



Nu-Image Herbicide Safety Data Sheet

Issue Date: 2017-12-21

Supersedes Date: 2017-05-17

{Reserved}

1. Identification

Product Name: Nu-Image Herbicide

PCP Registration No.: 30420

Refer to the approved product label for handling and use instructions.

Product Type: Herbicide

Supplier: Nufarm Agriculture Inc.
Suite 350, 2618 Hopewell Place NE
Calgary, Alberta, T1Y 7J7, Canada
1-800-868-5444

Telephone Numbers: 24 Hour Emergency Response Number, Chemtrec, 1-800-424-9300.
For medical emergencies, ProPharma Group, 1-877-325-1840.
For product and use information, Nufarm Agriculture Inc.,
1-800-868-5444.

2. Hazard Identification

Classified according to UN GHS Version 5.

Physical Hazards:

None

Health Hazards:

Acute toxicity (Oral)	Category 5
Acute toxicity (Dermal)	Category 5
Acute toxicity (Inhalation)	Category 5
Eye irritation	Category 2B
Skin irritation	Category 3

Environmental Hazards:

Hazardous to aquatic environment, acute Category 3

Signal Word:

WARNING

Hazard Statements:

May be harmful if swallowed. May be harmful in contact with skin. May be harmful if inhaled. Causes eye irritation. Causes mild skin irritation. Harmful to aquatic life.

Precautionary Statements:

Causes eye irritation. Wear goggles or face shield during mixing/loading.

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May be harmful if swallowed, in contact with skin or inhaled. Do not eat, drink or smoke when using this product.

Wear coveralls or a long-sleeved shirt and long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal. After use, wash hands and other exposed skin. Remove and wash contaminated clothing before reuse.

Avoid breathing spray mist. Use only outdoors or in a well-ventilated area.

3. Composition / Information on Ingredients

Hazardous Components	CAS No.	Wt. %
Imazethapyr	81335-77-5	21.2-22.5
Chemical Synonyms: (±)-2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-ethyl-3-pyridinecarboxylic acid		
Ammonium hydroxide	1336-21-6	5.1-5.5

Other ingredients are considered non-hazardous.

Content as Expressed on Product Label

Imazethapyr ... 240 g/L

4. First Aid Measures

If swallowed, 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 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.

In case of eye contact, 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 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.

5. Fire-fighting Measures

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.

Flash Point: >100 C

Conditions of Flammability: None

Hazardous Decomposition Products: ... Prolonged thermal loading can result in products of degradation being given off. Possible thermal decomposition products: carbon monoxide, nitrogen dioxide, nitrogen oxide, hydrocarbons. If product is heated above decomposition temperature toxic vapours may be released.

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 1 Flammability: 0 Reactivity: 0
Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. Accidental Release Measures

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

Handling: Avoid contact with skin, eyes and clothing. Wear goggles or face shield during mixing/loading. Wear coveralls over a long-sleeved shirt and long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal. After use, wash hands and other exposed skin. Remove and wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Avoid breathing spray mist. Use only outdoors or in a well-ventilated area.

Storage: Store the container tightly closed away from seeds, fertilizer, plants and foodstuffs. Do not store below 0C or above 40C. If the product is exposed to temperatures below 0°C during shipment or storage, make sure the product has thawed completely, and shake the container vigorously. Shake well before using.

8. Exposure Controls / Personal Protection

Engineering Controls: Use only outdoors or in a well-ventilated area.

Personal Protective Equipment: Goggles or face shield, coveralls or a long-sleeved shirt and long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal.

Exposure Guidelines:

Component	TWA*	STEL**	Reference/Note
Imazethapyr	20 ppm	NE	ACGIH
Ammonium hydroxide	NE	NE	None found

*Time-weighted Average, 8-hour unless otherwise noted.

**Short Term Exposure Limit

NE = Not Established

Refer to approved product label for additional exposure control guidance.

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. If no value is determined for the formulation, the value listed is the most relevant value of the predominant ingredient(s).

Appearance (physical state, colour, etc.)	green liquid
Odour	musty
Odour threshold	not available
pH	6.6
Melting point / Freezing point	not available
Initial boiling point and boiling range	not available
Flash point	>100C
Evaporation rate	not available
Flammability (solids, gases)	not applicable
Upper / Lower flammability or explosive limits ...	not available
Vapour pressure	<1 x 10 ⁻⁷ mm Hg @ 60C (imazethapyr)
Vapour density	not available
Relative density	1.114 @ 20C
Solubility(ies)	1.4 g/L in water @ 25C (imazethapyr)
Partition coefficient: n-octanol/water	logP = 1.49 @ pH 7, 25C (imazethapyr)
Autoignition temperature	not available
Decomposition temperature	not available
Viscosity (kinematic)	4.244 cSt @ 20C

10. Stability and Reactivity

Reactivity: Not reactive.

Chemical Stability: Stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Ignition sources, heat, spark or flame. Oxidizing agents and reducing agents. Avoid contact with mild steel and brass – corrosive.

Incompatible Materials: Oxidizing and reducing agents; unlined steel (except stainless steel).

Hazardous Decomposition Products: Prolonged thermal loading can result in products of degradation being given off. Possible thermal decomposition products: carbon monoxide, nitrogen dioxide, nitrogen oxide, hydrocarbons. If product is heated above decomposition temperature toxic vapours may be released.

11. Toxicological Information

Likely routes of exposure: Inhalation, ingestion, skin and eye contact.

Eye contact: Causes eye irritation.

Skin contact: Causes mild skin irritation.

Ingestion: May be harmful if swallowed. No significant adverse health effects are expected if only small amounts are swallowed.

Inhalation: May be harmful if inhaled.

Medical Conditions Aggravated by Exposure: Skin exposure may aggravate preexisting skin conditions. Inhalation of mist may aggravate preexisting respiratory conditions.

Toxicological Data:

Acute oral LD₅₀ (mg/kg) >5000 (Rat)

Acute dermal LD₅₀ (mg/kg) >5000 (Rat)

Acute inhalation LC₅₀ (mg/l) >5.06 (Rat, 4-hour exposure)

Skin corrosion/irritation Considered as slightly irritating to skin (Rabbit)

Serious eye damage/irritation Considered as mildly irritating to the eye (Rabbit)

Respiratory or skin sensitization ... Not considered to be a contact dermal sensitizer (Guinea Pig)

Germ cell mutagenicity Imazethapyr shows no evidence of genotoxicity.

Carcinogenicity Imazethapyr shows no evidence of carcinogenicity.

Reproductive toxicity Imazethapyr did not demonstrate adverse treatment related effects in a 2-generation rat reproduction study.

12. Ecological Information

Ecotoxicity:

Data are for imazethapyr technical and a similar formulation as indicated, from published sources.

Aquatic Invertebrate: 48-Hour EC₅₀ (mg a.e./L) ... >1000 (*Daphnia*) (imazethapyr)
>22.4 (*Daphnia*) (similar formulation)

Fish: 96-Hour LC₅₀ (mg a.e./L) .. 420 (Rainbow Trout), 340 (Bluegill Sunfish), 240 (Channel Catfish), >112 (Sheepshead Minnow) (imazethapyr)

Algae: 96-Hour EC₅₀ (mg a.e./L) 71 (*Selenastrum*) (imazethapyr)
>22.4 (*Selenastrum*), >22.9 (*Navicula*), >23.1 (*Skeletonema*),
>4.8 (*Anabaena*) (similar formulation)

Birds: Oral LD₅₀ (mg a.e./kg) >2150 (Bobwhite Quail, Mallard Duck); 8-Day Dietary LC₅₀ >5000 (Bobwhite Quail, Mallard Duck) (imazethapyr)

Bees: LD₅₀ >100 µg/bee (48 h contact), >24.6 µg/bee (48 h oral) (imazethapyr)

Persistence and Degradability: Imazethapyr is not susceptible to biotransformation and is persistent in soil and water under aerobic and anaerobic conditions. Reported DT₅₀'s in soil range from 19 to 309 days.

Mobility in Soil: The potential for leaching is prominent in low organic and coarse textured soils. Several field dissipation studies showed no detection of imazethapyr beyond 15 cm depth.

Bioaccumulation Potential: Negligible.

13. Disposal Considerations

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.

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 regulated for transport by road/rail.

United States:

DOT Description:

Non Regulated

IMDG

Non Regulated

IATA

Non Regulated

15. Regulatory Information

Pest Control Products Act Registration Number: 30420

OPAC Schedule: 2

Read the approved label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. Following is the hazard information required on the pest control product label:

(None)

WHMIS exempt.

16. Other Information

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This Safety Data Sheet (SDS) is designed to comply with the Globally Harmonized System (GHS) of classification, and the *Hazardous Products Regulations*.

This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use. The product labeling provides that information specifically for product use as intended.

Company and published information is used in the development of this SDS. The information herein is presented in good faith and believed accurate at the date of publication. However, no warranty, expressed or implied, is given.

Revisions to the last issue: Addition of PMRA guidance info to Section 15.

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