

**1. IDENTIFICATION**

Product name: **Imidacloprid 4F**  
 Chemical name of active ingredient(s): Imidacloprid (40.7%): 1-[(6-chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine  
 Manufacturer: Makhteshim Agan of North America, Inc.  
 4515 Falls of Neuse Road, Suite 300  
 Raleigh, NC 27609  
 Phone: 919-256-9300  
 For fire, spill, and/or leak emergencies, contact Infotrac: Phone: 1-800-535-5053  
 For medical emergencies and health and safety inquiries, contact Prosar: Phone: 1-877-250-9291

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

COMMON NAME	CAS NO.	%	OSHA PEL	ACIGH TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
Imidacloprid	138261-41-3	40.7	NE	NE	-	NA

Trade Secret Ingredient(s)

NE=not established

NA=not available

\*Specific chemical identity is withheld as a trade secret.

**3. HAZARDS IDENTIFICATIONS**

**PHYSICAL PROPERTIES**

Appearance: Brown liquid

**EMERGENCY OVERVIEW:** Caution! Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin, eyes and clothing. Highly toxic to bees. Highly toxic to aquatic invertebrates.

**ROUTES OF ENTRY:** Ingestion, Inhalation, Eye contact, Skin Absorption.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Hydrogen chloride (HCl), oxides of nitrogen (NO<sub>x</sub>)

**MEDICAL CONDITIONS LIKELY TO BE AGGRAVATED BY EXPOSURE**

None known.

**4. FIRST AID MEASURES**

**FIRST AID**

- 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.
- IF ON SKIN OR CLOTHING:**
  - Call a poison control center or doctor for treatment advice.
  - Take off contaminated clothing and shoes immediately.
  - Wash off immediately with plenty of water for 15-20 minutes.
  - Call a poison control center or doctor for treatment advice immediately.
- IF SWALLOWED:**
  - Call a poison control center or doctor immediately for treatment advice.
  - Rinse out mouth and give water in small sips to drink.
  - DO not induce vomiting unless told to do so by a poison control center or doctor.
  - Do not give anything by mouth to an unconscious person.
  - Do not leave victim unattended.
- IF INHALED:**
  - Move person to fresh air.
  - If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth –to-mouth if possible.
  - Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

You may also contact 1-877-250-9291 for emergency medical treatment information.

Note to physician: No specific antidote available. Treat the patient symptomatically.

## 5. FIRE FIGHTING MEASURES

**FLASH POINT:** > 93.4°C (200°F)

### FLAMMABLE LIMITS

LFL: Not established

UFL: Not established

**EXTINGUISHING MEDIA:** Water, CO<sub>2</sub>, dry chemical or foam.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Hydrogen chloride (HCl) and nitrogen oxides (NO<sub>x</sub>).

### FIRE-FIGHTING PROCEDURES

Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

## 6. ACCIDENTAL RELEASE MEASURES

### ACTION TO TAKE FOR SPILLS/LEAKS:

#### Personal Precautions

Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces. Isolate hazard area.

#### Methods for Cleaning Up

Take up with absorbent material (e.g. sand, diatomaceous earth or a proprietary absorbent material). Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

#### Additional Advice

Use personal protective equipment. Do not allow product to enter streams, sewers or other waterways. Do not allow product to contact vegetation.

## 7. HANDLING AND STORAGE

### Handling Procedures

Handle and open container in a manner as to prevent spillage.

### Storing Procedures

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

### Work/Hygienic Procedures

Take off contaminated clothing and shoes immediately. Then wash thoroughly and put on clean clothing.

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. As soon as practical, wash thoroughly and change into clean clothing.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

**FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.**

**EYE PROTECTION:** Safety glasses.

**SKIN PROTECTION:** Long sleeves, trousers and apron to prevent exposure.

**HAND PROTECTION:** Chemical-resistant gloves such as latex or nitrile are recommended as good practice.

**RESPIRATOR REQUIREMENTS:** When needed, based on the conditions of use, wear a NIOSH-approved particulate respirator.

**ADDITIONAL PROTECTIVE MEASURES:** Minimize exposure. Wear appropriate PPE to prevent the probability of exposure and personal contact. Wash with soap and rinse thoroughly after handling material and before eating, drinking, smoking or using restroom facilities. Shower after each shift. Deluge safety shower and eyewash should be located in work area.

**USER SAFETY RECOMMENDATIONS:**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product.
- Wash the outside of gloves before removing.
- As soon as possible, wash thoroughly and change into clean clothing.

**EXPOSURE GUIDELINES:** Refer to Section 2.

**ENGINEERING CONTROLS:** Refer to product label.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** Brown liquid suspension

**FLASH POINT:** >93.4°C (200.1° F)

**FREEZING POINT:** -8.9° C (16.0°F)

**VISCOSITY:** 700-1,400 mPa.s

**SPECIFIC GRAVITY:** 1.19 g/cm<sup>3</sup> @ 20°C

**10. STABILITY AND REACTIVITY**

**STABILITY:** Stable under normal use and storage conditions.

**MATERIALS TO AVOID:** None known.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**INSTABILITY CONDITIONS:** None known.

**11. TOXICOLOGICAL INFORMATION**

**ACUTE TOXICITY/IRRITATION STUDIES (FINISHED PRODUCT)**

Acute Oral LD50 (Rat): 4,690 mg/kg (male rat); 4,070 mg/kg (female rat)

Acute Dermal LD50 (Rabbit): > 5,050 mg/kg

Acute Inhalation LC50 (Rat): 2.1 mg/L (4-hours male/female)

Eye Irritation (Rabbit): Minimal irritation

Dermal Irritation (Rabbit): Non-irritating

Dermal Sensitization (Guinea Pig): Not a sensitizer

**Chronic Toxicity**

In chronic dietary studies in rats and dogs exposed to imidacloprid, the target organs were the thyroids and/or liver.

**Reproductive & Developmental Toxicity**

**REPRODUCTION:** In a two-generation reproduction study in rats, imidacloprid was not a primary reproductive toxicant. Offspring exhibited reduced body weights at the high dose and in conjunction with maternal toxicity.

**DEVELOPMENTAL TOXICITY:** In developmental toxicity studies in rats and

rabbits, there was no evidence of an embryotoxic or teratogenic potential for imidacloprid. In both species, developmental effects were observed only at high doses and in conjunction with maternal toxicity.

**Neurotoxicity** Neurotoxicity studies in rats showed slight behavioral and activity changes only at the highest dose tested. There were no correlating morphological changes observed in the neural tissues.

**Mutagenicity** The imidacloprid mutagenicity studies, taken collectively, demonstrate that the active ingredient is not genotoxic or mutagenic.

**12. ECOLOGICAL INFORMATION**

**ENVIRONMENTAL HAZARDS:**

Highly toxic to aquatic invertebrates. Toxic to wildlife. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

Highly toxic to bees. Toxic to bees exposed to direct treatment. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

**13. DISPOSAL CONSIDERATIONS**

**END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.**

**PRODUCT DISPOSAL:** Pesticide, spray mixture of rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Do not re-use empty containers. Triple rinse (or equivalent). Offer container for recycling or reconditioning, or puncture containers to avoid re-use. Dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

**14. TRANSPORT INFORMATION**

**DOT CLASSIFICATION:**

Not regulated

**B/L Freight Classification:** Item: 102120 [Insecticides, Fungicides, Insect or Animal Repellants]  
Class 60

**INTERNATIONAL TRANSPORTATION**

**IMO (vessel):** Not regulated

**IATA (air):** Not regulated

**15. REGULATORY INFORMATION**

**SARA TITLE III CLASSIFICATION:**

Section 302: Not applicable.  
Section 311/312: Acute health hazard (immediate)  
Section 313: Not applicable.

**CA PROPOSITION 65:** Not applicable

**CERCLA RQ:** Not applicable

**RCRA CLASSIFICATION:** If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, 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.

**TSCA STATUS:** Not applicable

**16. OTHER INFORMATION**

MATERIAL SAFETY DATA SHEET

**Imidacloprid 4F**

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**NFPA HAZARD RATINGS**

**HEALTH:**  
**FLAMMABILITY:**  
**REACTIVITY:**

**NFPA**

2  
1  
0

0 MINIMAL  
1 SLIGHT  
2 MODERATE  
3 HIGH  
4 SEVERE

**MSDS DATE:** 9-28-06; Supersedes MSDS dated: 11-10-05; Changes made to Sections 2 to 13.

The information herein is given in good faith, but no warrant, express or implied, is made. Consult Makhteshim Agan of North America, Inc. for further information.