

## FLEXSTAR®

Date: 6/18/2015  
Replaces: 3/2/2015

**1. PRODUCT IDENTIFICATION**

Product identifier on label: **FLEXSTAR®**  
Product No.: A12967D  
Use: Herbicide  
Manufacturer: Syngenta Crop Protection, LLC  
Post Office Box 18300  
Greensboro NC 27419  
Manufacturer Phone: 1-800-334-9481

**Emergency Phone: 1-800-888-8372**

**2. HAZARDS IDENTIFICATION**

Classifications: Skin Sensitizer: Category 1B  
Signal Word (OSHA): Warning  
Hazard Statements: May cause an allergic skin reaction

Hazard Symbols:



Precautionary Statements: Avoid breathing mist, vapors, spray.  
Contaminated work clothing must not be allowed out of the workplace.  
Wear protective gloves, protective clothing, eye protection.  
If on skin: Wash with plenty of soap and water.  
If skin irritation or rash occurs: Get medical advice.  
See Section 4 First Aid Measures.  
Wash contaminated clothing before reuse.  
Dispose of contents and container in accordance with local regulations.

Other Hazard Statements: None

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	Common Name	CAS Number	Concentration
Other ingredients	Other ingredients	Trade Secret	77.9%
5-[2-chloro-4-(trifluoromethyl)phenoxy]-N-(methylsulfonyl)-2-nitrobenzamide, sodium salt	Fomesafen Sodium Salt	108731-70-0	22.1%

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

### 4. FIRST AID MEASURES

Have the product container, label or Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

- Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
- Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Inhalation: 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 Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Most important symptoms/effects:

Allergic skin reaction

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.

Treat symptomatically.

Persons suffering a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

### 5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific Hazards:

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Special protective equipment and precautions for firefighters:

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.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

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**7. HANDLING AND STORAGE**

Precautions for safe handling:

Store above 32°F in original containers only. If product freezes, return to room temperature and agitate to reconstitute.

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Conditions for safe storage, including any incompatibilities:

Not Applicable

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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

Occupational Exposure Limits:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Fomesafen Sodium Salt	Not Established	Not Established	2 mg/m <sup>3</sup> TWA (based on Fomesafen Technical)	Syngenta

Appropriate engineering controls:

Use effective engineering controls to comply with occupational exposure limits (if applicable).

Individual protection measures:

Ingestion:

Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact:

Where eye contact is likely, use chemical splash goggles.

Skin Contact:

Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.

Inhalation:

A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH certified respirator with any N, R, P or HE filter.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance: Light yellow transparent liquid

Odor: Mild; paint-like

Odor Threshold: Not Available

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pH: 7.00 (1% solution in deionized H<sub>2</sub>O @ 77°F [25°C])  
Melting point/freezing point: Not Applicable  
Initial boiling point and boiling range: Not Available  
Flash Point (Test Method): > 216°F (Pensky-Martens CC)  
Flammable Limits (% in Air): Not Available  
Flammability: Not Applicable  
Vapor Pressure: Fomesafen Sodium Salt Not Available  
Vapor Density: Not Available  
Relative Density: 1.088 g/cm<sup>3</sup>  
Solubility (ies): Fomesafen Sodium Salt Not Applicable  
Partition coefficient: n-octanol/water: Not Available  
Autoignition Temperature: 743°F  
Decomposition Temperature: Not Available  
Viscosity: Not Available  
Other: None

### 10. STABILITY AND REACTIVITY

Reactivity: Not reactive.  
Chemical stability: Stable under normal use and storage conditions.  
Possibility of hazardous reactions: Will not occur.  
Conditions to Avoid: None known.  
Incompatible materials: None known.  
Hazardous Decomposition Products: None known.

### 11. TOXICOLOGICAL INFORMATION

#### Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Rash, redness or itching

Delayed, immediate and chronic effects of exposure: Allergic skin reaction

#### Numerical measures of toxicity (acute toxicity/irritation studies (finished product))

Ingestion:	Oral (LD <sub>50</sub> Rat) :	> 3863 mg/kg (based on results from similar product[s])
Dermal:	Dermal (LD <sub>50</sub> Rat) :	> 2000 mg/kg (based on results from similar product[s])
Inhalation:	Inhalation (LC <sub>50</sub> Rat) :	> 2.1 mg/l air - 4 hours (based on results from similar product[s])

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Eye Contact: Mildly Irritating (Rabbit)  
Skin Contact: Slightly Irritating (Rabbit)  
Skin Sensitization: A moderate skin sensitizer in animal tests. (based on results from similar product[s])

Reproductive/Developmental Effects

Fomesafen Sodium Salt: Non-genotoxic in in vitro and in vivo assays.  
Hepatic changes and a small effect on reproductive performance seen in a 3-generation rat study at the 1000 ppm dose level. (based on Fomesafen Technical).

Chronic/Subchronic Toxicity Studies

Fomesafen Sodium Salt: Liver effects seen at 10 ppm and 100 ppm in 90-day rat feeding studies and in 6-month dog studies at 25 mg/kg/d. (based on Fomesafen Technical).  
No evidence of neurotoxicity from subacute or longer-term studies in mammals. (based on Fomesafen Technical)

Carcinogenicity

Fomesafen Sodium Salt: Increased rates of malignant liver tumors in a 2-yr mouse feeding study (1000 ppm), but the results are not considered relevant to man. (based on Fomesafen Technical).

Chemical Name	NTP/IARC/OSHA Carcinogen
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Other ingredients	No
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5-[2-chloro-4-(trifluoromethyl)phenoxy]-N-(methylsulfonyl)-2-nitrobenzamide, sodium salt	No
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Other Toxicity Information

None

Toxicity of Other Components

Other ingredients  
Not Applicable

Target OrgansActive Ingredients

Fomesafen Sodium Salt: Liver (based on Fomesafen Technical)

Inert Ingredients

Other ingredients: Not Applicable

**12. ECOLOGICAL INFORMATION**Eco-Acute ToxicityFomesafen Sodium Salt:

Fish (Rainbow Trout) 96-hour LC50 680 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 294 ppm

Bird (Mallard Duck) 14-day LD50 > 5000 mg/kg

The above ecotoxicity data are based on Fomesafen Technical, not Fomesafen Sodium Salt

Environmental Fate

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### Fomesafen Sodium Salt:

The information presented here is for the active ingredient, fomesafen.  
Persistent in soil. Stable in water. Highly mobile in soil. Will leach. Sinks in water (after 24 h).

## 13. DISPOSAL CONSIDERATIONS

### Disposal:

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

## 14. TRANSPORT INFORMATION

### DOT Classification

Ground Transport - NAFTA  
Not regulated

### Comments

Water Transport - International  
Not regulated

Air Transport  
Not regulated

## 15. REGULATORY INFORMATION

### Pesticide Registration:

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 required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Warning: CAUSES EYE AND SKIN IRRITATION. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. Do not get on skin or on clothing. Avoid breathing vapor or spray mist. Avoid contact with eyes. Prolonged or repeated skin contact may cause allergic reactions in some individuals. WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING.

### EPA Registration Number(s):

100-1101

### EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard  
Chronic Health Hazard

Section 313 Toxic Chemicals: Fomesafen Sodium Salt 22.1% (CAS No. 108731-70-0)

### CERCLA/SARA 304 Reportable Quantity (RQ):

None

### RCRA Hazardous Waste Classification (40 CFR 261):

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Not Applicable

TSCA Status:

Exempt from TSCA, subject to FIFRA

### 16. OTHER INFORMATION

#### NFPA Hazard Ratings

Health: 2  
Flammability: 1  
Instability: 0

#### HMIS Hazard Ratings

Health: 2  
Flammability: 1  
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme
*	Chronic

Syngenta Hazard Category: C,S

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 10/11/2007

Revision Date: 6/18/2015

Replaces: 3/2/2015

Section(s) Revised: 2, 4, 11

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.