



### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Nufarm Imazapic 2SL Herbicide  
**EPA Reg. No.:** 71368-99  
**Synonyms:** Ammonium salt of imazapic  
**Product Type:** Herbicide

**Company Name:** Nufarm Americas, Inc.  
 11901 S. Austin Avenue  
 Alsip, IL 60803  
 1-800-345-3330

**Telephone Numbers:** For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,  
 Call CHEMTREC Day or Night: 1-800-424-9300  
 For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not exactly the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

### 2. HAZARDS IDENTIFICATION

For EPA FIFRA-Specific Information see Section 15

**CLASSIFICATION:**

Acute Toxicity – inhalation (Dusts/Mists) Category 4

**SIGNAL WORD:**

WARNING

**HAZARD STATEMENTS:**

Harmful if inhaled. Avoid breathing dust/mist. Use only outdoors or in well-ventilated areas. Toxic to aquatic life with long lasting effects.



**PRECAUTIONARY STATEMENTS**

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Ammonium salt of imazapic	104098-49-9	23.3
Ammonia Solution 25%	1336-21-6	5.4
Proprietary Alkaline	Proprietary	<2
Proprietary Acid	Proprietary	<1

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

**4. FIRST AID MEASURES**

**If in Eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention advice/attention.

**If on Skin or Clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

**If Inhaled:** Move person to fresh air. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**If Swallowed:** Clean mouth with water and drink afterwards with plenty of water. Never give anything by mouth to an unconscious person. DO not induce vomiting without medical advice. Immediately call a poison center or doctor/physician.

**Most Important symptoms/effects, acute and delayed:** Causes skin irritation. Causes serious eye irritation.

**Indication of Immediate medical attention and special treatment if needed, if necessary:** Treat symptomatically.

**5. FIRE FIGHTING MEASURES**

**Extinguishing Media:** Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.

**Special Fire Fighting Procedures:** Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

**Specific Hazards Arising from the Chemical Product** is not flammable.

**Hazardous Combustion Products:** Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

**Environmental Precautions:** Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

**Methods for Containment:** Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

**Methods for Cleanup and Disposal:** Avoid creation of dusty conditions. Scrape up and place in appropriate closed container. Wash entire spill area with a detergent slurry, absorb and sweep into container for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

**Other Information:** Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

**7. HANDLING AND STORAGE**

**HANDLING:** Do not get in eyes or on clothing or skin. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**STORAGE:** Do not contaminate water, food, or feed by storage or disposal. Keep/store only in original container. Protect from excessive heat. Keep container tightly closed and store in a cool, dry and well ventilated place. Do not store below 20°F (-7°C). Do not at temperatures above 40°C/104°F. Protect container from physical damage. Protect from contamination. Store away from sources of ignition.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:**

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

**Eye/Face Protection:** To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

**Skin Protection:** To avoid contact with skin, wear long pants, long-sleeved shirt, socks and shoes. Use chemical resistant gloves, such as PVC, butyl-rubber, nitrile-rubber, or neoprene. An emergency shower or water supply should be readily accessible to the work area.

**Respiratory Protection:** Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

**General Hygiene Considerations:** Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

**Exposure Guidelines:**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Proprietary Acid	STEL: 15 ppm TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m <sup>3</sup>	IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> STEL: 15 ppm STEL: 37mg/m <sup>3</sup>

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Yellow to green liquid
<b>Odor:</b>	Faint odor
<b>Odor threshold:</b>	No data available
<b>pH:</b>	6.0 – 7.0
<b>Melting point/freezing point:</b>	No data available
<b>Initial boiling point and boiling range</b>	No data available
<b>Flash point:</b>	>100°C / >212°F
<b>Evaporation rate:</b>	No data available
<b>Flammability (solid, gas):</b>	No data available
<b>Upper/lower flammability or explosive limits:</b>	No data available
<b>Vapor pressure:</b>	No data available
<b>Vapor density:</b>	No data available
<b>Relative density:</b>	1.095 g/ml (9.138 lb/gal)
<b>Solubility(ies):</b>	No data available
<b>Partition coefficient: n-octanol/water:</b>	No data available
<b>Autoignition temperature:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Viscosity:</b>	3.751 cSt @ 20°C; 2.130 cSt @ 40°C

**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.

### 10. STABILITY AND REACTIVITY

**Reactivity:** No reactive under normal conditions.

**Chemical Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** None under normal processing. Hazardous polymerization does not occur.

**Conditions to Avoid:** Keep out of reach of children, excessive heat and fire. Avoid all possible sources of ignition and contamination.

**Incompatible Materials:** None known.

**Hazardous Decomposition Products:** Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Eye Contact</b>	Avoid eye contact
<b>Skin Contact</b>	Avoid skin contact.
<b>Inhalation</b>	Harmful if Inhaled.
<b>Ingestion</b>	Do not taste or swallow.

### Information on physical, chemical and toxicological effects

Symptoms: Please see section 4 of this SDS for symptoms.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

#### Toxicological Data:

Data from laboratory studies conducted are summarized below:

**Oral:** Rat LD<sub>50</sub>: > 5,000 mg/kg

**Dermal:** Rat LD<sub>50</sub>: >5,000 mg/kg

**Inhalation:** Rat 4-hr LC<sub>50</sub>: >2.38 mg/L

**Eye Irritation:** non-irritating

**Skin Irritation:** non-irritating

**Skin Sensitization:** Not a skin sensitizer.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Toxic to aquatic life with long lasting effects. Harmful to aquatic life. DO not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

Chemical Name	Fish	Toxicity to microorganisms	Crustacea
Proprietary Alkaline	8.2: 96 h Pimephales promelas mg/L LC50		0.66: 48 h water flea mg/L EC50 0.66: 48 h Daphnia pulex mg/L EC50

Proprietary Acid	79: 96 h Pimephales promelas mg/L LC50 static 75: 96 h Lepomis macrochirus mg/L LC50 static	EC50 = 8.8 mg/L 15 min EC50 = 8.8 mg/L 25 min EC 50 = 8.8 mg/L 5 min	47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static
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### 13. DISPOSAL CONSIDERATIONS

#### Waste Disposal Method:

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide is a violation of Federal law.

**Container Handling and Disposal: Nonrefillable Containers 5 Gallons or Less:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

**Nonrefillable containers larger than 5 gallons:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. If recycling or reconditioning is not available, puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable containers larger than 5 gallons:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

### 14. TRANSPORTATION INFORMATION

#### DOT

<119 gallons  
Not regulated

>119 gallons  
UN3082, Environmentally hazardous substances, liquid, n.o.s. (Imazapic), 9, PGIII, Marine pollutant.

**IMDG**

UN3082, Environmentally hazardous substances, liquid, n.o.s. (Imazapic), 9, PGIII, this product contains a chemical which is listed as a marine pollutant according to IMDG/IMO.

**IATA**

UN3082, Environmentally hazardous substances, liquid, n.o.s. (Imazapic), 9, PGIII, Marine pollutant.

**15. REGULATORY INFORMATION****EPA FIFRA INFORMATION**

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with skin, eyes, or clothing.

**U.S. FEDERAL REGULATIONS**

**TSCA Inventory:** This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

**Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):**

Immediate

**Section 313 Toxic Chemical(s):**

None

**Reportable Quantity (RQ) under U.S. CERCLA:**

None

**RCRA Waste Code:**

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

**State Information:**

Other state regulations may apply. Check individual state requirements.

**California Proposition 65:** Not Listed.

**16. OTHER INFORMATION**

**National Fire Protection Association (NFPA) Hazard Rating:**

**Rating for this product: Health: 2 Flammability: 1 Reactivity: 0**

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). 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, while the labeling provides that information specifically for product use in the ordinary course.

## **SAFETY DATA SHEET**

**Nufarm Imazapic 2SL Herbicide**

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

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