



## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** SorPro  
**Product Type:** Seed Safener  
**Company Name:** Nufarm Limited  
 4020 Aerial Center Parkway, Suite 101  
 Morrisville, NC 27560  
 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

## 2. HAZARDS IDENTIFICATION

### PHYSICAL HAZARDS:

Not Hazardous

### HEALTH HAZARDS:

Acute toxicity, oral	Category 4
Acute toxicity, inhalation	Category 4
Skin Corrosion/Irritation	Category 2

### ENVIRONMENTAL HAZARDS:

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

### SIGNAL WORD:

WARNING

### HAZARD STATEMENTS:

Harmful if swallowed. Harmful if inhaled. Causes skin irritation. Very toxic to aquatic life with long lasting effects.



### PRECAUTIONARY STATEMENTS

Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing vapors or spray. Use only outdoors or in a well-ventilated area. Wear protective gloves. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves. Avoid release to the environment.

IF SWALLOWED: call a POISON CENTER or doctor if you feel unwell. Rinse mouth.

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

IF ON SKIN: Was with plenty of soap and water. If skin irritation occurs: Get medical advice. Take off contaminated clothing and wash it before reuse.

Collect spillage.

Dispose of contents in accordance with local, state, and federal regulations.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

COMPONENT	CAS NO.	% BY WEIGHT
Fluxofenim	88485-37-4	73 – 75
Other ingredients	Trade Secret	Trade Secret

**Synonyms:** Mixture containing fluxofenim (1-(4-chlorophenyl)-2,2,2-trifluoro-O-(1,3-dioxolan-2-ylmethyl)oxime)  
Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

**4. FIRST AID MEASURES**

**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.

**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 Swallowed:** Call a poison control center 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**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.

**Most important symptoms/effects:** May be harmful if swallowed. Skin exposure may cause moderate irritation.

**Indication of immediate medical attention and special treatment needed:** Immediate medical attention should not be required. For ingestion there is no specific antidote available. Treat symptomatically.

**5. FIRE FIGHTING MEASURES**

**Extinguishing Media:** Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

**Special Fire Fighting Procedures:** Firefighters should wear NIOSH 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 hydrogen chloride and oxides of carbon.

**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. If dry, sweep or scoop up material and place into container for disposal. If wet, pump any free liquid into an appropriate closed container. 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, on skin or on clothing. May be fatal if absorbed through 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

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SorPro

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:

Keep container tightly sealed when not in use. This product can be stored in an unheated building. Do not contaminate water, food or feed by storage or disposal.

## 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.

### Personal Protective Equipment:

**Eye/Face Protection:** To avoid contact with eyes, wear goggles or 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, shoes and chemical-resistant gloves. 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	
Fluxofenim	NE	NE	NE	NE	
Other ingredients	NE	NE	NE	NE	

NE = Not Established

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Transparent orange liquid
<b>Odor:</b>	Weak odor
<b>Odor threshold:</b>	No data available
<b>pH:</b>	7.0 – 7.2 (1% w/w dispersion in DIW)
<b>Melting point/freezing point:</b>	No data available
<b>Initial boiling point and boiling range</b>	No data available
<b>Flash point:</b>	>212° F (>100° C)
<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>	1.291 g/mL @ 20° C
<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>	No data available

**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:** This product is not normally reactive.

**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. Do not store near heat or flame.

**Incompatible Materials:** Strong oxidizing agents: bases and acids.

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

## 11. TOXICOLOGICAL INFORMATION

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

**Symptoms of Exposure:**

**Eye Contact:** Non-irritating to the eye

**Skin Contact:** Moderately irritating to the skin

**Ingestion:** Harmful if swallowed.

**Inhalation:** Harmful if inhaled.

**Delayed, immediate and chronic effects of exposure:** None reported.

**Toxicological Data:**

**Oral:** Rat LD<sub>50</sub>: 943 mg/kg

**Dermal:** Rat LD<sub>50</sub>: >2,020 mg/kg

**Inhalation:** Rat 4-hr LC<sub>50</sub>: 0.419 mg/L

**Eye Irritation:** Rabbit: Non-irritating

**Skin Irritation:** Rabbit: Moderately irritating

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

**Chronic/Subchronic (Target Organ) Effects:** Can cause kidney and liver effects in rodents. In dogs, thyroid effects observed at high doses tested.

**Reproductive/Developmental Toxicity:** None observed.

**Teratogenicity:** Not teratogenic

**Carcinogenicity / Chronic Health Effects:** No data available.

**Mutagenic Potential Effects:** Fluxofenim tested in vitro bacterial cells and in vivo animal systems was negative.

**ASSESSMENT CARCINOGENICITY:**

This product contains substances that are considered to be probable or suspected human carcinogens as follows:

Component	Regulatory Agency Listing As Carcinogen			
	ACGIH	IARC	NTP	OSHA
Fluxofenim	No	No	No	No
Other Ingredients	No	No	No	No

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:**

Data on Fluxofenim:

Invertebrates (Water Flea) LC<sub>50</sub> / EC<sub>50</sub> : 0.22 ppm

Fish (Trout) LC<sub>50</sub> / EC<sub>50</sub> : 0.86 ppm

Fish (Bluegill) LC<sub>50</sub> / EC<sub>50</sub> : 2.5 ppm

Birds (8-day dietary – Bobwhite Quail) LC<sub>50</sub> / EC<sub>50</sub> : > 5,620 ppm

Birds (8-day dietary – Mallard Duck) LC<sub>50</sub> / EC<sub>50</sub> : > 5,620 ppm

**Environmental Fate:**

No data available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method:**

Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, clean up all spilled material. Place in closed labeled container. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate ground water. If these wastes cannot be disposed of by use according to label instructions contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**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.

<b>14. TRANSPORTATION INFORMATION</b>
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**DOT****Ground Transport:**

**<119 gals per completed package:**

Not Regulated

**≥ 119 gals per completed package:**

UN 3082, Environmentally hazardous substances, liquid, n.o.s. (Fluxofenim), 9, III, Marine Pollutant

**IMDG**

UN 3082, Environmentally hazardous substances, liquid, n.o.s. (Fluxofenim), 9, III, Marine Pollutant

**IATA**

UN 3082, Environmentally hazardous substances, liquid, n.o.s. (Fluxofenim), 9, III

<b>15. REGULATORY INFORMATION</b>
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**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):**

Acute Health

**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.

<b>16. OTHER INFORMATION</b>
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**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.

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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