MATERIAL SAFETY DATA SHEET

Syngenta Canada Inc.
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In Case of Emergency, Call
1-800-327-8633 (FAST MED)

Date of MSDS Preparation (Y/M/D): 2013-11-01
MSDS prepared by:
Department of Regulatory & Biological Assessment
Syngenta Canada Inc.

Supersedes date (Y/M/D): NEW

For further information contact:
1-87-SYNGENTA (1-877-964-3682)

SECTION – 1: PRODUCT IDENTIFICATION

Product Identifier: INSPIRE SUPER™ Fungicide Formulation No.: A16001A
Registration Number: 30827 (Pest Control Products Act)
Chemical Classes: A mixture of cyprodinil and triazole fungicides.

Active Ingredient (%): Cyprodinil (24.1 %) CAS No.: 121552-61-2
Chemical Name: 4-Cyclopropyl-6-methyl-N-phenylpyrimidiamine
Chemical Class: Cyprodinil fungicide.

Active Ingredient (%): Difenoconazole (8.4 %) CAS No.: 119446-68-3
Chemical Name: 1H-1,2,4-Triazole,1-[[2-[2-chloro-4-(4-chlorophenoxy)phenyl]-4-methyl-1,3-dioxolan-2-yl]methyl]-
Chemical Class: Triazole fungicide.

Product Use: Please refer to the product label for more information.

SECTION – 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen	WHMIS†
Propylene Glycol	Not Established	Not Established	10 mg/m^3 TWA****	No	
Difenoconazole (8.4%)	Not Estblished	Not Established	8 mg/m³ TWA***	No	
Cyprodinil (24.2%)	Not Established	Not Established	7 mg/m^3 TWA***	No	

** Recommended by NIOSH
*** Syngenta Occupational Exposure Limit (OEL)
**** Recommended by AIHA (American Industrial Hygiene Association)
† Material listed in Ingredient Disclosure List under Hazardous Products Act.

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
Syngenta Hazard Category: B

SECTION – 3: HAZARDS IDENTIFICATION

Symptoms of Acute Exposure

Causes mild eye and skin irritation.

Hazardous Decomposition Products

None known.

Physical Properties

Appearance: White liquid.
Odour: Musty.

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Potential Health Effects

Relevant routes of exposure: Skin, eyes, mouth, lungs.

SECTION – 4: FIRST AID MEASURES

IF POISONING IS SUSPECTED, immediately contact the poison information centre, doctor or nearest hospital. Have the product container, label or Material Safety Data Sheet with you when calling Syngenta, a poison control center or doctor, or going for treatment. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given. Call the Syngenta Emergency Line [**1-800-327-8633** (**1-800-FASTMED**)], for further information.

EYE CONTACT:	Flush eyes with clean water, holding eyelids apart for a minimum of 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta, a poison control center or doctor for treatment advice. Obtain medical attention immediately if irritation persists.
SKIN CONTACT:	Immediately remove contaminated clothing and wash skin, hair and fingernails thoroughly with soap and water. Flush skin with plenty of water for 15-20 minutes. Call Syngenta, a poison control centre or doctor for treatment advice.
INHALATION:	Move victim to fresh air. If not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call Syngenta, a poison control centre or doctor for treatment advice.
INGESTION:	If swallowed, immediately contact Syngenta, a poison control centre, doctor or nearest hospital for treatment advice. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless directed by a physician or a poison control center. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer water.

NOTES TO PHYSICIAN:
There is no specific antidote. Treat symptomatically. Vomiting may cause aspiration pneumonia.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED:

None known.

SECTION – 5: FIRE FIGHTING MEASURES

Flash point and method: > 101 ºC**Upper and lower flammable (explosive) limits in air:** Not applicable.
Auto-ignition temperature: 465 ºC
Flammability: Not applicable.
Hazardous combustion products: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.
Conditions under which flammability could occur: Product is not flammable. Keep fire exposed containers cool by spraying with water.

Extinguishing media: Use water fog or mist, (avoid use of water jet), foam, carbon dioxide, dry powder or halon extinguishant. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. Contain run-off water with, for example, temporary earth barriers.
Sensitivity to explosion by mechanical impact: No.
Sensitivity to explosion by static discharge: No.

SECTION – 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Make sure all personnel involved in the spill cleanup follow good industrial hygiene practices. A small spill can be handled routinely. Wear suitable protective clothing and equipment as described in Section 8 and/or the product label.
Procedures for dealing with release or spill:
Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Sections 7 and 8. Pump or scoop large amounts of liquid into a disposable container. Absorb remaining liquid or smaller spills with clay, sand or vermiculite. Scoop or sweep up material and place into a disposal container. Wash area with detergent and water. Pick up wash liquid with additional absorbent and place into compatible disposal container. On soils, small amounts will naturally decompose. For large amounts, skim off the upper contaminated layer and collect for disposal. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposal. Spillages or uncontrolled discharges into watercourses must be reported to the appropriate regulatory body.

SECTION – 7: HANDLING AND STORAGE

Handling practices: KEEP OUT OF REACH OF CHILDREN. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Avoid breathing vapours or spray mist. Wear full protective clothing and equipment (see Section 8). After work, rinse gloves and remove protective equipment, and wash hands thoroughly with soap and water after handling, and before eating, tobacco use, drinking, applying cosmetics or using the toilet. Wash contaminated clothing before re-use and separate from household laundry. Keep containers closed when not in use. Protect product, wash or rinse water, and contaminated materials from uncontrolled release into the environment, or from access by animals, birds or unauthorized people
Appropriate storage practices/requirements: Store in original container only in a well-ventilated, cool, dry, secure area. Protect from heat, sparks and flame. Do not expose containers to temperatures below -10 °C or above 40 °C. Protect from sun and humidity. PREVENT PRODUCT FROM FREEZING. Separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.
National Fire Code classification: Not regulated.

SECTION – 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Applicable control measures, including engineering controls: This product is intended for use in on-farm operations. Ensure work areas have ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV. Warehouses, production area, parking lots and waste holding facilities must have adequate containment to prevent environmental contamination. Provide separate shower and eating facilities.

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

CONSULT THE PRODUCT LABEL FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS.

Personal protective equipment for each exposure route:
General: Avoid breathing dust, vapours or aerosols. Avoid contact with eye, skin and clothing. Wash thoroughly after handling and before eating, drinking, applying cosmetics, or handling tobacco.

INGESTION: Do not eat, drink, handle tobacco, or apply cosmetics in areas where there is a potential for exposure to this material. Always wash thoroughly after handling.

EYES: Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

SKIN: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

INHALATION:

A respirator is not normally required when handling this substance. Use effective engineering controls to comply with 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

Appearance: White liquid.
Formulation Type: Not available.
Odour: Musty.
pH: 6.4 (1% solution in deionized H_2O @ 25 °C).
Vapour pressure and reference temperature: Cyprodinil: 3.8 a 10^{-6} mmHg @ 25 ºC
Difenoconazole: 2.5 x 10^{-10} mmHg @ 25 °C

Vapour density: Not available.
Boiling point: Not available.
Melting point: Not applicable.
Freezing point: Not available.
Specific gravity or density: 1.03 g/mL
Evaporation Rate: Not available.
Water/oil partition coefficient: log Kow = 4.0 (Cyprodinil Technical)
4.4 (Difenoconazole Technical)

Odour threshold: Not available.
Viscosity: 688 mPas
Solubility in Water: Cyprodinil: 12 mg/L @ 25 ºC
Difenoconazole: 15 mg/L @ 25 °C

SECTION – 10: STABILITY AND REACTIVITY

Chemical stability: Stable under normal use and storage conditions.
Conditions to avoid: None known.
Incompatibility with other materials: None known.
Hazardous decomposition products: None known.
Hazardous polymerization: Will not occur.

SECTION – 11: TOXICOLOGICAL INFORMATION

Acute toxicity/Irritation Studies (Finished Product):

Ingestion:	Low AcuteToxicity Oral (LD50 Rabbit):	5,000 mg/kg body weight
Dermal:	Low AcuteToxicity Dermal (LD50 Rabbit):	> 5,000 mg/kg body weight
Inhalation:	Low AcuteToxicity Inhalation (LC50 Rat):	> 2.53 mg/L air - 4 hours
Eye Contact:	Mildly Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Cyprodinil: Did not show reproductive toxicity effects in animal experiments.

Difenoconazole: Did not show reproductive toxicity effects in animal experiments.

Chronic/Subchronic Toxicity Studies

Cyprodinil: Liver, kidneys and thyroid effects at high doses.

Difenoconazole: Kidney and liver effects at high doses (>5,000 ppm; rats); Eye effects in dogs at high dose levels.

Carcinogenicity

Cyprodinil: Found to be not carcinogenic in studies with rats and mice. Designated as class E "not likely" for human carcinogenicity (1998 USEPA "Pesticide Fact Sheet").

Difenoconazole: Liver tumors, in mice at high doses, that are not relevant to humans.

Other Toxicity Information:

None.

Toxicity of Other Components

The acute toxicity test results reported in Section 11, above, for the finished product take into account any acute hazards related to the "other components" in the formulation.

Propylene Glycol:

Reported to cause central nervous system depression (anesthesia, dizziness, confusion) headache and nausea. Chronic dietary exposure caused kidney and liver injury in experimental animals.

Other materials that show synergistic toxic effects together with the product: None known.

Target Organs

Active Ingredients

Cyprodinil:	Liver, kidney, thyroid.
Difenoconazole:	Brain, liver, kidney, gastrointestinal tract.

Inert Ingredients

Propylene Glycol:	CNS, kidney, liver.

SECTION – 12: ECOLOGICAL INFORMATION

Summary of Effects

The active ingredients, cyprodinil and difenoconazole, are slightly toxic to birds, and are toxic to fish and aquatic invertebrates (water flea).

Eco-Acute Toxicity

Difenoconazole:

Invertebrates (Water Flea) 48-hr EC_{50}	0.77 ppm
Fish (RainbowTrout) 96-hr LC_{50}	1.6 ppm
Birds (21-day dietary - Mallard Duck) LD_{50}	>2,500 ppm

Cyprodinil:

Invertebrates (Water Flea) 48-hour EC_{50}	0.032 ppm
Fish (Rainbow Trout) 96-hr LC_{50}/EC_{50}	2.4 ppm
Birds (8-day dietary - Mallard Duck) LC_{50}/EC_{50}	> 500 ppm

Environmental Fate

The active ingredient cyprodinil has a low bioaccumulation potential and low mobility in soil. The dissipation half-life in soil is 31 - 80 days and in water it is 16.3 days. The main route of degradation is by microbial degradation and formation of bound residues.

Difenoconazole is degraded in soil with a foliar half-life of 28-892; it is readily adsorbed onto sediment, leading to rapid disappearance in natural water. Difenoconazole has low mobility in soil and a moderate bioaccumulation potential.

SECTION – 13: DISPOSAL CONSIDERATIONS

Waste disposal information: Do not reuse empty containers unless they are specifically designed to be refillable. Empty container retains product residue. Triple rinse, or equivalent, empty container, return rinse water to dilution mixture, and dispose of dilution mixture as a hazardous waste if it cannot be disposed of by use according to label instructions. Dispose of empty containers in accordance with local regulations. Consult provincial environment ministry for advice on waste disposal. Industrial/commercial waste may be handled at licensed facilities only. Waste shipments must be securely packaged and properly labelled. Only licensed carriers may be used, and proper documents must accompany the shipment.

SECTION – 14 : TRANSPORT INFORMATION

Shipping information such as shipping classification:

TRANSPORTATION OF DANGEROUS GOODS CLASSIFICATION - ROAD/RAIL
Not Regulated.

SECTION – 15: REGULATORY INFORMATION

WHMIS classification for product: Exempt

A statement that the MSDS has been prepared to meet WHMIS requirements, except for use of the 16 headings.
This MSDS has been prepared in accordance with WHMIS requirements, but the data are presented under 16 headings.

Other regulations; restrictions and prohibitions

Pest Control Products (PCP) Act Registration No.: 30827

SECTION – 16: OTHER INFORMATION

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Syngenta will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three years. This product is under the jurisdiction of the Pest Control Products Act and is exempt from the requirements for a WHMIS compliant MSDS. Hazardous properties of all ingredients have been considered in the preparation of this MSDS. Read the entire MSDS for the complete hazard evaluation of this product.

Prepared by: Syngenta Canada Inc.
1-87-SYNGENTA (1-877-964-3682)

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