SECTION – 1: PRODUCT IDENTIFICATION

Product Identifier: MAXIM® LIQUID PSP
Registration Number: 29110 (Pest Control Products Act)
Chemical Class: Substituted Benzodioxalcarbonitrile Fungicide

Active Ingredient (%): Fludioxonil (40.3 %)
Chemical Name: 4-(2,2-difluoro-1,3-benzodioxol-4-yl)-1H-pyrrole-3-carbonitrile.
Product Use: MAXIM Liquid PSP is a water based fungicide seed treatment for control of fungal diseases in a wide range of agricultural crops. For further details please refer to product label.

SECTION – 2: COMPOSITION-INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Material</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other</th>
<th>NTP/IARC/OSHA Carcinogen</th>
<th>WHMIS†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol (≤ 11%)</td>
<td>Not Established</td>
<td>100 mg/m³ (ceiling) [aerosol]</td>
<td>Not Established</td>
<td>No</td>
<td>Not Established</td>
</tr>
<tr>
<td>Fludioxonil (40.3 %)</td>
<td>Not Established</td>
<td>Not Established</td>
<td>10 mg/m³ TWA***</td>
<td>No</td>
<td>Not Established</td>
</tr>
</tbody>
</table>

*** Syngenta Occupational Exposure Limit (OEL)
† Material listed in Ingredient Disclosure List under Hazardous Products Act.

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

SECTION – 3: HAZARDS IDENTIFICATION

 Symptoms of Acute Exposure
 May cause eye irritation.

 Hazardous Decomposition Products
 Can decompose at high temperatures forming toxic gases.

 Physical Properties
 Appearance: Colourless Liquid.
 Odour: Sweet, latex paint-like odour.

 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 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 running water for a minimum of 20 minutes. Obtain medical attention if irritation occurs.

INHALATION:  Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is laboured, give oxygen. Obtain immediate medical attention.

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 swallow. 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 if this product is ingested. Treat symptomatically.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED:  None known.

SECTION – 5: FIRE FIGHTING MEASURES

Flash point and method:  > 99.3 ºC.
Upper and lower flammable (explosive) limits in air:  Not available.
Auto-ignition temperature:  Not available.
Flammability:  Not flammable.
Hazardous combustion products: None known.
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 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 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 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

MAXIM® LIQUID PSP
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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 disposition. 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 sealed containers to temperatures above 40 °C. PREVENT PRODUCT FROM FREEZING. Keep separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.

**National Fire Code classification:** Not applicable.

**SECTION – 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Applicable control measures, including engineering controls:** This product is intended for use outdoors where engineering controls are not necessary. If necessary, 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 process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with an N, P, R or HE class filter and an organic vapour cartridge may be used under certain circumstances where airborne concentrations are expected to exceed exposure limits (e.g. emergency spills).

**SECTION – 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Colourless Liquid.

**Formulation Type:** Flowable solution.

**Odour:** Sweet, latex paint-like.

**pH:** 7-8 (1% aqueous solution @ 25 °C).

**Vapour pressure and reference temperature:** 2.9 x 10⁻⁹ mmHg @ 25 °C (Fludioxonil Technical).

**Vapour density:** Not available.

**Boiling point:** Not available.
Melting point: Not available.
Freezing point: -12 °C
Specific gravity or density: 1.22 g/cm³.
Evaporation Rate: Not available.
Water/oil partition coefficient (log Kow): 4.1 (Fludioxonil Technical)
Odour threshold: Not available.
Viscosity: 450 – 750 LVT #2 @ 30 rpm.
Solubility in Water: 1.8 mg/L @ 25 °C (Fludioxonil Technical).

SECTION – 10: STABILITY AND REACTIVITY

Chemical stability: Stable under normal use and storage conditions.
Conditions to avoid: Excessive heat or cold.
Incompatibility with other materials: None known.
Hazardous decomposition products: Can decompose at high temperatures forming toxic gases.
Hazardous polymerization: Will not occur.

SECTION – 11: TOXICOLOGICAL INFORMATION

Acute toxicity/Irritation Studies (Finished Product):

<table>
<thead>
<tr>
<th>Ingestion:</th>
<th>Low AcuteToxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral (LD50 Rat):</td>
<td>&gt; 5,050 mg/kg body weight</td>
</tr>
<tr>
<td>Dermal:</td>
<td>Low AcuteToxicity</td>
</tr>
<tr>
<td>Dermal (LD50 Rabbit):</td>
<td>&gt; 2,020 mg/kg body weight</td>
</tr>
<tr>
<td>Inhalation:</td>
<td>Low AcuteToxicity</td>
</tr>
<tr>
<td>Inhalation (LC50 Rat):</td>
<td>&gt; 3.77 mg/L air - 4 hours</td>
</tr>
<tr>
<td>Eye Contact:</td>
<td>Minimally Irritating (Rabbit)</td>
</tr>
<tr>
<td>Skin Contact:</td>
<td>Non-Irritating (Rabbit)</td>
</tr>
<tr>
<td>Skin Sensitization:</td>
<td>Not a Sensitizer (Guinea Pig)</td>
</tr>
</tbody>
</table>

Neurotoxicity
Fludioxonil Technical: No evidence of neurotoxicity to rats or mice.

Reproductive/Developmental Effects
Fludioxonil Technical: Delayed development at doses causing maternal toxicity.

Chronic/Subchronic Toxicity Studies
Fludioxonil Technical: Liver and kidneys toxicity high dose levels. Changes in urine colour (predominantly blue) occurred following repeated dosing in all species tested.

Carcinogenicity
Fludioxonil Technical: Fludioxonil was not oncogenic in mice. Results of a long-term feeding study with fludioxonil in rats showed a marginally increased incidence of liver tumours in female rats at the maximum tolerated dose (3,000 ppm). This was within historical control range (1 to 10%).

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.

Ethylene Glycol: This product contains ethylene glycol which has been shown to produce dose-related teratogenic effects in rats and mice. There is, however, no information suggesting that ethylene glycol has caused birth defects in humans. Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice. Exposure to high concentrations of mists or aerosols may result in effects on the hematopoietic system and central nervous system with headache, dizziness and drowsiness. Severe kidney damage results from swallowing large amounts of ethylene glycol.

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

Target Organs

<table>
<thead>
<tr>
<th>Active Ingredient</th>
<th>Fludioxonil Technical:</th>
<th>Liver, kidney.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inert Ingredients</td>
<td>Ethylene Glycol:</td>
<td>Blood, kidneys and CNS.</td>
</tr>
</tbody>
</table>

SECTION – 12: ECOLOGICAL INFORMATION

Summary of Effects

MAXIM Liquid PSP is a fungicide that is mixed with water and applied as a seed treatment for control of fungal diseases on a wide range of crops grown from seed. The active ingredient, fludioxonil, is moderately to very highly toxic to fish and aquatic invertebrates (water flea), but is practically non-toxic to insects (bees) and birds.

Eco-Acute Toxicity

<table>
<thead>
<tr>
<th>Fludioxonil Technical:</th>
<th>0.83 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Algae 5-day EC_{50}</td>
<td></td>
</tr>
<tr>
<td>Bees LC_{50}/EC_{50} (Contact)</td>
<td>&gt;100 μg/bee</td>
</tr>
<tr>
<td>Invertebrates (Water Flea) LC_{50}/EC_{50}</td>
<td>0.90 ppm</td>
</tr>
<tr>
<td>Fish (Trout) 96-hr LC_{50}/EC_{50}</td>
<td>0.23 ppm</td>
</tr>
<tr>
<td>Fish (Bluegill) 96-hr LC_{50}/EC_{50}</td>
<td>0.74 ppm</td>
</tr>
<tr>
<td>Birds (8-day Dietary - Bobwhite Quail) LC_{50}/EC_{50}</td>
<td>&gt; 5,200 ppm</td>
</tr>
<tr>
<td>Birds (8-day dietary - Mallard Duck) LC_{50}/EC_{50}</td>
<td>&gt; 5,200 ppm</td>
</tr>
</tbody>
</table>

Eco-Chronic Toxicity

<table>
<thead>
<tr>
<th>Fludioxonil Technical:</th>
<th>19 ppb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invertebrates (Water Flea) 21-day NOEC</td>
<td></td>
</tr>
<tr>
<td>Fish (Trout) 21-day NOEC</td>
<td></td>
</tr>
</tbody>
</table>

Environmental Fate

The active ingredient fludioxonil has a low bioaccumulation potential, low mobility in soil, and is not persistent in the environment. The main routes of degradation are by biological and photolytic degradation, and formation of bound residues.

For MAXIM Liquid PSP, the bulk material mixes with water into an emulsion.

SECTION – 13: DISPOSAL CONSIDERATIONS

Waste disposal information: Do not reuse empty containers unless they are specifically designed to be re-filled. 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.
Shipping information such as shipping classification:
TRANSPORTATION OF DANGEROUS GOODS CLASSIFICATION - ROAD/RAIL.
Not Regulated.

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.: 29110

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Prepared by: Syngenta Crop Protection Canada, Inc.
1-877-SYNGENTA (1-877-964-3682)

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