



**Safety Data Sheet for use in USA Date: October 1, 2013**

## 1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

<b>Trade name:</b>	Dominus™ (also IRF135)
<b>Product type and Use:</b>	Agricultural and general soil treatment use as biofumigant (biopesticide)
<b>Company:</b>	Isagro USA- 430 Davis Dr., Suite 240, Morrisville NC 27560 Subsidiary of: Isagro S.p.A. – Via Caldera, 21 – 20153 Milano, Italy
<b>Emergency Telephone Numbers:</b>	Isagro USA (919) 321-5200 / CHEMTREC (800) 424-9300

## 2. HAZARDS IDENTIFICATION

OSHA Hazard Communication Standard Classification (29 CFR 1910.1200)

**Signal Word:** Danger

**Pictograms:**



### Hazard Statements and Categories:

**Acute Oral Toxicity:** Harmful if swallowed – Wash hand thoroughly after handling. Do not eat, drink or smoke when using this product. If swallowed: call a poison center if you feel unwell. Rinse mouth.

**Acute Dermal Toxicity:** Toxic in contact with skin – Wear protective gloves and clothing. If on skin: wash with plenty of water. Call a poison center or doctor if you feel unwell. Take off immediately all contaminated clothing and wash if before reuse. Store locked up.

**Acute Inhalation Toxicity:** Irritating to respiratory system – Do not breathe mist, vapor or spray. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. If inhaled: remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor. Take off immediately all contaminated clothing and wash it before reuse. Store in a well-ventilated place. Keep container tightly closed. Stored locked up.

**Skin Irritation:** Causes severe skin burns and eye damage – Do not breathe mists. Wash hands thoroughly after handling. Wear protective gloves and clothing, eye and face protection. If swallowed: rinse mouth. Do not induce vomiting. If on skin: take off immediately all contaminated clothing. Rinse skin with water or shower. If inhaled: remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Eye irritation:** Causes serious eye damage – Wear eye and face protection. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.

**Flammable liquid** – Keep away from open flames. No smoking. Keep container tightly closed. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves, eye and face protection. If on skin: take off immediately all contaminated clothing. Rinse skin with water or shower.

### 3. COMPOSITION/INFORMATION ON ACTIVE INGREDIENTS

96.5% allyl isothiocyanate (AITC) CAS: 57-06-7

---

### 4. FIRST AID MEASURES

**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, and then continue rinsing. Call a poison control center or physician for treatment advice.

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

**If Swallowed:** Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything to an unconscious person. Call a poison control center or physician 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 center or doctor for further treatment advice.

**Note to Physician:** Probably mucosal damage may contraindicate the use of gastric lavage.

---

### 5. FIRE-FIGHTING MEASURES

**Flash Point:** 47°C

**Extinguishing Media:** Small fire - CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam. Large fire – Water spray, fog or alcohol-resistant foam.

**Unusual Fire & Explosion Hazards:** Do not inhale explosion and combustion gases which, at high temperatures, may contain toxic substances such as CO<sub>x</sub>, NO<sub>x</sub>, SO<sub>x</sub>. Burning produces heavy smoke.

**Fire-Fighting Procedures:** Use appropriate extinguishing media for combustibles in the area. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

**Hazardous Decomposition Products:** May release irritating and toxic gases due to thermal decomposition.

---

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Wear personal protection equipment. Wear breathing apparatus if exposed to vapors/dusts/aerosols. Provide adequate ventilation. Use appropriate respiratory protection.

**Environmental Precautions:** Follow good practice (allowed dose/use) in order to prevent environmental pollution. Retain contaminated washing water and dispose it. Suitable material for taking up: absorbing material, organic, sand

**Methods and materials for containment and cleaning up:** Wash with plenty of water.

---

### 7. HANDLING AND STORAGE

Do not contaminate water, food, or feed by storage or disposal.

**Handling Precautions:** Avoid contact with skin and eyes, inhalation of vapors and mists. Use localized ventilation system. Don't use empty container before they have been cleaned. Before making transfer operations, assure that there aren't any incompatible material residuals in the containers. Contaminated clothing should be changed before entering eating areas. Do not eat or drink while working. See also section 8 for recommended protective equipment.

**Storage Precautions:** Keep away from food, drink and feed. Incompatible materials: None in particular. Instructions as regards storage premises: Adequately ventilated premises.

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Refer to product label. Provide local exhaust or process enclosure ventilation system.

**Eye/Face Protection:** To protect against accidental eye contact, goggles/face-shield should be worn.

**Skin Protection:** Long-sleeved shirt and long pants. Chemical-resistant gloves, such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber. Shoes plus socks.

**Respiratory Protection:** When needed, based on the conditions of use, wear a MSHA/NIOSH approved air purifying respirator with an organic-vapor removing cartridge with any N, R, P or HE pre-filter.

**Additional Protective Measures:** Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard any clothing and or PPE that have been drenched or heavily contaminated with this product's concentrate. Do not reuse clothing or PPE that has been drenched or heavily contaminated.

### User Safety Recommendations:

- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should 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 Limit:

Allyl isothiocyanate (AITC) CAS: 57-06-7: 1 ppm (STEL) (WEEL)\*

\* US, Workplace Environmental Exposure Levels

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance and Color:** Colorless or pale yellow liquid

**Odor:** Very pungent, irritating aroma

**pH:** 4 - 5 (aqueous suspension 1%)

**Flash Point:** 47°C

**Boiling Point:** 150-151°C

**Density:** 1.103 – 1.020

**Partition Coefficient:** LogP -2.11

**Water Solubility:** Slightly soluble in water

**Vapor Pressure:** 1.33 kPa@38.3°C

---

## 10. STABILITY AND REACTIVITY

**Stability:** Stable under normal handling and storage conditions.

**Incompatibilities:** Strong acids, strong bases and oxidation agents

**Hazardous Decomposition:** It may generate flammable gases on contact with elementary metals (alkalis and alkaline earth, alloys in powder or vapours) and powerful reducing agents. It may generate toxic gases on contact with oxidizing mineral acids, and powerful oxidizing agents. It may catch fire on contact with oxidizing mineral acids, and powerful oxidizing agents.

**Hazardous Polymerization:** Will not occur.

---

## 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity/Irritation Studies:** (Based on the active ingredient of IRF 135)

Acute Oral Toxicity LD50: 425.4 mg/kg

Acute Dermal Toxicity LD50 : > 200 mg/kg and < 2000 mg/kg

Acute Inhalation Toxicity LC50 (4h) : >0.21 mg/L and <0.508 mg/L

Eye Irritation: Corrosive

Skin Irritation: Corrosive

Dermal Sensitization: A positive skin sensitizer

**Other Toxicological Information:** (Based on the active ingredient of IRF 135)

Chronic Toxicity: No data available

Carcinogenic Effects: No carcinogenic effect

Reproductive Toxicity: No data available

Teratogenic Effect: No teratogenic effect

Mutagenic Effects: Negative in vivo

---

## 12. ECOLOGICAL INFORMATION

**Environmental Hazards:** For terrestrial uses only. 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 wash water or rinsate.

**Ecotoxicological Information:** (Based on the active ingredient allyl isothiocyanate)

Fathead Minnow LC50 (96h): 85.6µg/L

---

## 13. DISPOSAL CONSIDERATIONS

Recover if possible. Send non-recoverable product, absorbent material, and rinsate solids to authorized disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

---

## 14. TRANSPORT INFORMATION

### US DOT Classification

<b>UN No.:</b>	1545
<b>Proper Shipping Name:</b>	Allyl isothiocyanate, stabilized
<b>Class:</b>	6.1 (3)
<b>Packaging Group:</b>	II
<b>Marine Pollutant:</b>	No

### IMO Classification

<b>UN No.:</b>	1545
<b>Proper Shipping Name:</b>	Allyl isothiocyanate, stabilized
<b>Class:</b>	6.1 (3)
<b>Packaging Group:</b>	II
<b>Marine Pollutant:</b>	Yes

**IATA Classification**

**UN No.:** 1545  
**Proper Shipping Name:** Allyl isothiocyanate, stabilized  
**Class:** 6.1 (3)  
**Packaging Group:** II

---

**15. REGULATORY INFORMATION****FIFRA Information:**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

**DANGER Corrosive** Causes irreversible eye damage and skin burns. May be fatal if swallowed, absorbed through skin, or inhaled. Do not get in eyes, on skin or on clothing. Do not breathe vapor. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before use.

**US Federal Regulations:****SARA Title III Classification:**

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

**CA PROPOSITION 65:** Not applicable

**CERCLA RQ:** Not applicable

**RCRA CLASSIFICATION:** 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:** The ingredients of this product are listed on the TSCA inventory or are exempt.

**USEPA Registration Number:** 89285-2

---

**16. OTHER INFORMATION**

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended. This SDS cancels and replaces any preceding released for use in the US.