

MATERIAL SAFETY DATA SHEET

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SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

- a. **Product Identifier** HORIZON® 240EC Herbicide
Registration Number: 24076
Formulation Number: A8588C
Chemical Classes: Carboxylic Acid Derivative Herbicide
Synonym: Discover
- b. **Name of Supplier, Address and Emergency Telephone Number** - See above.
- c. **Name of Manufacturer, Address and Emergency Telephone Number** - See above.
- d. **Product Use:** Post-emergence herbicide for use in wheat.
- e. **Date of MSDS Preparation (Y/M/D):** 03-09-18
- f. **Name and Telephone Number of Party Responsible for MSDS Preparation:**
Prepared by Regulatory & Biology Development Department of Syngenta Crop Protection Canada, Inc. For further information, please contact 1-87S-YNGENTA (1-877-964-3682).

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

- a. **Chemical Identity and CAS Registry No. of hazardous ingredients (WHMIS Controlled Products) present at 1.0%, or 0.1% as appropriate, by weight.**
Aromatic Hydrocarbon - 45% to 55% (wt./vol) CAS Number 64742-94-5 Chemical name: Solvent naphtha
Solvent - 6.0% to 10.0%% (wt./vol) CAS Number 872-50-4 Chemical name: N-methylpyrrolidine
- b. **Ingredients present which are on the WHMIS Ingredient Disclosure List at, or above, the minimum concentration specified on the List.** None other than as in 2a.
- c. **Ingredients with unknown toxicological properties:** None.
- d. **Ingredients the supplier believes may be harmful:** Naphthalene
- e. **Generic chemical identity and Registry Number for trade secret ingredients registered under the Hazardous Materials Information Review Commission:** Not applicable
- f. **Ingredient concentration in units of wt./wt., vol./vol. or wt./vol. expressed as: i) actual concentration, or ii) a range as specified in the Controlled Product Regulations.**
Herbicide - 24.01% (wt./vol) CAS Number 105512-06-9 Chemical name: 2-propynyl-(R)-2-[4-(5-chloro-3-fluoro-2-pyridyloxy)-phenoxy]-propionate *Additional Information: Must be used in combination with the Safener.*
Safener - 6.00% (wt./vol) CAS Number 99607-70-2 Chemical name: 5-chloro-8-quinolinoxyacetic acid 1-methylhexyl ester
- g. **Exposure limits for ingredients:** Not established.

SECTION 3 HAZARDS IDENTIFICATION

Potential Health Effects:

- a. **Relevant routes of exposure**
- b. **Adverse health effects from exposure to product or ingredients of product:**
- i) length of exposure
 - ii) severity of effect
 - iii) target organ
 - iv) type of effect
 - v) signs and symptoms

Active ingredients - Irritating to skin and eyes. May cause sensitization by skin contact.

Aromatic Hydrocarbon (Carrier) - Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Vapours are moderately irritating to the eyes and

respiratory passages. Prolonged exposure to high vapour concentration can cause headache, dizziness, nausea, and central nervous system depression. In rare cases may sensitise heart muscle causing heart arrhythmia. The liquid when accidentally aspirated into the lungs can cause a severe inflammation of the lung. Preexisting eye, skin and respiratory disorders may be aggravated by exposure to this product.

vi) **medical conditions known to be aggravated:** None known.

SECTION 4 FIRST AID MEASURES

If POISONING IS SUSPECTED, immediately contact the poison information centre, doctor or nearest hospital. 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.

EYES: Rinse eyes with clean water for 15 minutes and immediately take patient to hospital.
SKIN: Thoroughly wash the affected parts of the body with soap and water.
INHALATION: Move victim to fresh air. Provide artificial respiration and/or oxygen if necessary.
INGESTION: Transport patient to nearest hospital. Never give anything by mouth to an unconscious person. Do not induce vomiting. This product contains PETROLEUM DISTILLATES.
NOTE TO PHYSICIAN: No specific antidote is known. Apply symptomatic therapy.

SECTION 5 FIRE FIGHTING MEASURES

1. **Flash point and method:** min. 70°C (PM CC)
2. **Upper and lower flammable (explosive) limits in air:** Aromatic Hydrocarbon UFL 7.0 LFL 1.0
3. **Autoignition temperature:** Aromatic Hydrocarbon 510°C
4. **Hazardous combustion products:** Oxides or carbon and smoke are likely. Also toxic fumes of Cl⁻ and NO_x under decomposition of active ingredients.
5. **Conditions under which flammability could occur:** This product contains aromatic hydrocarbon. Ignition is possible at temperatures above the flash point (70°C)
6. **Extinguishing media:** Powder, foam, carbon dioxide or water spray (do not use direct jet of water). Measures have to be taken to prevent the contaminated extinguishing agent from seeping into the ground or from spreading uncontrollably. Combustion products are toxic and/or irritating. Use respirator to protect from fumes.
7. **Sensitivity to explosion by mechanical impact:** None.
8. **Sensitivity to explosion by static discharge:** Low.

SECTION 6 ACCIDENTAL RELEASE MEASURES

- a. **Procedures for dealing with release or spill:** Wear protective clothing (see Section 8). Stop further release or spread of contamination. Absorb on sand, soil, diatomaceous earth, etc. Wash the area with a small amount of water and strong detergent and absorb in pet litter or other absorbent. Sweep up and place in the same container for disposal. Rinse the area with water. Do not allow wash water or rinse water to contaminate water or soil. Seal and label drum for disposal. Heavily contaminated soil layers have to be dug out down to clean soil.

SECTION 7 HANDLING AND STORAGE

- a. **Handling practices:** Wear appropriate protective clothing. Follow label directions for use and disposal. Keep this product out of bodies of water. Avoid contact with eyes or prolonged contact with skin. Avoid inhalation of vapours or spray mist. Do not eat, drink or smoke while working.
- b. **Appropriate storage practices/requirements:** Store the product in closed original containers in a well ventilated room. Keep out of reach of children, unauthorized persons and animals. Store separately from food and feed and fertilizer. Protect from sun and humidity. HORIZON[®] can be stored to -36°C.
National Fire Code classification: IIIA (Min. 70°C) Comb. Liq..

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- a. **Applicable control measures, including engineering controls:** Work in a well-ventilated area. After work, wash equipment, and personal protective equipment thoroughly. Wash face, body and hair, and change clothing.
- b. **Personal protective equipment for each exposure route:** Wear goggles or face shield to protect eyes. In case of heavy exposure wear a NIOSH approved respirator with organic vapour cartridge. To protect skin wear a heavy duty cotton or synthetic fabric working clothes (e.g. overalls), apron, nitrile gloves, heavy-duty shoes or boots.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

- a. **Appearance:** Light brown to dark brown clear liquid.
- b. **Formulation Type:** Emulsifiable Concentrate.
- c. **Odour:** Solvent.
- d. **pH:** 4 – 7 (1% emulsion in deionised water)
- e. **Vapour pressure and reference temperature:** Herbicide 0.0053 mPa @ 20°C, Safener 0.0025 mPa @ 20°C, Solvent 0.07 mmHg @ 20°C
- f. **Vapour density:** Not available
- g. **Boiling point (range):** Aromatic hydrocarbon - 177-210°C
- h. **Freezing point:** - 31°C
- i. **Specific gravity or density:** 1.06-1.10 g/cm³
- j. **Evaporation Rate:** Aromatic hydrocarbon 0.03 (BuAc = 1)
- k. **Water/oil partition coefficient:** Not available
- l. **Odour threshold:** Not available
- m. **Viscosity:** 26.3 cps @ 21°C

SECTION 10 STABILITY AND REACTIVITY

- a. **Chemical stability:** Stable under normal use and storage conditions.
- b. **Conditions to avoid:** Temperatures above 70°C
- c. **Incompatibility with other materials:** Strong oxidizing agents, strong acid, alkalis.
- d. **Hazardous decomposition products:** Hydrogen chloride, oxides of carbon, nitrogen dioxide.
- e. **Hazardous polymerization:** None.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on product:

- a. **LD50 (species and route)**
Acute Oral - rat, 2276 mg/kg
Acute Dermal - rat, >4000 mg/kg
LC50 (species) Not available for product
Carrier CAS Number 64742-94-5
Acute ihl. (4H) - rat 3800 mg/m³
- b. **Irritation data**
Eye irritation - rabbit: Strong
Skin irritation - rabbit: Strong
- c. **Results of studies on:**
Sensitisation: sensitising, based on studies with guinea pigs
Carcinogenicity: None of the ingredients in this product is listed as carcinogenic in the OSHA, IARC, or NTP lists. The active ingredient is not carcinogenic in rats.
Reproductive toxicity: No effects on reproductive performance when fed at doses up to 1000 ppm in the diet (Rat)
Teratogenicity: No evidence of teratogenicity in rats when fed at doses up to 40 ppm in the diet or in rabbits at up to 25 ppm in the diet
Mutagenicity: No evidence of mutagenicity in a battery of 6 mutagenicity tests.
Chronic exposure: No human data.
- d. **Other materials that show synergistic toxic effects together with the product:** None known

SECTION 12 ECOLOGICAL INFORMATION

Information on product:

Fish (trout)	LC ₅₀ (96H) 4.9 mg/L
Daphnia (daphnia magna)	EC ₅₀ (48H) 5.9 mg/L
Algae (scenedesmus subspi)	EC ₅₀ (96H) 5.3 mg/L
Safener - toxicity to birds:	non toxic
toxicity to fish:	non toxic
toxicity to bees:	non toxic

Degradation and metabolism: Environmental: Herbicide - In soil, undergoes rapid degradation to the free acid. Herbicide is mobile in soil. Safener - In soil, rapid degradation to the free acid, with a half-life of <1 day. Safener is mobile in soil.

In plants: Herbicide - In plants, rapidly degraded to the acid derivative as major metabolite. Rapid degradation by breaking of the urea bridge. Safener - In plants, is rapidly degraded to the free acid as the major metabolite.

SECTION 13 DISPOSAL CONSIDERATIONS

- a. **Waste disposal information:** Liquid material: Soak up with absorbent material such as sand, soil, diatomaceous earth, etc. Do not reuse packages. Waste packages, contaminated absorbent and unwanted product should be disposed of according to provincial and municipal regulations. Waste shipments must be securely packaged and properly labelled.

SECTION 14 TRANSPORT INFORMATION

- a. **Shipping information such as shipping classification:**
TRANSPORTATION OF DANGEROUS GOODS CLASSIFICATION - ROAD/RAIL
Not regulated

SECTION 15 REGULATORY INFORMATION

- a. **WHMIS classification for product:** Exempt (Pest Control products Act)
- b. **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.

SECTION 16 OTHER INFORMATION

The information and recommendations contained herein are based on information believed to be correct. However, no guarantee or warranty of any kind, expressed or implied is made with respect to the information provided herein.

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