



PROLIVO® 300SC Fungicide

SECTION 1. IDENTIFICATION	
Product Name:	Prolivo® 300SC Fungicide
Synonyms:	Pyriofenone, IKF-309
Chemical Name:	Pyriofenone; (5-chloro-2-methoxy-4-methyl-3-pyridyl)(4,5,6-trimethoxy-o-tolyl)methanone (IUPAC)
Chemical Family:	Aryl phenyl ketone
Recommended Uses:	Agricultural industry: Fungicide
EPA Registration No.:	71512-24-88783
SDS No.:	063
Company Identification:	Summit Agro USA LLC 240 Leigh Farm Road, Suite 415 Durham, NC 27707 (984) 260-0407
24 Hour Emergency Number:	For Transportation emergency, spills, leak, fire or accident call: CHEMTREC 1-800-424-9300 For Medical emergency call: 1-888-484-7546

SECTION 2. HAZARDS IDENTIFICATION*	
Hazard Classification:	Specific target organ toxicity, repeated exposure (Category 2) Acute aquatic toxicity (Category 2) Chronic aquatic toxicity (Category 2)
Signal Word:	WARNING
Hazard Symbols:	 
Hazard Statements:	May cause damage to blood, liver and/or kidneys through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.
Precautionary Statements:	Do not breathe mist. Get medical attention if you feel unwell. Avoid release to the environment. Collect spillage. Dispose of contents and container in accordance with the product label.
	*According to OSHA criteria. For FIFRA criteria, see section 15

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS			
Chemical Name:	CAS #:	% by Weight:	TLV/PEL:
Active Ingredient: Pyriofenone*	688046-61-9	27.3	Not established
*(5-chloro-2-methoxy-4-methyl-3-pyridinyl)(2,3,4-trimethoxy-6-methylphenyl)methanone (CA)			

SECTION 4. FIRST-AID MEASURES

Ingestion: 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 a poison control center or doctor. Do not give anything to an unconscious person.

Skin Contact: 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.

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

Inhalation: 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.

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

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media: **SMALL FIRE:** Use water spray, dry chemicals, foam or carbon dioxide.
LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.

Unusual Fire and Explosion Hazards: May decompose under fire conditions emitting gases and vapors such as hydrogen chloride, hydrofluoric acid, nitrous vapors, carbon monoxide and carbon dioxide which may be toxic and irritating to the respiratory tract.

Fire Fighting Instructions: Wear full firefighting turn-out gear and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Precautionary Measures: Use protective equipment and engineering controls identified in section 8 of this document.

Containment and Clean-Up: Contain spill. Absorb with an inert material and put the spilled material in an appropriate waste disposal container. Wash spillage area with water. Do not allow wash water to enter drains or surface waters.

SECTION 7. HANDLING AND STORAGE

Precautions: Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Storage: Store in original container, in a secured, dry and cool place separate from other pesticides, fertilizer, food, and feed. Avoid cross-contamination with other pesticides.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The recommendations in this section for exposure controls and Personal Protection are intended for industrial settings (such as formulation or packaging facilities) or for other non-application situations.

For additional information, refer to the precautions/warnings on the product label. Always follow the label instructions when handling and using this product.

Exposure Limits: Not established.

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Ensure that eyewash stations and safety showers are near work areas.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

Personal Protection:

Ingestion:	Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.
Eye Contact:	Where eye contact is possible, use protective eyewear (such as chemical splash goggles or a face shield).
Skin Contact:	Where contact is likely, wear waterproof gloves, long-sleeved shirt and long pants, socks and chemical-resistant footwear.
Inhalation:	A respirator is not normally required when handling sealed containers. Use effective engineering controls to comply with facility occupational exposure limits. In case of emergency spills, use a NIOSH-approved respirator with an organic vapor (OV) filter and any N, R, P, or HE pre-filter.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Appearance:	Viscous beige liquid
Odor:	None
pH:	6 (1% suspension in water)
Boiling Point:	210°F (99°C)
Melting Point:	Not available
Freezing Point:	Not applicable
Flash Point:	None
Evaporation Rate:	Not available
Flammability:	Not flammable
Flammable Limits:	Not applicable
Vapor Pressure:	1.9 x 10 ⁻⁶ Pa @ 25°C (active ingredient)
Vapor Density:	Not available
Density:	1.08 – 1.12 g/mL @ 20°C
Solubility:	Dispersible in water
N-Octanol/Water:	1440 (Log P _{ow} = 3.2) (active ingredient)
Auto-Ignition Temperature:	380°C
Decomposition Temperature:	Not available
Volatility:	Not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity:	No evidence of reactivity.
Stability:	This product is stable at normal temperatures and was found to be stable under accelerated aging conditions over 14 days at 54°C.
Possibility of Hazardous Reactions:	None known.
Conditions to Avoid:	Extremes of temperature.
Incompatible Materials:	Strong oxidizing agents, strong acids or bases.
Hazardous Decomposition Products:	Hydrogen chloride, hydrofluoric acid, nitrous vapors, carbon monoxide and carbon dioxide.

SECTION 11. TOXICOLOGICAL INFORMATION	
Acute Toxicity:	Acute oral toxicity (LD ₅₀): >2000 mg/kg [Rat]. Acute dermal toxicity (LD ₅₀): >2000 mg/kg [Rabbit]. Acute inhalation toxicity (LC ₅₀): >2.78 mg/L [actual airborne concentration]; >75.35 mg/L (nominal) 4 hour(s) [Rat].
Skin Irritation:	Non-irritating. Primary dermal irritation index = 0.0 [Rabbit]
Eye Irritation:	Practically non-irritating. Mean Draize score < 0.3 for redness over 72 hours, 0.0 for all other parameters. [Rabbit]
Sensitization:	Not a contact sensitizer.
Mutagenicity:	No evidence of mutagenicity.
Carcinogenicity:	No adverse effects were seen in male mice ingesting up to 600 ppm (78 mg/kg bw/day) or female mice ingesting up to 1000 ppm (167 mg/kg bw day). Dietary exposure to rats at up to 5000 ppm showed no carcinogenic effects.
Reproductive Toxicity:	Animal studies show no significant evidence of reproductive toxicity.
Target Organ Effects:	90-day feeding studies have shown increased liver weight in male rats and increased blood platelet counts in female rats ingesting 1000 ppm (60.5 – 69.0 mg/kg bw/day). 2-year studies have shown effects to liver, kidney, lymph nodes and skin at doses of 5000 ppm to male rats and 1000 ppm to females.
Aspiration:	No data available.

SECTION 12. ECOLOGICAL INFORMATION	
Summary of Effects:	Toxic to aquatic life with long lasting effects. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with local or regional permits.
Ecotoxicity Data:	Fish (Rainbow Trout) 96-hour LC ₅₀ = 13.7 mg a.i./L Invertebrate (<i>Daphnia magna</i>) 48-hour EC ₅₀ = 31.4 mg a.i./L Algae (<i>Pseudokirchneriella subcapitata</i>) 96-hour E _r C ₅₀ = 2.78 mg a.i./L Bobwhite Quail Acute LD ₅₀ > 2000 mg/kg body weight (practically non-toxic) Sub-Acute Dietary Bird LD ₅₀ > 5000 ppm in diet for both Quail and Mallard
Persistence / Degradability:	Pyriofenone has medium to high persistence in aerobic soil (DT ₅₀ 54 – 201 days) with faster degradation under anaerobic conditions (DT ₅₀ 31 – 43 days). It does not show hydrolytic degradation at pH of 4 – 9. Pyriofenone is not considered readily biodegradable.
Bioaccumulative Potential:	No evidence for bioaccumulation (Bioconcentration factor = 160).
Mobility in Soil:	Pyriofenone exhibits low to slight mobility in soil (K _{foc} = 705 – 2720 mL/g; K _{foc} arithmetic mean = 1485 mL/g).

SECTION 13. DISPOSAL CONSIDERATIONS	
Waste Disposal:	Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA regional office for guidance.

SECTION 13. DISPOSAL CONSIDERATIONS (Continued)

Container Disposal: Non-refillable container. DO NOT reuse or refill empty container. Triple rinse container (or equivalent) according to label directions promptly after emptying. Offer empty rinsed container for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

SECTION 14. TRANSPORT INFORMATION

US DOT Classification:	CLASS 9. Not regulated when shipped in non-bulk packaging by highway or rail.	
	Non-bulk (Ground Transport)	Bulk (Ground Transport)
Proper Shipping Name:	Not regulated	Environmentally Hazardous Substance, Liquid, N.O.S. (Pyriofenone)
Hazard Class:	Not regulated	Class 9
Identification Number:	Not regulated	UN 3082
Packing Group:	Not regulated	PG III
Hazardous Substances Reportable Quantity:	Not applicable.	
Special Provisions for Transport:	Class 9 placard not required for non-bulk packaging transported by highway or rail within the U.S. [49CFR 172.504(f)(9)].	
	IATA (Air Transport)	IMDG (Ocean Transport)
Proper Shipping Name:	Environmentally Hazardous Substance, Liquid, N.O.S. (Pyriofenone)	Environmentally Hazardous Substance, Liquid, N.O.S. (Pyriofenone), marine pollutant
Hazard Class:	Class 9	CLASS 9
Identification Number:	UN 3082	UN 3082
Packing Group:	PG III	PG III

SECTION 15. REGULATORY INFORMATION**U.S. Federal and State Regulations:**

SARA 313 Inventory Ingredients: Not Listed
SARA 312 Hazards Classification: Chronic health
Listed as carcinogen by:
IARC: Not Listed
NTP: Not Listed
OSHA: Not Listed
CA Prop 65: Not Listed

TSCA: Exempt from TSCA, subject to FIFRA.

FIFRA:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law (FIFRA). FIFRA requirements differ from the OSHA classification criteria and hazard information required for safety data sheets in Section 2 above, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required by FIFRA on the pesticide label:

CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse. DO NOT apply directly to

SECTION 15. REGULATORY INFORMATION (Continued)	
water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate waters when disposing of equipment washwater or rinsate.	
Canada (WHMIS):	Exempt
EU (Directives 67/548/EEC, 1999/45/EC and 2006/8/EC):	R51/53: Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

SECTION 16. OTHER INFORMATION	
<u>NFPA Hazard Ratings</u>	
Health: 2	0 Minimal
Flammability: 1	1 Slight
Instability: 0	2 Moderate
	3 Serious
	4 Extreme
<u>Notice to Reader</u>	
<p><i>All information contained in this Safety Data Sheet is furnished free of charge and is intended for your evaluation. In our opinion, the information as of the date of the Safety Data Sheet is reliable; however, it is your responsibility to determine the suitability of the information for your use. You are advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional or variable conditions or circumstances exist or because of applicable laws or government regulations. Therefore, you should use this information only as a supplement to other information gathered by you; and you must make independent determinations of the suitability and completeness of the information from all sources to assure both proper use of the material described herein and the safety and health of employees. Accordingly, no guarantee expressed or implied is made by ISK Biosciences Corporation as to the results to be obtained based upon your use of the information, nor does ISK Biosciences Corporation assume any liability arising out of your use of the information.</i></p> <p><i>Prolivo is a registered trademark of Ishihara Sangyo Kaisha, Ltd.</i></p>	
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