



## NUFARM AGRICULTURE INC.

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**SUPPLIED BY:**

Nufarm Agriculture Inc.  
5507 1<sup>st</sup> Street, SE  
Calgary, AB T2H 1H9  
Phone Number: (403)-253-8471  
Fax Number: (403)-253-8478

**MANUFACTURED BY:**

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5507 1<sup>st</sup> Street, SE  
Calgary, AB T2H 1H9  
Phone Number: (403)-253-8471  
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**PRODUCT:****ASSERT 300 SC Herbicide****PCP NUMBER:**

21032

**DATE PREPARED:**

January 6, 2012

**PREPARER:**

Nufarm Agriculture Inc.; Regulatory Affairs &amp; Research Department

**CHEMICAL FAMILY/USE:**

Herbicide

**FORMULA:** $C_{16}H_{20}N_2O_3$ **CHEMICAL SYNONYMS:**

imazamethabenz-methyl, imazamethabenz.

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	Wt. %	CAS NO.
imazamethabenz-methyl	28 - 31	81405-85-8
Other ingredients are proprietary.	-	-

### 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** CAUTION - POISON. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or spray mist. Causes severe eye irritation. May cause skin irritation. May be harmful if swallowed, inhaled or absorbed through the skin.

**EFFECTS OF ACUTE EXPOSURE:**

**INGESTION:** May be harmful if swallowed. No specific symptoms known.

**SKIN CONTACT:** May cause skin irritation.

**INHALATION:** May cause irritation of the respiratory tract.

**EYE CONTACT:** Causes severe eye irritation.

**MEDICAL CONDITIONS AGGRAVATED:** None known.

**SUBCHRONIC (TARGET ORGAN) EFFECTS:** None known.

**CHRONIC EFFECTS/CARCINOGENICITY:** None known.

**REPRODUCTIVE TOXICITY:** None known.

**DEVELOPMENTAL TOXICITY:** None known.

**GENOTOXICITY:** None known.

**PRINCIPLE ROUTES OF EXPOSURE:** Eye contact. Skin absorption. Inhalation. Oral.

**TOXICOLOGICALLY SYNERGISTIC MATERIALS:** None known.

**OTHER:** None known.



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### 4. FIRST AID MEASURES

**If swallowed:** Call a poison control centre or doctor immediately for treatment advice. Have a 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 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 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.

**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.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**NOTE TO PHYSICIAN:** Treat symptomatically.

### 5. FIRE FIGHTING MEASURES

**FLASH POINT:** .....>100°C.

**CONDITIONS OF FLAMMABILITY:** .....NA.

**FLAMMABLE LIMITS IN AIR - Upper (%):** .....NA.

**FLAMMABLE LIMITS IN AIR - Lower (%):** .....NA.

**AUTOIGNITION TEMPERATURE:** .....NA.

**SENSITIVITY TO MECHANICAL IMPACT (Y/N):** .....N.

**SENSITIVITY TO STATIC DISCHARGE:** .....NA.

**EXTINGUISHING MEDIA:** Water fog, alcohol foam, carbon dioxide, dry chemical.

**SPECIAL FIREFIGHTING PROCEDURES:** Firefighters should wear self-contained breathing apparatus and full protective clothing when fighting chemical fires. Minimize and contain water runoff.

### 6. ACCIDENTAL RELEASE MEASURES

**ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:** Use safety equipment and procedures appropriate to the size of the spill. Keep unnecessary people away. Avoid runoff to natural waters and sewers. Surround and absorb spills with inert material such as perlite, sawdust, clay granules, vermiculite, sand or dirt. Contain all affected material in a closed, labeled container for proper disposal. Isolate from other waste materials. Clean contaminated area such as hard surfaces with detergent and water, collecting cleaning solution for proper disposal. Large spills to soil or similar surfaces may necessitate removal of top soil.

### 7. HANDLING AND STORAGE

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Keep away from food and feed products. Avoid storage in close proximity to insecticides, fungicides, fertilizers, plants and seeds. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use. Store between 0° - 35°C. Do not freeze. Do not store above 45°C.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### EXPOSURE LIMITS:

Hazardous Ingredients	TWA*	ACGIH TLV®	STEL	Units
imazamethabenz-methyl	N/E	N/E	N/E	N/Ap

\*8-hour TWA unless otherwise noted.



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**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:** All types of chemical-resistant gloves for handling chemicals are acceptable, provided that they can be cleaned. 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:** .....NA.  
**VAPOR PRESSURE:** .....NA.  
**VAPOR DENSITY (air = 1):** .....NA.  
**FREEZING POINT:** .....NA.  
**MELTING POINT:** .....NA.  
**PHYSICAL STATE:** .....Liquid.  
**ODOUR:** .....NA.  
**COLOUR:** .....Cream to white.  
**ODOR THRESHOLD (ppm):** .....NA.  
**EVAPORATION RATE (butyl acetate = 1):** .....NA.  
**SPECIFIC GRAVITY (water = 1):** .....1.07  
**DENSITY @ 25°C:** .....1.07  
**pH:** .....5.5 – 7.0 (undiluted)  
**SOLUBILITY IN WATER (20°C):** .....Product is dispersible in water.  
**COEFFICIENT OF WATER/OIL DISTRIBUTION:** .....NA.

### 10. STABILITY AND REACTIVITY

**STABILITY:** Stable.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS:** None known.

**INCOMPATIBILITY (MATERIALS TO AVOID):** Avoid contact with strong acidic, basic or oxidizing agents.

**CONDITIONS TO AVOID:** None known.

### 11. TOXICOLOGICAL INFORMATION

Data on this product or a similar formulation:

**ACUTE ORAL LD<sub>50</sub> (mg/kg):** .....>2000 (Rat)  
**ACUTE DERMAL LD<sub>50</sub> (mg/kg):** .....>4000 (Rat)  
**ACUTE INHALATION LC<sub>50</sub> (mg/l):** .....6.53 mg/l (Rat, 4-hour exposure)  
**OTHER:** Tested as severely irritating to the eye and non-irritating to skin (Rabbit). Skin sensitizer (Guinea pig).



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### 12. ECOLOGICAL INFORMATION

#### ECOTOXICOLOGICAL INFORMATION:

Data on imazamethabenz-methyl technical:

**96-HOUR LC<sub>50</sub> (mg/L):** 280 (Rainbow Trout)

**96-HOUR LC<sub>50</sub> (mg/L):** > 100 (Bluegill)

**48-HOUR EC<sub>50</sub> (mg/L):** > 220 (Daphnia)

**DIETARY LC<sub>50</sub> (ppm):** > 5000 (Bobwhite Quail)

**DIETARY LC<sub>50</sub> (ppm):** > 5000 (Mallard Duck)

**CHEMICAL FATE INFORMATION:** Imazamethabenz-methyl is slowly degraded to corresponding free acids in soils, under both aerobic and anaerobic conditions; DT<sub>50</sub> 25 – 45 d; hydrolysis increases with increasing pH. Subject to photolytic degradation in water and on soil surfaces. DT<sub>50</sub> of residues in the soil is *c.* 30 – 105 d with no accumulation of acid metabolites. Low leaching potential.

### 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.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Do not reuse container for any purpose. If applicable, return container in accordance with return program. If a recyclable container, dispose of at a container collection site. Contact local distributor, dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site, triple- or pressure-rinse the empty container adding rinsings to spray tank, and make container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

### 14. TRANSPORT INFORMATION

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

### 15. REGULATORY INFORMATION

**WHMIS HAZARD CLASS:** NA.

**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:** NA.

**National Fire Protection Association (NFPA®) Hazard Ratings:**

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



## NUFARM AGRICULTURE INC.

### 16. OTHER INFORMATION

#### EMERGENCY TELEPHONE NUMBERS:

For spills or transportation accidents, Chemtrec, 1-800-424-9300.

For health or environmental emergencies, Prosar, 1-877-325-1840.

For product and use information, Nufarm Agriculture Inc., 1-800-868-5444.

#### REVISIONS:

The following has been revised since the last issue of this MSDS: Section 1, 4 & 16.

#### 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\*\*\*