

SAFETY DATA SHEET



In case of emergency Call
CANUTEC at 613-996-6666

Effective Date: March 5, 2010

PRODUCT: FRONTLINE* XL HERBICIDE

This product is regulated under authority of the Pest Control Products Act

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT: Frontline XL Herbicide

Use: Herbicide for cereal crops

COMPANY/SUPPLIER IDENTIFICATION:

Dow AgroSciences Canada Inc.

Suite 2100, 450 - 1 ST SW

Calgary, Alberta

Canada, T2P 5H1

www.dowagro.ca

2. HAZARDOUS IDENTIFICATIONS:

EMERGENCY OVERVIEW

Color: Tan White

Odor: Mild

Appearance: Liquid

Health/Environmental Hazards: May cause eye and skin irritation. Toxic to fish and aquatic invertebrates.

EMERGENCY PHONE NUMBER: 613-996-6666

3. COMPOSITION/INFORMATION ON INGREDIENTS:

Component	CAS Number	W/W%
MCPA 2-EHE	29450-45-1	42.3
Florasulam	145701-23-1	0.4
Propylene Glycol	57-55-6	4.81
Balance	None	52.49

4. FIRST AID:

EYE: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

SKIN: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items, which cannot be decontaminated, should be disposed of properly.

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. Never give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, and then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES:

FLASH POINT: >100°C (>212°F)

METHOD USED: PMCC

FLAMMABLE LIMITS

LFL: Not determined

UFL: Not determined

HAZARDOUS COMBUSTION PRODUCTS: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds.

OTHER FLAMMABILITY INFORMATION: This material will not burn until the water has evaporated. Residue can burn. If exposed to fire from another source and water is evaporated, exposure to high temperatures may cause toxic fumes.

EXTINGUISHING MEDIA: To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed. To extinguish combustible residues of this product use water fog, carbon dioxides, dry chemical, or foam. Contain fire water run-off if possible. Fire water run-off, if not contained may cause environmental damage.

PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves. Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with SCBA. If this is not available, wear full chemical resistant clothing with SCBA and fight fire from a

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remote area. For protective equipment in post-fire or non-fire clean up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES:

ACTION TO TAKE FOR SPILLS: Absorb small spills with a non reactive material such as sand or dirt and place in a suitable container for disposal. Wash exposed body areas thoroughly after handling. For large spills, dike and barricade the affected area and contact CANUTEC at 613-996-6666 and local authorities.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Handling: Keep out of reach of children. Do not swallow this product. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors and spray mist. Handle the concentrate in ventilated area. Wash thoroughly with soap and water after handling and before eating, chewing gum, using tobacco or the toilet.

Storage: Do not ship or store this product with food, feedstuffs, and water supplies. Store in original container in a dry location.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

These precautions are suggested for conditions where the potential for exposure exists. Emergency conditions may require additional precautions.

EXPOSURE GUIDELINES: Propylene glycol: AIHA WEEL is 10 mg/M³ for total vapor and aerosol.

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

EYE/FACE PROTECTION: Use safety glasses.

SKIN PROTECTION: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items, which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

RESPIRATORY PROTECTION: If respiratory irritation is experienced, use a NIOSH approved air-purifying respirator.

APPLICATORS AND ALL OTHER HANDLERS: Refer to the product label for personal protective clothing and equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Tan liquid

ODOR: Mild

DENSITY: 1.034 g/mL

BOILING POINT: Not determined

SOLUBILITY IN WATER: Not determined

10. STABILITY AND REACTIVITY:

STABILITY: (CONDITIONS TO AVOID) Stable at ambient temperatures. Exposure to elevated temperatures can cause product to decompose. Decomposition products depend upon temperature, air supply and the presence of other materials. Processing may release fumes and other decomposition products. At temperatures exceeding melt temperatures, polymer fragments can be released. Fumes can be irritating.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID)
None Known.

HAZARDOUS DECOMPOSITION PRODUCTS:

Decomposition products depend upon temperature, air supply and the presence of other materials. Processing may release fumes and other decomposition products. At temperatures exceeding melt temperatures, polymer fragments can be released. Fumes can be irritating.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION:

EYE: May cause slight eye irritation. Corneal injury is unlikely.

SKIN: Brief contact may cause moderate skin irritation with local redness. Prolonged skin contact is unlikely to result in absorption of harmful amounts. The dermal LD₅₀ for rats is >5,000 mg/kg. Has caused allergic skin reactions when tested in mice.

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INGESTION: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. The oral LD₅₀ for female rats is 3,129 mg/kg.

INHALATION: No adverse effects are anticipated from inhalation. The aerosol LC₅₀ for rats is >5.64 mg/L for four hours.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: For a similar active ingredient MCPA, in animals, effects have been reported on the following organs: blood, kidney, liver, testes. In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

CANCER INFORMATION: Florasulam and MCPA did not cause cancer in laboratory animals.

TERATOLOGY (BIRTH DEFECTS): Florasulam did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother. MCPA has caused birth defects in laboratory animals only at doses toxic to the mother. High doses fed to pregnant mice resulted in an increase in cleft palate, a common developmental abnormality in mice. No abnormalities have been observed in other species under similar test conditions.

REPRODUCTIVE EFFECTS: Florasulam and MCPA did not interfere with reproduction in animals.

MUTAGENICITY: For florasulam and MCPA in-vitro and animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION:

ENVIRONMENTAL FATE:

MOVEMENT & PARTITIONING: Expected to be relatively immobile in soil (KOC >5,000). Bioconcentration potential is high (BCF is >3,000 or Log Pow is between 5 & 7).

DEGRADATION & PERSISTANCE: The active ingredients are low to moderately persistent in soil and water. Based largely or completely on information for the active ingredient(s). Chemical degradation (hydrolysis) is expected in the environment. Biodegradation under aerobic laboratory conditions is below detectable limits (BOD₂₀ or BOD₂₈/ThOD is <2.5%).

ECOTOXICOLOGY: Based largely or completely on information for the active ingredients. Material is highly toxic to aquatic invertebrates on an acute basis (LC₅₀ or EC₅₀ is between 0.1 and 1 mg/L in the most sensitive species tested.)

Material is moderately toxic to fish on an acute basis (LC₅₀ or EC₅₀ is between 1 and 10 mg/L in most sensitive species tested).

Material is practically non-toxic to birds on an acute basis (LD₅₀ is >2,000 mg/kg).

Material is practically non-toxic to birds on a dietary basis (LC₅₀ is >5,000 ppm).

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHOD: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities.

This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

If the material as supplied becomes a waste, follow all applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION:

TDG Small container

NOT REGULATED

TDG Large container

NOT REGULATED

IMDG

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S

Technical Name: 2-Methyl-4-Chlorophenoxyacetic Acid 2-Ethylhexyl Ester

Hazard Class: CLASS 9 **ID Number:** UN 3082 **Packing Group:** PG III

EMS Number: F-A,S-F

ICAO/IATA

NOT REGULATED

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15. REGULATORY INFORMATION:

Pest Control Products Act registration number: 28804
For information phone: 800 667 3852

16. OTHER INFORMATION:

National Fire Code classification: Not applicable

NFPA ratings:

Health: 2

Flammability: 1

Reactivity: 0

Revised sections: 14. Transportation Information

Replaces: 01-Nov-2007

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