NUFARM AGRICULTURE INC.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SUPPLIED BY:
Nufarm Agriculture Inc.
5507 1st Street SE
Calgary, AB. T2H 1H9

Phone Number: (403)-253-8471
Fax Number: (403)-253-8478

MANUFACTURED BY:
E.I. du Pont Canada Company
P.O. Box 2200, Streetsville
Mississauga, Ontario L5M 2H3

PRODUCT:	**SPIKE Herbicide**
PCP NUMBER:	29653
DATE PREPARED:	March 29, 2010
PREPARER:	Brent R. McLennan
CHEMICAL FAMILY/USE:	Herbicide
FORMULA:	$C_{15}H_{17}N_5O_6S$
CHEMICAL SYNONYMS:	tribenuron-methyl, methyl 2-[[[[(4-methoxy-6-methyl-1,3,5- triazin-2-yl)methylamino]carbonyl]amino]sulfonyl]benzoate, methyl 2-[4-methoxy-6-methyl-1,3,5-triazin-2-yl(methyl)carbamoylsulfamoyl]benzoate

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	Wt. %	CAS NO.
Tribenuron-methyl	75%	101200-48-0

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear long-sleeved shirt and long pants, socks and shoes.

EFFECTS OF ACUTE EXPOSURE:
INGESTION: None known.
SKIN CONTACT: Based on animal data, repeated skin contact with tribenuron-methyl may cause allergic skin rashes.
INHALATION: None known.
EYE CONTACT: Based on animal data, eye contact with tribenuron-methyl may cause eye irritation with discomfort, tearing, or blurring of vision.

MEDICAL CONDITIONS AGGRAVATED: None known.
SUBCHRONIC (TARGET ORGAN) EFFECTS: None known.

CHRONIC EFFECTS/CARCINOGENICITY: None known.
REPRODUCTIVE TOXICITY: None known.
DEVELOPMENTAL TOXICITY: None known.
GENOTOXICTY: None known.
PRINCIPLE ROUTES OF EXPOSURE: Eye contact. Skin absorption. Inhalation. Oral.
TOXICOLOGICALLY SYNERGISTIC MATERIALS: None known.
OTHER: None known.

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.
If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.
If Ingested: Call a poison control centre 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 a poison control centre or doctor. Do not give anything by mouth to an unconscious person.
If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to mouth, if possible. Call a poison control centre or doctor for further treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention. For health or environmental emergencies, Prosar, 1-877-325-1840.

5. FIRE FIGHTING MEASURES

FLASH POINT: .....NAp
CONDITIONS OF FLAMMABILITY:.....NA
FLAMMABLE LIMITS IN AIR - Upper (%):.....NA
FLAMMABLE LIMITS IN AIR - Lower (%):.....0.173 g/L
AUTOIGNITION TEMPERATURE: .....420 °C (788 °F)
SENSITIVITY TO MECHANICAL IMPACT (Y/N): .....NA
SENSITIVITY TO STATIC DISCHARGE: .....NA
EXTINGUISHING MEDIA: Water Spray, Foam, Dry Chemical, CO_2.
SPECIAL FIREFIGHTING PROCEDURES: Wear self-contained breathing apparatus. Runoff from fire control may be a pollution hazard. If area is exposed to fire and conditions permit, let fire burn itself out. Burning chemicals may produce by-products more toxic than the original material. If product is on fire, wear self-contained breathing apparatus and full protective equipment. Use water spray. Control runoff.

6. ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)
NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.
Emergency Response - Chemical resistant coveralls, waterproof gloves, waterproof boots and face/eye protection. If dusting occurs, use NIOSH approved respirator protection.

Initial Containment
Follow applicable Federal, State/Provincial and Local laws/ regulations. Prevent material from entering sewers, waterways, or low areas. Spill Clean Up - Shovel or sweep up.

7. HANDLING AND STORAGE

Handling (Personnel)
Avoid contact with eyes or clothing. Wash thoroughly after handling. Wash clothing after use. Do not store or consume food, drink, or tobacco in areas where they may become contaminated with this material. USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
Storage
Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS:

Hazardous Ingredients	TWA / AEL*	ACGIH TLV	STEL
Tribenuron-methyl	1 mg/m3, 8 Hr.	N/E	N/E

* AEL is manufacturer's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

ENGINEERING CONTROLS: Use in a well ventilated area. General ventilation with a good source of make-up air recommended as minimum for indoor situations.
RESPIRATORY PROTECTION EQUIPMENT: Use an approved pesticide respirator if ventilation is not adequate or exposure to sprays, mists or vapours is likely.
PROTECTIVE GLOVES: Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber) equal to or greater than 14 mils. Rinse gloves before removal.
EYE AND FACE PROTECTION: Goggles or face shield when handling concentrate.
OTHER PROTECTIVE EQUIPMENT: Long sleeved shirt, long pants, socks and shoes are minimum work clothing. Coveralls or a chemical-resistant apron, and impermeable boots should also be worn when pouring concentrate. Use other equipment appropriate to specific situation.
VENTILATION: Use only in well ventilated area.

9. PHYSICAL AND CHEMICAL PROPERTIES

NOTE: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

BOILING POINT:.....NAp
VAPOR PRESSURE: .....NA
VAPOR DENSITY (air = 1):.....NA

FREEZING POINT:.....NAp
MELTING POINT: .....NAp
PHYSICAL STATE:.....Solid granules, dry flowable
ODOUR: .....Slightly pungent
COLOUR:.....Light brown
BULK DENSITY (Loose):.....0.61 - 0.70 g/mL
pH:.....7.5
SOLUBILITY IN WATER (20°C):.....Dispersible

10. STABILITY AND REACTIVITY

STABILITY: Stable.
HAZARDOUS POLYMERIZATION: Will not occur.
HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS: None known.
INCOMPATIBILITY (MATERIALS TO AVOID): None known.
CONDITIONS TO AVOID: None known.

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL LD_{50} (mg/kg):.....>5,000 (Rat)
ACUTE DERMAL LD_{50} (mg/kg): .....>5,000 (Rat)
ACUTE INHALATION LC_{50} (mg/l): ..... 6.0 (Rat, 4-hour exposure)
OTHER: Tribenuron-methyl is an eye irritant, and a skin sensitizer, but is not a skin irritant in animals. Repeated ingestion of high doses of tribenuron-methyl caused body weight loss, increased liver and thyroid/parathyroid weights, altered clinical chemical parameters, but no significant gross or microscopic treatment related effects were noted. Long-term dosing caused body weight loss, alteration in clinical chemical parameters, and testicular atrophy (considered to be biologically insignificant).
Tribenuron-methyl produced an increased incidence of mammary tumors in female rats at dose levels also producing other significant effects. Developmental effects occurred in the rat, but only at a dose also toxic to the dam. No reproductive effects were observed in rats. Tribenuron-methyl did not produce genetic damage in bacterial or mammalian cell cultures or in animals.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:
96-HOUR LC_{50} (mg/L): > 1000 mg/l (Rainbow Trout)
ORAL LD_{50} (mg/kg): > 2250 mg/kg (Bobwhite Quail)
DIETARY LC_{50} (ppm): > 5620 ppm (Bobwhite Quail)
DIETARY LC_{50} (ppm): > 5620 ppm (Mallard duck)

CHEMICAL FATE INFORMATION: Tribenuron-methyl is rapidly and extensively metabolized in plants and animals. DT_{50} in field soils of intended use, 3.5 – 5.1 days. Degradation in soil occurs primarily by aqueous hydrolysis and by direct microbial degradation. Hydrolysis is affected by soil pH, being faster in acidic than in alkaline soils. Photodecomposition and losses due to volatilization are not significant.

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13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Disposal should be made in accordance with federal, provincial and local regulations. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

Do not reuse container for any purpose. If applicable, return container in accordance with return program.

14. TRANSPORT INFORMATION

CANADIAN TDG DESCRIPTION (Road & Rail): Not regulated for transport by road/rail in Canada. Contact manufacturer for updates to transport information.

15. REGULATORY INFORMATION

WHMIS HAZARD CLASS: Exempt.
WHMIS TRADE SECRET: Exempt. (This product is regulated under the Pest Control Products Act - WHMIS exempt.)
CANADIAN INVENTORY: This product is currently exempt from CEPA.
HAZARD RATING SYSTEMS
HMIS: Not Available
National Fire Protection Association (NFPA®) Hazard Ratings:

Ratings for This Product		Key to Ratings	
1	Health Hazard	0	Minimal
1	Flammability	1	Slight
0	Instability	2	Moderate
		3	Serious
		4	Severe

16. OTHER INFORMATION

REVISIONS:
The following has been revised since the last issue of this MSDS: New.

ADDITIONAL INFORMATION:
Abbreviations used throughout the MSDS are:
NA = Not available
NAp = Not applicable
N/E = None Established.

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

Company and public references utilized in preparation of the MSDS.

*****END OF MSDS*****