

Torrent™ 400SC Agricultural Fungicide
SECTION 1. IDENTIFICATION

Product Name:	Torrent 400SC Agricultural Fungicide
Synonyms:	Cyazofamid, IKF-916
Chemical Name:	Cyazofamid; CA: 4-chloro-2-cyano- <i>N,N</i> -dimethyl-5-(4-methylphenyl)-1H-imidazole-1-sulfonamide
Chemical Family:	Cyanoimidazole
Recommended Uses:	Agricultural industry: Fungicide
SDS No.:	62
Company Identification:	ISK Biosciences Corporation 7470 Auburn Road, Suite A Concord, OH 44077-9703 (440) 357-4640
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:	Acute aquatic toxicity (Category 1) Chronic aquatic toxicity (Category 1)
Signal Word:	WARNING
Hazard Symbols:	
Hazard Statements:	Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
Precautionary Statements:	Avoid release to the environment. Collect spillage. Dispose of contents and container in accordance with the product label.
*According to US OSHA and UN GHS criteria.	

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name:	CAS #:	% by Weight:	TLV/PEL:
Active Ingredient: Cyazofamid*	120116-88-3	34.5	Not established
Propylene glycol	57-55-6	5 – 10	Not established
*4-chloro-2-cyano- <i>N,N</i> -dimethyl-5-(4-methylphenyl)-1H-imidazole-1-sulfonamide (CA)			

SECTION 4. FIRST-AID MEASURES

Skin Contact:	Take off contaminated clothing. Rinse skin immediately with plenty of soap and 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.
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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.
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, dry chemicals, foam or carbon dioxide. DO NOT use water jet.
Unusual Fire and Explosion Hazards:	May decompose under fire conditions emitting gases and vapors, 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. Remove as much as possible and remove any contaminated soil. Place in closed, labeled container and store in a safe place to await proper disposal. Do not contaminate water while cleaning equipment or disposing of wastes.

SECTION 7. HANDLING AND STORAGE

Precautions:	Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before use.
Storage:	Store in original container, in a secure, dry place separate from food and feed. Keep out of reach of children and domestic animals.

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 commercial applications and/or on-farm applications of this product refer to the precautions/warnings on the product label. Always follow the label instructions when handling and applying this product.

Exposure Limits:	Not established.
Engineering Controls:	Ensure adequate ventilation, especially in confined 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 likely, use protective eyewear (such as chemical splash goggles).
Skin Contact:	Applicators and other handlers must wear long-sleeved shirt and long pants, socks, shoes, and chemical resistant gloves made of any waterproof material.
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 any N, R, P or HE filter.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Appearance:	Light tan/beige liquid
Odor:	Slight odor; "musty latex paint"
pH:	6.2 (1% dilution in water)
Boiling Point:	Not determined
Melting Point:	152.7°C (based on active ingredient)
Freezing Point:	-5°C
Flash Point:	None observed
Evaporation Rate:	Not available
Flammability:	Non-flammable
Flammable Limits:	Not established
Vapor Pressure:	$<1 \times 10^{-7}$ mm Hg @ 25°C (1.33×10^{-5} Pascal) (based on active ingredient)
Vapor Density:	Not available
Density:	1.154 g/ml @ 25°C
Solubility:	0.107 mg/L in water @ 20°C (pH 7) (based on active ingredient)
N-Octanol/Water:	Log Pow = 3.2 (based on active ingredient)
Auto-Ignition Temperature:	503°C (937°F) using 100 µl.
Decomposition Temperature:	Not available
Volatility:	Not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity:	No evidence of reactivity.
Stability:	This product is stable under normal use and storage conditions.
Possibility of Hazardous Reactions:	None known.
Conditions to Avoid:	Avoid contact with heat or open flame.
Incompatible Materials:	Active ingredient degrades with iron, aluminum, iron acetate or aluminum acetate at 54 °C.
Hazardous Decomposition Products:	May decompose under fire conditions to release vapors or gases which are toxic and irritating to the respiratory tract.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	Acute oral toxicity (LD ₅₀): >5000 mg/kg [Rat]. Acute dermal toxicity (LD ₅₀): >5000 mg/kg [Rabbit]. Acute inhalation toxicity (LC ₅₀): >5.854 mg/L [actual airborne concentration]; >16.2 mg/L (nominal) 4 hour(s) [Rat].
Skin Irritation:	Non-irritating; Primary dermal irritation index = 0.0 [Rabbit]
Eye Irritation:	Non-irritating; No positive effects were observed in exposed animals [Rabbit]
Sensitization:	Not a sensitizer
Mutagenicity:	No evidence of mutagenicity.
Carcinogenicity:	No evidence of carcinogenicity was observed in mice exposed to the active ingredient via ingestion at doses up to 7000 ppm or in rats at doses up to 20,000 ppm
Reproductive Toxicity:	Animal studies show no evidence of toxicity resulting from exposure to the active ingredient.
Target Organ Effects:	Increased kidney weights and/or lesions were observed in rats ingesting at least 5000 ppm of the active ingredient daily over a period of 13 weeks.
Aspiration:	No data available.

SECTION 12. ECOLOGICAL INFORMATION

Summary of Effects:

As with all crop protection products, take precautions when handling and applying so as to prevent contamination of areas surrounding the application site. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters or rinsate.

Ecotoxicity Data (Cyazofamid):

Fish (Rainbow Trout & Bluegill) 96-hour LC₅₀ > 1.4 mg/L (No effects up to the limit of solubility)

Invertebrate (*Daphnia magna*) 48-hour EC₅₀ > 1.4 mg/L (No effects up to the limit of solubility)

Green Algae 96 hour EC₅₀ = 0.025 mg/L

Bobwhite Quail Acute LD₅₀ > 2000 mg/kg body weight (practically non-toxic)

Mallard Duck Acute LD₅₀ > 2000 mg/kg body weight (practically non-toxic)

Sub-Acute Dietary Bird LD₅₀ > 5000 ppm in diet for both Quail and Mallard

Bee contact > 100 ug/bee (practically non-toxic)

Persistence / Degradability: Cyazofamid degrades rapidly in soil (maximum DT₅₀ < 6 days at 20°C, DT₉₀ < 40 days in aerobic soils). In a water/sediment study, cyazofamid degraded rapidly, with an average DT₅₀ in the water phase of about 6.1 days and a DT₉₀ for the system of 13.6 days.

Bioaccumulative Potential: Tests with rainbow trout show that cyazofamid biodegrades extensively and demonstrates a very low potential for bioaccumulation in fish.

Mobility in Soil: Cyazofamid and its metabolites have low mobility in soil.

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 regional pesticide or environmental control agency for guidance.

SECTION 13. DISPOSAL CONSIDERATIONS (Continued)

Container Disposal: 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 ¼ 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 rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. (Since triple rinse instructions will vary slightly depending upon the size of the container, refer to the label of your container for specific instructions.)

SECTION 14. TRANSPORT INFORMATION

US DOT Classification: CLASS 9, Marine Pollutant. 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. (Cyazofamid)
Hazard Class:	Not regulated	Class 9, Marine Pollutant
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. (Cyazofamid)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CYAZOFAMID)
Hazard Class:	Class 9	CLASS 9, MARINE POLLUTANT
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: None

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.

SECTION 15. REGULATORY INFORMATION (Continued)

Canada (PMRA):	Registration No. 30392, Pest Control Products Act Refer to product label for precautionary language enforceable by PMRA.
Canada (WHMIS):	Exempt

SECTION 16. OTHER INFORMATION

<u>NFPA Hazard Ratings</u> Health: 0 Flammability: 1 Instability: 0	0 Minimal 1 Slight 2 Moderate 3 Serious 4 Extreme
<u>Notice to Reader</u> <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>	
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