



## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Mantra® 1G Greenhouse and Nursery Insecticide  
**EPA Reg. No.:** 228-523  
**Product Type:** Insecticide  
**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 Certain sections are superseded by federal law governed by EPA for a registered pesticide.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

### PHYSICAL HAZARDS:

None known.

### HEALTH HAZARDS:

Acute toxicity, inhalation	Category 4
Specific target organ toxicity – Repeated Exposure	Category 2
Eye irritation	Category 2B

### ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute	Category 3
Hazardous to aquatic environment, chronic	Category 1

### SIGNAL WORD:

WARNING

### HAZARD STATEMENTS:

Harmful if inhaled. May cause damage to heart, thyroid, liver, blood chemistry through prolonged or repeated exposure. Causes eye irritation. Very toxic to aquatic life with long lasting effects.



### PRECAUTIONARY STATEMENTS

Do not breathe dust. Use only outdoors or in well-ventilated area. Wash hands and exposed skin thoroughly after handling.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center if you feel unwell, see product label and Section 4 for emergency medical advice/attention.

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 advice/attention.

Get medical advice/attention if you feel unwell.

Avoid unintended release to the environment. Collect spillage.

Dispose of contents/container in accordance with State and Federal Regulations. See product label for disposal instructions.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

COMPONENTS	CAS NO.	% BY WEIGHT
Imidacloprid	138261-41-3	0.95 – 1.10
N-methyl pyrrolidone	872-50-4	3.8 – 4.2
Proprietary carrier (bentonite clay granule)	1302-78-9	90.3 – 97.9

**Synonyms:** 1-[(6-chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine

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

**4. FIRST AID MEASURES**

**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 in Eyes:** Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**Most important symptoms/effects, acute and delayed:** Eye or skin exposure may cause slight irritation.

**Indication of immediate medical attention and special treatment if needed, if necessary:** None expected.

**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.

**Unusual Fire and Explosion Hazards:** If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

**Hazardous Decomposition Materials (Under Fire Conditions):** May produce gases such as oxides of carbon and nitrogen.

**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:**

Causes moderate eye irritation. Avoid contact with eyes or clothing. 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 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:**

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

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

# SAFETY DATA SHEET

# Mantra® 1G Greenhouse and Nursery Insecticide

## 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:** Not normally required. 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. 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:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Imidacloprid	NE	NE	NE	NE	
N-methyl pyrrolidone*	NE	NE	NE	NE	
Proprietary carrier (Bentonite clay granule)	NE	NE	1	NE	mg/m <sup>3</sup>

NE = Not Established

\*California OSHA PEL: 1 ppm. ACGIH BEI: 100 mg/l at end of shift. AIHA WEEL 10 ppm

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Brown granular
<b>Odor:</b>	Mild odor
<b>Odor threshold:</b>	No data available
<b>pH:</b>	5 - 6
<b>Melting point/freezing point:</b>	Not determined
<b>Initial boiling point and boiling range</b>	Not determined
<b>Flash point:</b>	Not determined
<b>Evaporation rate:</b>	Not determined
<b>Flammability (solid, gas):</b>	No data available
<b>Upper/lower flammability or explosive limits:</b>	Not determined
<b>Vapor pressure:</b>	Not determined
<b>Vapor density:</b>	Not determined
<b>Relative density:</b>	0.60 g / cc (pour) 0.67 g / cc (tap)
<b>Solubility(ies):</b>	Insoluble
<b>Partition coefficient: n-octanol/water:</b>	Not determined
<b>Autoignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Viscosity:</b>	Not applicable, solid

**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:** Stable under normal conditions.

**Chemical Stability:** This material is stable under normal handling and storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Excessive heat. For imidacloprid, strong exothermic reaction above 200° C..

**Incompatible Materials:** Not known.

**Hazardous Decomposition Products:** Under fire conditions, may produce gases such as hydrogen chloride, hydrogen cyanide, and oxides of carbon and nitrogen.

### 11. TOXICOLOGICAL INFORMATION

**Likely Routes of Exposure:** Eye contact, Skin contact

**Symptoms of Exposure:**

**Eye Contact:** Mildly irritating based on toxicity studies. Dusts may cause irritation.

**Skin Contact:** Slightly toxic and minimally irritating based on toxicity studies.

**Ingestion:** Slightly toxic if ingested based on toxicity studies.

**Inhalation:** Low inhalation toxicity.

**Delayed, immediate and chronic effects of exposure:** None known

**Toxicological Data:**

Data from laboratory studies conducted are summarized below:

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

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

**Inhalation:** Rat 4-hr LC<sub>50</sub>: >2.06 mg/L

**Eye Irritation:** Rabbit: Mildly irritating

**Skin Irritation:** Rabbit: Slightly irritating

**Skin Sensitization:** Not a contact sensitizer in guinea pigs following repeated skin exposure.

**Subchronic (Target Organ) Effects:** Repeated overexposure to imidacloprid, may effect heart, thyroid, blood chemistry, and liver. Ingestion of large amounts of propylene glycol has resulted in symptoms of reversible central nervous system depression including stupor, rapid breathing and heartbeat, profuse sweating and seizures. Methyl 2-pyrrolidinone (NMP) may cause effects to eyes, skin, respiratory system, central nervous system, liver and kidneys.

**Carcinogenicity / Chronic Health Effects:** Prolonged overexposure to imidacloprid can cause effects to the thyroid. Repeated overexposure to propylene glycol can produce central nervous system depression, hemolysis and minimal kidney damage. Imidacloprid did not cause cancer in laboratory animal studies. The U.S. EPA has given imidacloprid a Group E classification (evidence of non-carcinogenicity in humans).

**Reproductive Toxicity:** In a two-generation reproduction study in rats, imidacloprid produced reduced mean body weights and body weight gains. No other reproductive effects were observed.

**Developmental Toxicity:** Rat and rabbit studies on imidacloprid resulted in skeletal abnormalities, increased resorptions (rabbits) and reduced body weight gains at doses that were also toxic to mother animals.

**Genotoxicity:** The imidacloprid mutagenicity studies, taken collectively, demonstrate that imidacloprid is not genotoxic or mutagenic.

**Assessment Carcinogenicity:** None listed with ACGIH, IARC, NTP or OSHA.

### 12. ECOLOGICAL INFORMATION

**Ecotoxicity:**

Data on Imidacloprid Technical:

96-hour LC <sub>50</sub> Rainbow Trout:	211 mg/l	Japanese Quail Oral LD <sub>50</sub> :	31 mg/kg
48-hour EC <sub>50</sub> Daphnia:	85 mg/l	Bobwhite Quail Oral LD <sub>50</sub> :	152 mg/kg
96-hour LC <sub>50</sub> Mysid:	0.038 ppm	House Sparrow Oral LD <sub>50</sub> :	41 mg/kg
48-hour Honey Bee Contact LD <sub>50</sub> :	0.078 µg/bee	48-hour Honey Bee Oral LD <sub>50</sub> :	0.0039 µg/bee

**Environmental Fate:**

Hydrolysis half-life of imidacloprid is greater than 30 days at pH 7 and 25°C. The aqueous photolysis half-life is less than 3 hours. The soil surface photolysis of imidacloprid has a half-life of 39 days, and in soil, the half-life ranged from 26 to 229 days.

### 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 container. DO NOT reuse or refill this container. Completely empty container into application equipment. Then offer for recycling if available or place empty container in the trash.

**14. TRANSPORTATION INFORMATION**

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

**DOT**

Not regulated by DOT unless shipped by water. See IMO / IMDG description.

**IMO / IMDG**

UN3077, Environmentally hazardous substance, solid, n.o.s.,  
(Imidacloprid), 9, III, Marine Pollutant

**IATA**

UN3077, Environmentally hazardous substance, solid, n.o.s.,  
(Imidacloprid), 9, III, 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 contact with eyes or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco.

**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):**

N-Methyl-2-pyrrolidone (CAS No. 872-50-4) 3.8 – 4.2% by wt. in product.

**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:**  **ATTENTION.** This product can expose you to chemicals including n-methylpyrrolidone which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**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**

## **Mantra® 1G Greenhouse and Nursery Insecticide**

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.

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