

SECTION 1: PRODUCT IDENTIFICATION

Product Identifier: MEDALLION® FUNGICIDE Formulation No.: A17856B
Registration Number: 31528 (Pest Control Products Act)
Product Use: A substituted benzodioxalcarbonitrile fungicide. Please refer to product label for further details.

Syngenta Canada Inc.
 140 Research Lane, Research Park
 Guelph, ON N1G 4Z3

**In Case of Emergency, Call
 1-800-327-8633 (FAST MED)**

MSDS prepared by: Department of Regulatory & Biological Assessment, Syngenta Canada Inc.

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

SECTION 2: HAZARDS IDENTIFICATION

Physical State: Liquid.
Appearance: Beige-grey to grey-green liquid.
Odour: Slightly sweet.
Symptoms of Acute Exposure: Not available.
Potential Health Effects: May irritate eyes.
Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gases.
Unusual Fire, Explosion & Reactivity Hazards: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No.	Average % by weight
Fludioxonil	131341-86-1	11.7
Propylene Glycol	57-55-6	9.4
Other Ingredients		78.9

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

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 centre 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 eyes. Call Syngenta, a poison control centre 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 running water for a minimum of 15-20 minutes. Call Syngenta, a poison control centre 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. Have person sip a glass of water if able to do so. Do not give anything by mouth to an unconscious person. Do not

induce vomiting unless directed by a physician or a poison control centre. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer water.

Most Important Symptoms/Effects, Acute and Delayed:

May irritate eyes.

Indication of Immediate Medical Attention and Special Treatment:

There is no specific antidote.

Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point and Method: > 100 °C (Pensky-Martens CC).

Upper and Lower Flammable (explosive) Limits in Air: Not applicable.

Auto-ignition Temperature: 610 °C.

Flammability: Not applicable.

National Fire Code Classification: Not regulated.

Hazardous Combustion Products: During a fire, irritating and possible 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 foam, carbon dioxide, dry powder, halon extinguishant or water fog or mist (avoid use of water jet). Wear full protective clothing and self-contained breathing apparatus. Evacuate non-essential 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: Not applicable.

Sensitivity to Explosion by Static Discharge: Not applicable.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Make sure all personnel involved in the spill clean-up follow good industrial hygiene practices. A small spill can be handled routinely. Wear suitable protective equipment and clothing 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 seep up material and place into a disposal container. Wash area with detergent and water. Pick up wash liquid with additional absorbent and place into a 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, dust 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

MATERIAL SAFETY DATA SHEET

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 above 0 °C in original container only in a well-ventilated, cool, dry, secure area. Protect from heat, sparks and flame. Do not expose sealed containers to temperatures above 40 °C. Protect from freezing. Keep separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Applicable Control Measures, Including Engineering Controls: If necessary, ensure work areas have ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV (threshold limit value). Warehouses, production areas, parking lots and waste holding facilities must have adequate containment to prevent environmental contamination. Provide separate shower and eating facilities.

Component	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen	WHMIS†
Fludioxonil	Not established	Not established	10 mg/m ³ TWA***	No	Not established
Propylene Glycol	Not established	Not established	10 mg/m ³ TWA AIHA WEEL****	No	Yes

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

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

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 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 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 particulate filter respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use a NIOSH certified respirator with any N, R, P or HE filter. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES
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Appearance: Beige-grey to grey-green liquid.
Formulation Type: Soluble concentrate.
Odour: Slightly sweet.
Odour Threshold: Not available.
pH: 6.0 – 9.0 (1% deionized water @ 20 °C).
Viscosity: 233 mPa(s).
Relative Density: Not available.
Specific Gravity or Density: 1.03 – 1.09 g/cm³ @ 20 °C.
Solubility in Water: Fludioxonil: 1.8 mg/L @ 20 °C, pH 7.
Water/Oil Partition Coefficient (log Kow): Fludioxonil: 4.1
Vapour Pressure and Reference Temperature: Fludioxonil: 2.90 x 10⁻⁹ mmHg @ 20 °C.
Vapour Density: Not available.
Boiling Point: Not available.
Boiling Range: Not available.
Melting Point: Not applicable.
Freezing Point: Not available.
Evaporation Rate: Not available.
Flash Point and Method: > 100 °C (Pensky-Martens CC).
Flammability: Not applicable.
Upper and Lower Flammable (Explosive) Limits in Air: Not applicable.

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable under normal use and storage conditions.
Conditions to Avoid: Not applicable.
Incompatibility with Other Materials: Not applicable.
Possibility of Hazardous Reactions: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.
Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gases.

SECTION 11: TOXICOLOGICAL INFORMATION
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Acute Toxicity/Irritation Studies (Finished Product):

Ingestion:	<u>Low Acute Toxicity</u>	
	Oral (LD50 Female Rat)	> 5,000 mg/kg body weight
Dermal:	<u>Low Acute Toxicity</u>	
	Dermal (LD50 Rat)	> 5,050 mg/kg body weight
Inhalation:	<u>Low Acute Toxicity</u>	
	Inhalation (LC50 Rat)	> 2.09 mg/L air – 4 hours
Eye Contact:	<u>Minimally Irritating (Rabbit)</u>	
Skin Contact:	<u>Non-Irritating (Rabbit)</u>	
Skin Sensitization:	<u>Not a Sensitizer (Guinea Pig)</u>	

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Chronic/Sub-chronic Toxicity Studies:

Fludioxonil: No adverse effect has been observed in chronic toxicity tests.

Carcinogenicity:

Fludioxonil: Did not show carcinogenic effects in animal experiments.

Reproductive Toxicity:

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

Teratogenicity:

Fludioxonil: Not teratogenic in animal studies.

Mutagenicity:

Fludioxonil: Did not show mutagenic effects in animal experiments.

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. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

SECTION 12: ECOLOGICAL INFORMATION

Eco-Acute Toxicity:

Fludioxonil:		
	Invertebrates (Water Flea) 48-hour EC ₅₀	0.90 ppm
	Fish (Rainbow Trout) 96-hour LC ₅₀	0.23 ppm
	Birds (8-day dietary – Mallard Duck) LC ₅₀ /EC ₅₀	> 5,200 ppm

Environmental Fate:

Fludioxonil:
Moderately persistent in soil. Low mobility in soil.

SECTION 13: DISPOSAL CONSIDERATIONS
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Waste Disposal Information: Do not reuse containers unless they are specifically designed to be refillable. Empty container retains product residue. 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
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Shipping Classification:

TRANSPORTATION OF DANGEROUS GOODS CLASSIFICATION – ROAD/RAIL:
Not regulated.

Special Shipping Information:

Not applicable.

SECTION 15: REGULATORY INFORMATION**Hazardous Products Act Information: CPR Compliance**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Hazardous Products Act Information: WHMIS Classification

This product is exempt under WHMIS.

Pest Control Products (PCP) Act Registration No.: 31528

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.

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