fungicide applies to the yearly limit of the other SDHI products in that program. Do not make more than 2 sequential applications of *S-2399 2.84 SC* Fungicide unless otherwise indicated in the use directions. Alternate ***S-2399 2.84 SC* Fungicide** with an effective, registered fungicide having a different mode of action (not in FRAC Group 7).

- **Tank Mixtures:** When tank mixing use an effective fungicide with a different mode of action (not in FRAC Group 7) that is registered for the same use and that is effective against the pathogens of concern. Use at least the minimum labeled rates of each fungicide in the tank mix.

- **Integrated Pest Management (IPM):** Integrate *S-2399 2.84 SC* Fungicide into an overall disease and pest management program. Follow cultural practices known to reduce disease development such as crop rotation and planting of resistant varieties. Scouting, historical information related to pesticide use, understanding impact of environmental conditions on disease development, disease thresholds, biological and other chemical control practices, and advisory (disease forecasting programs) are additional components of IPM programs that can help manage fungicide resistance development. Consult your local Extension specialist, Certified Crop Advisor and/or Valent representative for additional IPM strategies established for your area.

- **Monitoring:** Monitor efficacy of all fungicides used in the disease management program against the targeted pathogen and record other factors that may influence fungicide performance and/or disease development.

- **Reporting:** If a FRAC Group 7 fungicide appears to be less effective or no longer effective against a pathogen that it previously controlled or suppressed, contact a Valent representative, local extension specialist or certified crop advisor to assist in determining the cause of reduced performance.

RAINFASTNESS

S-2399 2.84 SC Fungicide is rainfast 2 hours after application. Applications must not be made if measurable rain is expected within 2 hours of application or disease control may be reduced.

JAR TEST TO DETERMINE COMPATIBILITY OF ADJUVANTS AND *S-2399 2.84 SC* FUNGICIDE

Perform a jar test before mixing commercial quantities of *S-2399 2.84 SC* Fungicide, when using *S-2399 2.84 SC* Fungicide for the first time, when using new adjuvants, when using new tank mixes, or when using a new water source. When an adjuvant is to be used with this product, Valent recommends the use of a Chemical Producers and Distributors Association certified adjuvant.

1. Add 1 pint of water to a quart jar. Use water from the same source and temperature as water that will be used in the spray tank mixing operation.
2. Add 1.5 mL of *S-2399 2.84 SC* Fungicide to the quart jar and gently mix until product goes into suspension.
3. Add 1 mL of new adjuvant and/or appropriate amount of new tank mix partner and gently mix.
4. Place cap on jar, invert 10 times, let stand for 15 minutes, evaluate.
5. An acceptable tank mix combination will have a smooth, uniform appearance. If any of the following conditions are observe, the choice of spray mix components should be questioned:
    a) Layer of oil or globules on the mixture's surface.
    b) Flocculation: fine particles in suspension or as a layer on the bottom of the jar.
    c) Clabbering: thickening texture (coagulated) like gelatin.

APPLICATION INSTRUCTIONS

SPRAYER PREPARATION

Before applying S-2399 *2.8*4 SC Fungicide, start with clean, well maintained application equipment. The spray tank hoses and booms must be cleaned to ensure no residue from previous spraying operations remain in the sprayer. Clean the spray equipment according to the manufacturer's directions for the last product used before the equipment is used to apply S-2399 *2.8*4 SC Fungicide. If two or more products were tank mixed prior to S-2399 *2.8*4 SC Fungicide application, follow the most restrictive cleanup procedure.

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

MIXING INSTRUCTIONS

1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water.
2. While agitating, slowly add the *S-2399 2.84 SC* Fungicide to the tank. Adequate agitation will create a rippling or rolling action on the water surface.
3. If tank mixing *S-2399 2.84 SC* Fungicide with other labeled pesticides, add water soluble bags first, followed by dry formulations, flowables, emulsifiable concentrates and then solutions.
4. Add any required adjuvants.
5. Fill tank to desired level with water. Continue to agitate until all spray solution has been used or applied.
6. Mix only the amount of spray solution that can be applied the day of mixing. Apply *S-2399 2.84 SC* Fungicide within 24 hours of mixing.

SPRAYER CLEANUP

Clean spray equipment each day following *S-2399 2.84 SC* Fungicide application. After application is complete, use the following steps to clean the spray equipment:

1. Completely drain the spray tank, rinse the sprayer thoroughly, including the inside and outside of the tank and all in-line screens.
2. Fill the spray tank with clean water and flush all hoses, booms, screens and nozzles.
3. Drain tank completely.
4. Remove all nozzles and screens and rinse them in clean water.

APPLICATION EQUIPMENT

Use application equipment that is clean and in good repair. Frequently check nozzles for accuracy.

CARRIER VOLUME

Use sufficient water volume to provide thorough and uniform coverage to obtain the most effective disease control.

Ground Application

For ground application, use a minimum of 50 gallons of water per acre for tree crops and 10 gallons of water per acre for field and vegetable crops.

In-furrow
Make one soil application (spray and/or dribble) at planting in sufficient carrier volume (minimum of 3 gallons) to insure uniform distribution in the furrow with the planting equipment. Ensure that spray and/or dribble is directed into the furrow where seeds are being placed during planting.

Air-Blast Application
For air-assisted or air-blast sprayers that move spray droplets into the crop canopy using a forced-air system, set the fan to deliver only enough air volume to penetrate the canopy and provide through coverage. Adjust deflectors or other aiming devices to direct spray only to the target area. Equip sprayer with nozzles that provide accurate and uniform application.

IN-FURROW
Direct spray pattern in the furrow to the seed piece prior to being covered by soil.

CHEMIGATION (SPRINKLER IRRIGATION)
For chemigation applications apply this product only through center pivot, solid set, hand move systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of efficacy or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

The system must be properly calibrated (with water only) to ensure that the amount of *S-2399 2.84 SC* Fungicide applied corresponds to the required rate on this label for the crop being chemigated.

Apply *S-2399 2.84 SC* Fungicide in 1/2 to 3/4 inches of water during the first sprinkler set. Allow time for all lines to flush the fungicide through all nozzles before turning off irrigation water. To ensure the lines are flushed and free of remaining fungicide, a dye indicator may be injected into the lines to mark the end of the application period.

If you have any questions about calibration, contact your State Extension Specialist, equipment manufacturers or other experts.

Directions for Chemigation

1. Do not connect an irrigation system used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
2. A person knowledgeable of the chemigation system and responsible for its operation or those under the supervision of that person shall shut the system down and make necessary adjustments.
3. The system must be free of leaks and clogged nozzles.
4. The pesticide must be supplied continuously for the duration of the aqueous application. An uneven application may cause injury to the crop or poor control.
5. Agitation must be maintained in the nurse tank.
6. The sprinkler chemigation system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
7. The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
8. The pesticide injection pipeline must contain a functional, normally closed, solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in the case where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
10. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
11. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with the pesticides being used and capable of being fitted with a system interlock.
12. Do not apply when wind speed favors drift beyond the area intended for treatment.

Chemigation Systems Connected to Public Water Systems

1. Public water system means a system for the provision to the public of piped water for human consumption, if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to the public water system must contain a functional, reduced pressure zone (RPZ), backflow preventer or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, discharge the water from the public water system into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. All chemigation systems connected to the public water system must also follow restrictions listed in the preceding section titled “Directions for Chemigation”.

MANDATORY SPRAY DRIFT MANAGEMENT

Airblast Applications:

- Sprays must be directed into the canopy.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- Do not apply during temperature inversions.

Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy, and have minimal bounce.
- Applicators are required to use a Medium to Coarse, or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

Boomless Ground Applications:

- Applicators are required to use a Medium to Coarse, or coarser droplet size (ASABE S572.1) for all applications.
- Do not apply when wind speeds exceed 15 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 – 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 recommended 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

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.

Boomless 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.

ROTATIONAL CROP RESTRICTIONS

The following rotational crops may be planted after applying *S-2399 2.84 SC* Fungicide at the labeled rate. Planting earlier than the labeled rotational interval is prohibited.

CROPS	ROTATIONAL INTERVAL
Apple Corn (Field, Pop and Sweet) Peanut Rice Soybean Sugar Beet	Immediately
All Other Crops	9 months

Table 1. Food Crop Use Pattern Summary

Crops	Minimum Time from Application to Harvest (PHI)	Maximum Rate per Acre per Application (fl oz/A)	Maximum Number of Sequential Applications	Maximum Number of Applications per Year	Minimum Intervals Between Applications (Days)	Maximum Rate per Acre per Year (fl oz/A)	Livestock Grazing or Feeding Restriction
Apple	Petal fall	4 (0.089 lb ai/A)	NA	2	10	8 (0.178 lb ai/A)	No
Corn (Field, Pop and Sweet)	N/A	2 (0.044 lb ai/A)	NA	1	NA	2 (0.044 lb ai/A)	No
Peanut	40 days	4 (0.089 lb ai/A)	4	4	14	8 (0.178 lb ai/A)	No
Soybean	R5	2 (0.044 lb ai/A)	2	2	14	4 (0.089 lb ai/A)	Yes
Sugar Beet (broadcast application)	50 days	2 (0.044 lb ai/A)	2	2	21	4 (0.089 lb ai/A)	No
Sugar Beet (banded application)	50 days	2 (0.044 lb ai/A)	N/A	1	N/A	2 (0.044 lb ai/A)	No

SPECIFIC REQUIREMENTS – All Crops

When to Apply: Begin application when crop and/or environmental conditions favor disease development. Under severe disease pressure or if rain is expected, use the higher labeled rate and shortest interval. To ensure thorough coverage, apply in sufficient water as directed in the crop specific use instructions. Chemigation is not recommended for foliar diseases.

Resistance Management: *S-2399 2.84 SC* Fungicide must be used as part of an Integrated Pest Management (IPM) program. When tank mixing is required in the crop specific use instructions, use with another labeled fungicide product with a different mode of action on the target pathogen in sufficient water to obtain thorough coverage.

See Table 1. Food Crop Use Pattern Summary for application parameters.

Apple			
Diseases	**Application Rates**		**When to Apply**
	fl oz/A	**GPA (minimum)**	
Apple Scab *Venturia inaequalis* *Spilocaea pomi* Powdery Mildew *Podosphaera Leucotricha* Cedar Apple Rust[*] *Gymnosporangium juniperi-virginianae* Quince Rust[*] *Gymnosporangium clavipes*	2 to 4 (0.044 - 0.089 lb ai/A)	Ground: 100	Make applications from green tip through petal fall. Do not apply earlier than green tip.

USE INSTRUCTIONS

Retreatment interval: 10 days.

For powdery mildew: application must include an adjuvant at the recommended dose.

This product may impact quality of surface water due to runoff after rainfall. Runoff potential of *S-2399 2.84 SC* Fungicide will be reduced by implementation of level and properly maintained vegetative buffer strips between treated areas and surface water sources (ponds, lakes, springs, streams, rivers).

RESTRICTIONS

- Do not make more than 2 applications of S-2399 2.84 SC Fungicide per year.
- Do not apply more than 8 fl oz/A (0.178 lb ai/A) of S-2399 2.84 SC Fungicide per year.
- PHI: Do not apply after Petal Fall.
- Do not apply with crop oil concentrate.
- Do not apply this product within 50 feet of any freshwater lake, pond, river, stream, or wetland.
- Do not apply this product by aerial application.

[*Not for use in California.]

Corn (Field, Pop and Sweet) [(Do not use on corn in California)]			
Disease	**Application Rate**		**When to Apply**
	fl oz/A	**GPA (minimum)**	
Rhizoctonia Root Rot and Stalk Rot *Rhizoctonia solani, R. zeae*	2 (0.044 lb ai/A)	3	Make application in-furrow at planting.

USE INSTRUCTIONS

Not compatible with liquid fertilizer.

It is acceptable to apply *S-2399 2.84 SC* Fungicide following the use of S-2399 3.2 FS Fungicide, also containing inpyrfluxam, as a seed treatment.

RESTRICTIONS

- Do not apply more than 2 fl oz/A (0.044 lb ai/A) of S-2399 2.84 SC Fungicide per year.
- Do not make more than 1 application of S-2399 2.84 SC Fungicide per year.

Peanut [(Do not use on peanuts in California)]			
Diseases	**Application Rates**		**When to Apply**
	fl oz/A	**GPA (minimum)**	
Rhizoctonia Foliar Blight, Peg and Root Rot *Rhizoctonia solani* Sclerotinia Blight *Sclerotinia minor, S. sclerotiorum* Southern Blight, Southern Stem Rot, White Mold *Sclerotium rolfsii* Early Leaf Spot (suppression only) *Cercospora arachidicola* Late Leaf Spot (suppression only) *Cercosporidium personatum*	2 to 4 (0.044 - 0.089 lb ai/A)	Ground: 10	Apply prior to disease development. Do not apply earlier than 30 days after planting.

USE INSTRUCTIONS

Use higher specified rate and shorter specified interval when disease pressure is heavy.

For leaf spot control, S-2399 2.84 SC Fungicide must be tank mixed with a labeled rate of another fungicide active against the target pathogen but with a different mode of action.

Retreatment interval: 14 to 28 days.

This product may impact quality of surface water due to runoff after rainfall. Runoff potential of *S-2399 2.84 SC* Fungicide will be reduced by implementation of level and properly maintained vegetative buffer strips between treated areas and surface water sources (ponds, lakes, springs, streams, rivers).

RESTRICTIONS

- Apply up to 4 applications of *S-2399 2.84 SC* Fungicide per year provided that the yearly rate does not exceed 8 fl oz/A (0.178 lb ai/A).
- Do not apply this product within 50 feet of any freshwater lake, pond, river, stream, or wetland.
- PHI: 40 days.
- Do not apply this product by aerial application.

Soybean [(Do not use on soybeans in California)]			
Diseases	**Application Rates**		**When to Apply**
	fl oz/A	**GPA (minimum)**	
Rhizoctonia Aerial Blight *Rhizoctonia solani* (*Thanatephorus cucumeris*) Asian Soybean Rust *Phakopsora pachyrhizi*	2 (0.044 lb ai/A)	Ground: 10	Make application prior to disease development.
USE INSTRUCTIONS Retreatment interval: 14 days. It is acceptable to apply *S-2399 2.84 SC* Fungicide following the use of S-2399 3.2 FS Fungicide, also containing inpyrfluxam, as a seed treatment.			
RESTRICTIONS • Do not make more than 2 applications of S-2399 2.84 SC Fungicide per year. • Do not apply more than 4 fl oz/A (0.089lb ai/A)of S-2399 2.84 SC Fungicide per year for foliar applications. • Regardless of application method, do not apply more than 0.19 lb active ingredient of inpyrfluxam per acre per year. • Do not apply prior to V3 or after R5. • Do not apply this product by aerial application. • Do not graze treated fields or feed treated hay to livestock.			

Sugar Beet
[(Do not use on sugar beets in California)]

Broadcast Applications

Diseases	Application Rates		When to Apply
	fl oz/A	GPA (minimum)	
Rhizoctonia Foliar Blight, Crown and Root Rot *Rhizoctonia solani*	2 (0.044 lb ai/A)	Ground: 10	2 to 8 leaf stage

USE INSTRUCTIONS

Make up to 2 applications at 2 fl oz/A of S-2399 *2.8*4 SC Fungicide.

Retreatment interval: 21 days

It is acceptable to apply *S-2399 2.84 SC* Fungicide following the use of S-2399 3.2 FS Fungicide, also containing inpyrfluxam, as a seed treatment.

RESTRICTIONS

- Do not make more than 2 applications of S-2399 *2.8*4 SC Fungicide per year.
- Do not apply more than 4 fl oz/A (0.089 lb ai/A) of S-2399 2.84 SC Fungicide per year.
- PHI: 50 days

Banded Application

Diseases	When to Apply	Special Use Instructions
Rhizoctonia Foliar Blight, Crown and Root Rot *Rhizoctonia solani*	2 to 8 leaf stage	Apply in a 6 to 7 inch band over the crop row. Refer to chart below for conversion from product amount per acre to product amount per 1000 row-feet. It is acceptable to apply *S-2399 2.84 SC* Fungicide following the use of S-2399 3.2 FS Fungicide, also containing inpyrfluxam, as a seed treatment.

RESTRICTIONS

- Do not make more than 1 application of S-2399 2.84 SC Fungicide per year.
- Do not apply more than 2 fl oz/A (0.044 lb ai/A) of S-2399 2.84 SC Fungicide per year.
- Do not apply as a dribble application over the seed row.
- PHI: 50 days

Banded Application (6 to 7 inch band width)

Equivalent Broadcast Application Rate (fl oz/A)	2
Banded Application Rate (fl oz/1000 row-feet)	0.023 to 0.027

STORAGE AND DISPOSAL

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

STORAGE

Keep pesticide in original container.
Do not put concentrate or dilute into food or drink containers.
Store in a cool dry place.
Do not store or transport near feed or food.
Do not store at temperature below 32°F. If the product is exposed to temperatures below 32°F, thaw at 50°F or higher and shake gently to unify the product.
For help with any spill, leak, fire or exposure involving this material, call day or night 800-892-0099.

PESTICIDE DISPOSAL

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

CONTAINER HANDLING

[*Use the following statement for containers equal to or less than 5 gallon*]
Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by State and local authorities.

[*Use the following statement for rigid nonrefillable/greater than 5 gallon or 50 pound containers*]
[Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace 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 the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available; otherwise dispose of in a sanitary landfill or by other procedures allowed by State and local authorities.]

RECYCLING

Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact the Ag Container Recycling Council (ACRC) at 877-952-2272 (toll free) or www.acrecycle.org.

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

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

RISKS OF USING THIS PRODUCT

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

Valent shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. To the extent consistent with applicable law buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

LIMITED WARRANTY

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

LIMITATION OF LIABILITY

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

PROMPT NOTICE OF CLAIM

To the extent consistent with applicable law allowing such requirements, Valent must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is later, so that an immediate inspection of the affected property and growing crops can be made.

To the extent consistent with applicable law, if Buyer does not notify Valent of any claims, in such period, it shall be barred from obtaining any remedy.

NO AMENDMENTS

Valent and Seller offer this product, and Buyer accepts it, subject to the foregoing **Disclaimer, Risks of Using This Product, Limited Warranty** and **Limitation of Liability,** which may not be modified by any oral or written agreement.

TANK MIXES

NOTICE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor, consistent with applicable law.

Read and follow the entire label of each product to be used in the tank mix with this product.

INDIFLIN is a registered trademark of Sumitomo Chemical Co., Ltd.

Manufactured for:
Valent U.S.A. LLC
P.O. Box 5075
San Ramon CA 94583-0975

Made in U.S.A.

EPA Reg. No. 59639-EGN
EPA Est. _____

059639-00EGN.20200729.S2399_2.84SC.Clean

Exhibit C

to Petition for Review

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505P)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

NOTICE OF PESTICIDE:
_X_ Registration
___ Reregistration
(under FIFRA, as amended)

EPA Reg. Number:	**Date of Issuance:**
59639-231	8/31/20

Term of Issuance:
Unconditional

Name of Pesticide Product:
S-2399 3.2 FS Fungicide

Name and Address of Registrant (include ZIP Code):

Valent U.S.A., LLC
4600 Norris Canyon Road
San Ramon, CA 94583-0975

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. 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.

2. Make the following label changes before you release the product for shipment:

    - Revise the EPA Registration Number to read, "EPA Reg. No. 59639-231."

Signature of Approving Official:

C J Giles-Parker

Cynthia L. Giles-Parker, Chief
Fungicide Branch
Registration Division (7505P)

Date:

8/31/20

EPA Form 8570-6

3. Submit one copy of the revised final printed label for the record before you release the product for shipment.

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 the Federal Insecticide Fungicide and Rodenticide Act 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) list 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.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 08/21/2017
- Alternate CSF 1 dated 08/22/2017
- Alternate CSF 2 dated 04/16/2019

If you have any questions, please contact Heather A. Garvie by phone at 703-308-0034 or via email at garvie.heather@epa.gov .

Enclosure – "accepted" label

INPYRFLUXAM	GROUP 7	FUNGICIDE

[Bracketed text is optional]
[B*racketed Italicized text is information for the reviewer*]

ACCEPTED
08/31/2020
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 59639-231

S-2399 3.2 FS Fungicide

A SEED TREATMENT PRODUCT PROVIDING SYSTEMIC FUNGICIDE PROTECTION AGAINST SEED AND SEEDLING DISEASES CAUSED BY *RHIZOCTONIA* SPECIES AND OTHER FUNGAL PATHOGENS

An INDIFLIN® brand

Active Ingredient	By wt
Inpyrfluxam*	34.05%
Other Ingredients	65.95%
Total	100.00%

*3-(difluoromethyl)-*N*-[(*R*)-2,3-dihydro-1,1,3-trimethyl-1*H*-inden-4-yl]-1-methyl-1*H*-pyrazole-4-carboxamide

S-2399 3.2 FS Fungicide contains 3.2 lb active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

[SEE NEXT [PAGE][PANEL] FOR ADDITIONAL PRECAUTIONARY STATEMENTS]

NET CONTENTS:

EPA Reg. No. 59639-EGR
EPA Est.

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

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 800-892-0099 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders, applicators and other handlers must wear: Long-sleeved shirt and long pants, chemical resistant gloves made of any waterproof material (barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or viton ≥ 14 mils), socks and shoes.

Workers involved with handling treated seed (such as baggers, bag sewers and bag stackers must wear: long-sleeved shirt, long pants, socks and shoes.

Workers who load and plant treated seed must wear: long-sleeved shirt, long pants, socks and shoes and chemical-resistant gloves made of any waterproof material when handling treated seed.

Follow the 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 fish and aquatic 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. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water by disposing of equipment washwaters or rinsate.

[*Note to reviewer: This language to be used for containers 50 pounds or larger.*]
[Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.]

DIRECTIONS FOR USE

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

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

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

Exception: Once the seeds are planted in soil, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area without restriction if there will be no worker contact with the soil subsurface or treated seed. 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 made of any waterproof material and shoes plus socks.

RESTRICTIONS

S-2399 3.2 FS Fungicide must be used only in accordance with use instructions on this label utilizing mechanical, slurry, or mist-type seed treating equipment, provided that the equipment can be calibrated to accurately and uniformly apply the product to seed. This product is for both commercial and on-farm application, and not for residential use. Do not use planter box or hopper box when applying product to seeds. Always mix product thoroughly before use.

As stated by regulations specified in 40 CFR 153.155, all seed treated with S-2399 3.2 FS Fungicide must be colored with an EPA-approved dye or colorant to visually distinguish seed that is treated with a pesticide. It is mandatory that such dye or colorant be added into the slurry mixture containing S-2399 3.2 FS Fungicide prior to application. This regulation is necessary to prevent treated seed from accidental use as a food for man or feed for animals.

MODE OF ACTION

The active ingredient in S-2399 3.2 FS Fungicide, inpyrfluxam, belongs to the FRAC Group 7, the succinate dehydrogenase inhibitor (SDHI) group of fungicides. As with other Group 7 fungicides, inpyrfluxam acts by inhibiting succinate dehydrogenase, a key enzyme in the fungal respiration chain.

RESISTANCE MANAGEMENT

For resistance management, please note that **S-2399 3.2 FS Fungicide** contains a **Group 7** fungicide. Any fungal population may contain individuals naturally resistant to **S-2399 3.2 FS Fungicide** and other **Group 7** fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies are to be followed.

Seed treatments of **S-2399 3.2 FS Fungicide** can be followed by foliar use fungicides containing the same modes of action in accordance with resistance management guidelines as specified on the respective labels.

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

- Rotate the use of **S-2399 3.2 FS Fungicide** or other **Group 7** fungicides with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively plan fungicide applications. Note that using predictive models alone is not enough to manage resistance.
- Monitor treated fungal populations for resistance development.

- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance management and/or IPM recommendations for specific crop and pathogens.
- For further information or to report suspected resistance contact ***Valent*** at 1800-6-VALENT (800-682-5368). You can also contact your pesticide distributor or university extension specialist to report resistance. Valent encourages responsible product stewardship to ensure effective long-term control of the fungal diseases on this label.

SEED QUALITY AND STORAGE OF TREATED SEED

Seed treatments applied to low vigor or poor quality seed or to mechanically damaged seed may result in loss of seed germination or reduced seedling vigor. To verify seed safety, treat a small portion of seed with the desired slurry mixture (S-2399 3.2 FS Fungicide alone or in combination with other commercial seed treatment products) prior to treatment of an entire seed lot. Utilize standard seed germination methodologies to determine and verify seed safety. Use proper storage conditions for treated seed. Due to seed quality and seed storage conditions beyond the control of Valent U.S.A. LLC, no claims are made to guarantee the germination of carry-over treated seed.

SEED BAG TAG REQUIREMENTS

The Federal Seed Act requires that the container or bag containing treated seed be labeled or tagged with the following information:

- This seed has been treated with S-2399 3.2 FS Fungicide containing inpyrfluxam. Do not use treated seed for feed, food or oil processing.

The U.S. Environmental Protection Agency requires the following statements on the container of seed treated with S-2399 3.2 FS Fungicide:

- Store away from feeds and other foodstuffs. Do not allow children, pets, or livestock to have access to treated seed. Wear long sleeved shirt, long pants and chemical-resistant gloves made of any waterproof material when opening this bag or handling (e.g., loading, pouring) treated seed.
- Treated seeds exposed on soil surface may be hazardous to wildlife. Plant treated seed into the soil to the recommended minimum depth or greater to minimize exposure. Cover or collect treated seeds spilled during loading and planting, in particular at row ends and field corners.
- Dispose of all excess treated seed by burying seed away from bodies of water. Do not contaminate water bodies when disposing of planting equipment washwaters. Dispose of seed packaging in accordance with local requirements. Excess treated seed may be used for ethanol production only if (1) by-products are not used for livestock feed and (2) no measurable residues of pesticide remain in ethanol by-products that are used in agronomic practice.
- S-2399 3.2 FS Fungicide is to be used only as a dry-seeded rice seed treatment. Cover the planted seed thoroughly by soil.

USE INFORMATION

S-2399 3.2 FS Fungicide is a systemic fungicide seed protection product for use on a wide range of crops. The active ingredient inpyrfluxam provides protection against *Rhizoctonia species* causing seed decay, seedling damping-off and root rot.

For best results, use S-2399 3.2 FS Fungicide combined with Oomycete-active seed treatment fungicides, such as ethaboxam and metalaxyl, to broaden the spectrum of activity across seed and seedling pathogens inciting seed decay and seedling dieback.

APPLICATION DIRECTIONS

Accurate application of S-2399 3.2 FS Fungicide to seed is required for best performance. Thoroughly mix S-2399 3.2 FS Fungicide in the desired seed slurry mixture, prior to application to seed. Pretest tank mixtures with other seed treatment products to evaluate formulation compatibility and to ensure proper physical compatibility of products. Do not tank mix with any products which contain a prohibition on tank mixing.

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

The following table provides use rates of S-2399 3.2 FS Fungicide by labeled crop, with disease protection guidelines.

Cereal Grains Crop Group 15 (except Corn, Rice and Sorghum (milo)) Barley; buckwheat; millet, pearl; millet, proso; oats; rye; teosinte; triticale; wheat.	
Diseases	**Application Rate of S-2399 3.2 FS Fungicide (fl oz/100 lb seeds)**
Barley Loose Smut (*Ustilago nuda*) Wheat Loose Smut (*Ustilago tritici)*[*] Seed decay, seedling blight and damping off caused by *Rhizoctonia solani*	0.04 to 0.08 (1 to 2 g ai/100 kg seeds)

[*Not for use in California.]

Corn (Sweet and Field); Popcorn			
Crops	**Diseases**	**Application Rate of S-2399 3.2 FS Fungicide**	
		mg ai/seed	**fl oz/80,000 seeds (fl oz/100 lb seeds)**
Field Corn Sweet Corn	Seed decay, seedling blight and damping off caused by *Rhizoctonia solani*	0.014	0.1 (0.22 fl oz/100 lb seeds based on the assumption of 1800 seeds/lb)
Popcorn		0.014	0.1 (0.37 fl oz/100 lb seeds based on the assumption of 3000 seeds/lb)
It is acceptable to apply S-2399 2.84 SC Fungicide (also containing inpyrfluxam) following the use of S-2399 3.2 FS Fungicide as a seed treatment.			

Rice*	
Diseases	**Application Rate of S-2399 3.2 FS Fungicide (fl oz/100 lb seed)**
Seed decay, seedling blight and damping off caused by *Rhizoctonia solani*	0.2 to 0.4 (5 to 10 g ai/100 kg seeds)
Restrictions: ***S-2399 3.2 FS Fungicide is to be used only as a dry-seeded rice seed treatment.	

Sorghum (milo)	
Diseases	**Application Rate of S-2399 3.2 FS Fungicide**
Seed decay, seedling blight and damping off caused by *Rhizoctonia solani*	0.2 fl oz/100 lb seeds (5 g ai/100 kg seeds)

Legume Vegetables, Succulent or Dried, Crop Group 6
(except Soybean)

Bean (*Lupinus* spp.) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (*Phaseolus* spp.) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (*Vigna* spp.) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean (fava); chickpea (garbanzo); guar; jackbean; lablab bean (hyacinth bean); lentil; pea (*Pisum* spp.) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); pigeon pea; sword bean

Diseases	Application Rate of S-2399 3.2 FS Fungicide (fl oz/100 lb seeds)
Seed decay, seedling blight and damping off caused by *Rhizoctonia solani*	0.1 to 0.2 (2.5 to 5 g ai/100 kg seeds)
It is acceptable to apply S-2399 2.84 SC Fungicide (also containing inpyrfluxam) following the use of S-2399 3.2 FS Fungicide as a seed treatment.	

Soybean	
Diseases	**Application Rate of S-2399 3.2 FS Fungicide**
Seed decay, seedling blight and damping off caused by *Rhizoctonia solani*	0.1 to 0.2 fl oz/100 lb seeds (2.5 to 5 g ai/100 kg seeds) or 0.004 to 0.008 mg ai/seed* 0.05 to 0.1 fl oz/140,000 seeds* *based on 2800 seeds/lb
Sudden Death Syndrome [*] (*Fusarium virguliforme)* (suppression)	1 fl oz/100 lb seeds (25 g ai/100 kg) or 0.04 mg ai/seed* or 0.5 fl oz/140,000 seeds* *based on 2800 seeds/lb
It is acceptable to apply S-2399 2.84 SC Fungicide (also containing inpyrfluxam) following the use of S-2399 3.2 FS Fungicide as a seed treatment.	
Restriction: • Regardless of application method, do not apply more than 0.19 lb active ingredient inpyrfluxam per acre per year.	

[*Not for use in California]

Rapeseed, Canola Varieties Only, Crop Subgroup 20A Borage; crambe; cuphea; echium; flax seed; gold of pleasure; hare's ear mustard; lesquerella; lunaria; meadowfoam; milkweed; mustard seed; oil radish; poppy seed; rapeseed; sesame; sweet rocket; cultivars, varieties, and/or hybrids of these	
Diseases	**Application Rate of S-2399 3.2 FS Fungicide (fl oz/100 lb seeds)**
Seed decay, seedling blight and damping off caused by *Rhizoctonia solani* Black leg (suppression)	0.2 (5 g ai/100 kg seeds)

Sugar Beet	
Diseases	**Application Rate of S-2399 3.2 FS Fungicide***
Seed decay, seedling blight and damping off caused by *Rhizoctonia solani*	0.0044 to 0.0088 fl oz/seed unit** (0.05 to 0.1 g ai/100,000 seeds) *Incorporate S-2399 3.2 FS Fungicide into pelleting process for application to sugar beet seed. **seed unit = 100,000 seeds
It is acceptable to apply S-2399 2.84 SC Fungicide (also containing inpyrfluxam) following the use of S-2399 3.2 FS Fungicide as a seed treatment.	

STORAGE AND DISPOSAL

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

STORAGE

Store in a dry place away from excessive heat.
Do not store near food or feed.
Store in original container only.

PESTICIDE DISPOSAL

To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

CONTAINER HANDLING

[*Use the following statement for containers equal to or less than 5 gallons*]
Nonrefillable container. 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 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. Offer for recycling, if available; otherwise dispose of in a sanitary landfill or by incineration, if allowed by state and local authorities.

[*Use the following statement for containers greater than 5 gallons*]
Nonrefillable container. 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 1/4 full with water. Replace 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 the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available; otherwise dispose of in a sanitary landfill or by incineration, if allowed by state and local authorities.

[*Use the following statement for all formulation types/all refillable container types*]
Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Offer for recycling, if available; otherwise dispose of in a sanitary landfill or by incineration, if allowed by state and local authorities.

RECYCLING

Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact the Ag Container Recycling Council (ACRC) at **877-952-2272** (toll free) or www.acrecycle.org.

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

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

ASSUMPTION OF RISK

The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests to this product. Such risks of crop injury, non-performance, or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of Valent. The Buyer should be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND TO THE FULLEST EXTENT ALLOWED BY LAW, AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER.

Valent shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

LIMITED WARRANTY

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

LIMITATION OF LIABILITY

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

PROMPT NOTICE OF CLAIM

To the extent consistent with applicable law allowing such requirements Valent must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is latter, so that an immediate inspection of the affected property and growing crops can be made.

To the extent consistent with applicable law if Buyer does not notify Valent of any claims, in such period, it shall be barred from obtaining any remedy.

NO AMENDMENTS

Valent and Seller offer this product, and Buyer accepts it, subject to the foregoing **Disclaimer, Risks of Using This Product, Limited Warranty and Limitation of Liability**, which may not be modified by any oral or written agreement.

TANK MIXES

NOTICE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor, to the extent allowed by applicable law.

Read and follow the entire label of each product to be used in the tank mix with this product.

Manufactured For:
Valent U.S.A. LLC
P.O. Box 5075
San Ramon CA 94583-0975

Made in U.S.A.

EPA Reg. No. 59639-EGR
EPA Est.

059639-00EGR.20200806.S2399_3.2FS.Clean

Exhibit D

to Petition for Review

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505P)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

NOTICE OF PESTICIDE:
_X_ Registration
___ Reregistration
(under FIFRA, as amended)

EPA Reg. Number:	**Date of Issuance:**
59639-233	8/31/20

Term of Issuance:
Unconditional

Name of Pesticide Product:
S-2399 Technical Fungicide

Name and Address of Registrant (include ZIP Code):

Valent U.S.A., LLC
4600 Norris Canyon Road
San Ramon, CA 94583-0975

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. 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.

2. Make the following label changes before you release the product for shipment:

    - Revise the EPA Registration Number to read, "EPA Reg. No. 59639-233."

Signature of Approving Official:	**Date:**
C J Giles-Parker	8/31/20
Cynthia L. Giles-Parker, Chief Fungicide Branch Registration Division (7505P)	

EPA Form 8570-6

3. Submit one copy of the revised final printed label for the record before you release the product for shipment.

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 the Federal Insecticide Fungicide and Rodenticide Act 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) list 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.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 08/24/2017

If you have any questions, please contact Heather A. Garvie by phone at 703-308-0034 or via email at garvie.heather@epa.gov .

Enclosure – "accepted" label

[Bracketed text is optional]
[*Bracketed Italicized text is note to the reviewer*.]

S-2399 Technical Fungicide

THIS FUNGICIDE IS FOR FORMULATING USE ONLY.

Active Ingredient	By Wt
Inpyrfluxam*	97.4%
Other Ingredients	2.6%
Total	100.0%

*3-(difluoromethyl)-*N*-[(*R*)-2,3-dihydro-1,1,3-trimethyl-1*H*-inden-4-yl]-1-methyl-1*H*-pyrazole-4-carboxamide

KEEP OUT OF REACH OF CHILDREN

WARNING

[See [next] [page][panel] for Additional Precautionary Statements]

EPA Reg. No. 59639-EGG

NET WEIGHT _____

FIRST AID	
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 so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For medical emergencies, call **1-800-892-0099** for treatment information.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

WARNING

May be fatal if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Harmful if inhaled. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS:

This pesticide is toxic to fish. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean highwater mark. Do not contaminate water by disposing of equipment washwaters or rinsate.

[*This language to be used for containers 50 pounds or larger.*]

[Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.]

PHYSICAL OR CHEMICAL HAZARDS

Warning: May Form Combustible (Explosive) Dust – Air Mixtures

Keep away from all ignition sources including heat, sparks and flame. Keep container closed and grounded. Prevent dust accumulations to minimize explosion hazard.

DIRECTIONS FOR USE

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

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

FOR FORMULATION OF S-2399 TECHNICAL FUNGICIDE CONTAINING FUNGICIDE PRODUCTS ONLY.

This product is only for use in the formulation of inpyrfluxam containing products. Products formulated with S-2399 Technical Fungicide will require registration with the U.S. Environmental Protection Agency.
Only For Formulation Into Products For The Following Uses:

TERRESTRIAL FOLIAR/SOIL FOOD USES
Individual Crops: Apple; Corn (Field, Pop and Sweet); Peanut; Soybean; Sugar Beet

TERRESTRIAL SEED TREATMENT FOOD USES
Individual Crops: Dry-Seeded Rice; Soybean

TERRESTIAL SEED TREATMENT NON-FOOD USES	
Crop Groups	**Commodities**
Crop Group 6 Legume Vegetables (except Soybean)	Bean (*Lupinus* spp.) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (*Phaseolus* spp.) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (*Vigna* spp.) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean (fava); chickpea (garbanzo); guar; jackbean; lablab bean (hyacinth bean); lentil; pea (*Pisum* spp.) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); pigeon pea; sword bean
Crop Group 15 Cereal Grains (except Rice and Wild Rice)	Barley; buckwheat; corn (field, pop and sweet); millet, pearl; millet, proso; oats; popcorn; rye; sorghum (milo); teosinte; triticale; wheat
Subgroups	**Commodities**
Crop Subgroup 20A Rapeseed Subgroup (canola varieties)	Borage; canola, crambe; cuphea; echium; flax seed; gold of pleasure; hare's ear mustard; lesquerella; lunaria; meadowfoam; milkweed; mustard seed; oil radish; poppy seed; rapeseed; sesame; sweet rocket; cultivars, varieties, and/or hybrids of these

•Uses for which USEPA has accepted the required data and/or citations of data that the formulator has submitted in support of registration; and

•Uses for experimental purposes that are in compliance with USEPA requirements.

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

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

RISKS OF USING THIS PRODUCT
The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests or weeds, resistance of the target pest or weeds to this product, injury caused by drift, and injury to rotational crops caused by carryover in the soil. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of Valent. The Buyer should be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER.

Valent shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

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

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

PROMPT NOTICE OF CLAIM
To the extent consistent with applicable law allowing such requirements, Valent must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is later, so that an immediate inspection of the affected property and growing crops can be made.

To the extent consistent with applicable law, if Buyer does not notify Valent of any claims, in such period, it shall be barred from obtaining any remedy.

NO AMENDMENTS
Valent and Seller offer this product, and Buyer accepts it, subject to the foregoing **Disclaimer, Risks of Using This Product, Limited Warranty** and **Limitation of Liability,** which may not be modified by any oral or written agreement.

STORAGE AND DISPOSAL

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

STORAGE
Keep pesticide in original container.
Store in a cool, dry, secure place.
Not for use or storage in or around the home.
Do not store or transport near feed or food.
For help with any spill, leak, fire or exposure involving this material, call day or night (800) 892-0099.

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

CONTAINER HANDLING
[*For containers small enough to shake (less than 50 pounds).*]
[Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available or puncture and dispose of in a sanitary landfill or other procedures allowed by State and local authorities.]

[*For containers too large to shake (larger than 50 pounds).*]
[Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace 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 the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available or puncture and dispose of in a sanitary landfill or other procedures allowed by State and local authorities.]

[*For nonrefillable bag containers.*]
[Nonrefillable bag. Do not reuse or refill this bag. Completely empty bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into equipment. Do not reuse bag. Dispose of bag in a sanitary landfill or by other procedures allowed by State and local authorities. Offer for recycling if available.]

[*For nonrefillable containers with a liner.*]
[Nonrefillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into mixing equipment. Dispose of liner in a sanitary landfill or by other procedures allowed by state and local authorities. If drum is contaminated and cannot be reused[1], dispose of in the same manner.
[1]Manufacturer may replace this phrase with one indicating whether and how fiber drum may be reused.]

RECYCLING
Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact the Ag Container Recycling Council (ACRC) at 877-952-2272 (toll free) or www.acrecycle.org.

Manufactured for:
Valent U.S.A. LLC
P. O. Box 5075
San Ramon CA 94583-0975

EPA Reg. No. 59639-EGG
EPA Est.

059639-00EGG.20200729.S2399TechFung.Clean

Exhibit E

to Petition for Review

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505P)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

NOTICE OF PESTICIDE:
_X_ Registration
___ Reregistration
(under FIFRA, as amended)

EPA Reg. Number:	**Date of Issuance:**
59639-232	8/31/20

Term of Issuance:
Unconditional

Name of Pesticide Product:
V-10417 FS Fungicide

Name and Address of Registrant (include ZIP Code):

Valent U.S.A., LLC
4600 Norris Canyon Road
San Ramon, CA 94583-0975

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. 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.

2. The data requirements for storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) have been submitted to the Agency and are currently under review.

Signature of Approving Official:

C J Giles-Parker

Cynthia L. Giles-Parker, Chief
Fungicide Branch
Registration Division (7505P)

Date:

8/31/20

EPA Form 8570-6

3. Make the following label changes before you release the product for shipment:

    - Revise the EPA Registration Number to read, "EPA Reg. No. 59639-232."

4. Submit one copy of the revised final printed label for the record before you release the product for shipment.

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 the Federal Insecticide Fungicide and Rodenticide Act 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) list 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.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 09/14/2017
- Alternate CSF 1 dated 09/15/2017

If you have any questions, please contact Heather A. Garvie by phone at 703-308-0034 or via email at garvie.heather@epa.gov .

Enclosure – "accepted" label

METALAXYL	GROUP	4	FUNGICIDE
INPYRFLUXAM	GROUP	7	FUNGICIDE
ETHABOXAM	GROUP	22	FUNGICIDE

ACCEPTED
08/31/2020
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 59639-232

[Bracketed text is optional]
[B*racketed Italicized text is information for the reviewer*]

V-10417 FS Fungicide

A FUNGICIDE SEED TREATMENT PRODUCT PROVIDING SYSTEMIC FUNGICIDE PROTECTION AGAINST LISTED SEED AND SEEDLING DISEASES OF LEGUME VEGETABLES INCLUDING SOYBEANS

Active Ingredient	By Wt
Ethaboxam[1]	7.07%
Metalaxyl[2]	1.89%
Inpyrfluxam[3]	4.71%
Other Ingredients	86.33%
Total	100.00%

[1] (*RS*)-*N*-[cyano(2-thienyl)methyl]-4-ethyl-2-(ethylamino)thiazole-5-carboxamide
[2] methyl *N*-(2,6-dimethylphenyl)-*N*-(methoxyacetyl)-DL-alaninate
[3] 3-(difluoromethyl)-*N*-[(*R*)-2,3-dihydro-1,1,3-trimethyl-1*H*-inden-4-yl]-1-methyl-1*H*-pyrazole-4-carboxamide

V-10417 FS Fungicide contains 0.643 lb ethaboxam, 0.172 lb metalaxyl and 0.428 lb inpyrfluxam per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE NEXT [PAGE][PANEL] [BOOKLET] FOR ADDITIONAL PRECAUTIONARY STATEMENTS

NET CONTENTS
EPA Reg. No. 59639-EGE
EPA Est.

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

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 800-892-0099 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Workers loading product, treating seed and conducting maintenance and calibration of the treater must wear: long-sleeved shirt, long pants, socks and shoes, and chemical-resistant gloves made of any waterproof material (barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or viton ≥ 14 mils).

Workers involved with handling treated seed (such as baggers, sewers and bag stackers) must wear: long-sleeved shirt, long pants, socks and shoes.

Workers who load and plant treated seed must wear: long-sleeved shirt, long pants, socks and shoes and chemical-resistant gloves made of any waterproof material (barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, or viton ≥ 14 mils) when handling treated seed.

Follow the 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, oysters, and shrimp. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water by disposing of equipment washwaters or rinsate.

Groundwater Advisory
Metalaxyl has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow. Therefore, contain any product spills or equipment leaks and dispose of wastes according to the disposal instructions on this label.

DIRECTIONS FOR USE

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

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

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

Do not enter or allow worker entry into treated areas during the Restricted Entry Interval (REI) of 24 hours.

Exception: Once the seeds are planted in soil, the WPS, under certain circumstances, allows workers to enter the treated area without restriction if there will be no worker contact with the soil subsurface or treated seed. PPE required for early entry to treated areas that is permitted under the WPS and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls, socks and shoes, and chemical-resistant gloves made of any waterproof material.

RESTRICTIONS

V-10417 FS Fungicide must be used only in accordance with use instructions on this label utilizing mechanical, slurry or mist-type seed treating equipment, provided that the equipment can be calibrated to accurately and uniformly apply the product to seed. This product is for both commercial and on-farm application, and not for residential use. Do not apply this product in a hopper-box or planter-box at planting time. Always mix product thoroughly before use.

As stated by regulations specified in 40 CFR 153.155, all seed treated with V-10417 FS Fungicide must be colored with an EPA-approved dye or colorant to visually distinguish seed is treated with a pesticide. This product contains such dye or colorant. This regulation is necessary to prevent treated seed from accidental use as a food for man or feed for animals.

PRODUCT INFORMATION

V-10417 FS Fungicide (containing ethaboxam, metalaxyl and inpyrfluxam) is a fungicide seed treatment product offering both contact and systemic activity in providing broad-spectrum seed and seedling protection against seedling diseases. The fungicide components in V-10417 FS are effective for protection against *Pythium*, *Phytophthora sojae*, and *Rhizoctonia solani*.

RESISTANCE MANAGEMENT

For resistance management, please note that **V-10417 FS Fungicide** contains **Group 4**/metalaxyl, **Group 7**/inpyrfluxam, and **Group 22**/ethaboxam fungicides. Any fungal population may contain individuals naturally resistant to **V-10417 FS Fungicide** and other **Group 4, Group 7,** or **Group 22** fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies are to be followed. Metalaxyl belongs to the phenylamide class of chemistry which interferes with fungal RNA synthesis. Inpyrfluxam is a succinate dehydrogenase inhibitor (SDHI) and belongs to the carboxamide class of chemistry which disrupts cellular respiration and energy generation. Ethaboxam belongs to the thiazole carboxamide class of chemistry which inhibits migration of nuclei from the growing germ tube and mycelia in addition to inhibiting oxygen consumption by mitochondria.

Seed treatments of **V-10417 FS Fungicide** can be followed by foliar use fungicides containing the same modes of action in accordance with resistance management guidelines as specified on the respective labels.

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

- Rotate the use of **V-10417 FS Fungicide** or other **Group 4, Group 7,** or **Group 22** fungicides with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.

- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively plan fungicide applications. Note that using predictive models alone is not enough to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crop and pathogens.
- For further information or to report suspected resistance contact ***Valent*** at 1-800-6-VALENT (800-682-5368). You can also contact your pesticide distributor or university extension specialist to report resistance. Valent encourages responsible product stewardship to ensure effective long-term control of the fungal diseases on this label.

APPLICATION DIRECTIONS

Accurate application of V-10417 FS Fungicide to seed is required for best performance. Thoroughly mix V-10417 FS Fungicide in the desired seed slurry mixture, prior to application to seed. Pre-test tank mixtures with other seed treatment products to evaluate formulation compatibility and to ensure proper physical compatibility of products. Do not tank mix with any products which contain a prohibition on tank mixing.

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

SEED QUALITY AND STORAGE OF TREATED SEED

Seed treatments applied to low vigor or poor quality seed or to mechanically damaged seed may result in loss of seed germination or reduced seedling vigor. To verify seed safety, treat a small portion of seed with the desired slurry mixture (V-10417 FS alone or in combination with other commercial seed treatment products) prior to treatment of an entire seed lot. Utilize standard seed germination methodologies to determine and verify seed safety. Use proper storage conditions for treated seed. Due to seed quality and seed storage conditions beyond the control of Valent U.S.A. LLC, no claims are made to guarantee the germination of carry-over treated seed.

SEED BAG TAG REQUIREMENTS

The Federal Seed Act requires that bags containing treated seed be labeled or tagged with the following information:

- This seed has been treated with V-10417 FS Fungicide containing ethaboxam, metalaxyl and inpyrfluxam. Do not use for feed, food or oil processing.

The U.S. Environmental Protection Agency requires the following statements on the container of seed treated with V-10417 FS Fungicide:

- Store away from feeds and other foodstuffs. Do not allow children, pets, or livestock to have access to treated seed. Wear long sleeved shirt, long pants, shoes and socks, and chemical resistant gloves made of any waterproof material when opening this bag or handling (e.g., loading, pouring) treated seed.
- Treated seeds exposed on soil surface may be hazardous to wildlife. Plant treated seed into the soil to the recommended minimum depth or greater to minimize exposure. Cover or collect treated seeds spilled during loading and planting, in particular at row ends and field corners.
- Dispose of all excess treated seed by burying seed away from bodies of water. Do not contaminate water bodies when disposing of planting equipment washwaters. Dispose of seed packaging in accordance with local requirements. Excess treated seed may be used for ethanol production only if (1) by-products are not used for livestock feed and (2) no measurable residues of pesticide remain in ethanol by-products that are used in agronomic practices.

The following table provides use rates of V-10417 FS Fungicide by labeled crop, with disease protection guidelines.

<table>
<tr><td colspan="2">Legume Vegetables, Succulent or Dried
[Crop Group 6]
Bean (Lupinus spp.) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (Phaseolus spp.) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (Vigna spp.) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean (fava); chickpea (garbanzo); guar; jackbean; lablab bean (hyacinth bean); lentil; pea (Pisum spp.) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); pigeon pea; soybean; soybean (immature seed); sword bean</td></tr>
<tr><th>Diseases</th><th>Application Rate of V-10417 FS Fungicide (fl oz/100 lb seed)</th></tr>
<tr><td>Seed decay, seedling blight and damping off caused by Rhizoctonia solani

Pythium seed decay and seedling dieback

Early season Phytophthora sojae root rot

Early season Aphanomyces root rot</td><td>1.5
(ethaboxam: 7.5 g ai/100 kg seeds)
(metalaxyl: 2 g ai/100 kg seeds)
(inpyrfluxam: 5 g ai/100 kg seeds)</td></tr>
<tr><td colspan="2">It is acceptable to apply S-2399 2.84 SC Fungicide (also containing inpyrfluxam) following the use of V-10417 FS Fungicide as a seed treatment.</td></tr>
</table>

STORAGE AND DISPOSAL

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

STORAGE

Store in a dry place away from excessive heat.
Do not store near food or feed.
Store in original container only.

PESTICIDE DISPOSAL

To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

CONTAINER HANDLING

[*Use the following statement for containers equal to or less than 5 gallons*]
Nonrefillable container. 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 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. Offer for recycling, if available; otherwise dispose of in a sanitary landfill or by incineration, if allowed by state and local authorities.

[*Use the following statement for containers greater than 5 gallons*]
Nonrefillable container. 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 1/4 full with water. Replace 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 the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available; otherwise dispose of in a sanitary landfill or by incineration, if allowed by state and local authorities.

[*Use the following statement for all formulation types/all refillable container types*]
Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Offer for recycling, if available; otherwise dispose of in a sanitary landfill or by incineration, if allowed by state and local authorities.

RECYCLING

Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact the Ag Container Recycling Council (ACRC) at 877-952-2272 (toll free) or www.acrecycle.org.

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

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

RISKS OF USING THIS PRODUCT

The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests, resistance of the target pest to this product. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of Valent. The Buyer should be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND AGREES THAT TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER.

To the extent consistent with applicable law, Valent shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. To the extent consistent with applicable law, Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

LIMITED WARRANTY

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

LIMITATION OF LIABILITY

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

PROMPT NOTICE OF CLAIM

Valent must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is latter, so that an immediate inspection of the affected property and growing crops can be made.

To the extent consistent with applicable law, if Buyer does not notify Valent of any claims, in such period, it shall be barred from obtaining any remedy.

NO AMENDMENTS

Valent and Seller offer this product, and Buyer accepts it, subject to the foregoing Disclaimer, Risks of Using This Product, Limited Warranty and Limitation of Liability, which may not be modified by any oral or written agreement.

COMMERCIAL TANK MIXES

NOTICE: Commercial tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor.

Read and follow the entire label of each product to be used in the commercial tank mix with this product.

Manufactured For:
Valent U.S.A. LLC
P. O. Box 5075
San Ramon CA 94583-0975

Made in U.S.A.

EPA Reg. No. 59639-EGE
EPA Est.

059639-00EGE.20200729.V-10417_FS_Fungicide.Clean

CERTIFICATE OF SERVICE

I hereby certify that on October 23, 2020, I electronically filed the foregoing Petition for Review, Corporate Disclosure Statement, this Certificate of Service, and Exhibits A-E with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the CM/ECF system. I caused to be served one true and correct copy of the foregoing via certified mail on the following persons:

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/s/Jonathan Evans
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