## 1. PRODUCT IDENTIFICATION

Product identifier on label: **REFLEX® HERBICIDE**  
Product No.: A8339B  
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:  
Eye Damage/Irritation: Category 1  
Signal Word (OSHA): Danger  
Hazard Statements: Causes serious eye damage

Precautionary Statements:  
Wear eye 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, doctor or Syngenta.

Other Hazard Statements: None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common Name</th>
<th>CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other ingredients</td>
<td>Other ingredients</td>
<td>Trade Secret</td>
<td>77.2%</td>
</tr>
<tr>
<td>5-[2-chloro-4-(trifluoromethyl)phenoxoy]-N-(methylsulfonyl)-2-nitrobenzamide, sodium salt</td>
<td>Fomesafen Sodium Salt</td>
<td>108731-70-0</td>
<td>22.8%</td>
</tr>
</tbody>
</table>

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:**

Eye irritation

**Indication of immediate medical attention and special treatment needed:**

There is no specific antidote if this product is ingested. Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.

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.
7. HANDLING AND STORAGE

Precautions for safe handling:
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:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other ingredients</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Fomesafen Sodium Salt</td>
<td>Not Established</td>
<td>Not Established</td>
<td>2 mg/m³ TWA</td>
<td>Syngenta</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(based on</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Fomesafen</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Technical)</td>
<td></td>
</tr>
</tbody>
</table>

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. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin Contact:
Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, 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 approved respirator with any N, R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pale yellow liquid
Odor: Odorless
Odor Threshold: Not Available
pH: 8.7 - 10
Melting point/freezing point: Not Applicable
Initial boiling point and boiling range: 213 °F
Flash Point (Test Method): > 212°F
Flammable Limits (% in Air): Not Available
Flammability: Not Applicable
Vapor Pressure: Fomesafen Sodium Salt Not Available
Vapor Density: Not Available
Relative Density: 1.105 g/ml
Solubility (ies): Fomesafen Sodium Salt Not Applicable
Partition coefficient: n-octanol/water: Not Available
Autoignition Temperature: Not Available
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: Eye irritation
Delayed, immediate and chronic effects of exposure: Eye irritation
Numerical measures of toxicity (acute toxicity/irritation studies (finished product))

<table>
<thead>
<tr>
<th>Route</th>
<th>Measure</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>Oral (LD50 Rat)</td>
<td>&gt; 2000 mg/kg body weight</td>
</tr>
<tr>
<td>Dermal</td>
<td>Dermal (LD50 Rat)</td>
<td>&gt; 2000 mg/kg body weight</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Inhalation (LC50 Rat)</td>
<td>5.48 mg/l air - 4 hours</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>Corrosive (Rabbit)</td>
<td></td>
</tr>
</tbody>
</table>
Safety Data Sheet

REFLEX® HERBICIDE

Date: 3/2/2015
Replaces: 2/3/2015

Skin Contact: Slightly Irritating (Rabbit)
Skin Sensitization: Not a Sensitizer (Guinea Pig)

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 pm 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
Other ingredients  No
5-[2-chloro-4-(trifluoromethyl)phenoxy]-N-(methylsulfonyl)-2-nitrobenzamide, sodium salt  No

Other Toxicity Information
None

Toxicity of Other Components
Other ingredients
Not Applicable

Target Organs
Active Ingredients
Fomesafen Sodium Salt: Liver (based on Fomesafen Technical)

Inert Ingredients
Other ingredients: Not Applicable

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity
Fomesafen 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
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:

Danger: Keep out of reach of children.

EPA Registration Number(s):
100-993

EPCRA SARA Title III Classification:
Section 311/312 Hazard Classes: Acute Health Hazard
Section 313 Toxic Chemicals: Fomesafen Sodium Salt 22.8% (CAS No. 108731-70-0)

CERCLA/SARA 304 Reportable Quantity (RQ):
None

RCRA Hazardous Waste Classification (40 CFR 261):
Not Applicable

TSCA Status:
Exempt from TSCA, subject to FIFRA
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA Hazard Ratings</th>
<th>HMIS Hazard Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health:</td>
<td>Health:</td>
</tr>
<tr>
<td>Flammability:</td>
<td>Flammability:</td>
</tr>
<tr>
<td>Instability:</td>
<td>Reactivity:</td>
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<td>4</td>
</tr>
</tbody>
</table>

Syngenta Hazard Category: C,S

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 11/16/1998
Revision Date: 3/2/2015
Replaces: 2/3/2015
Section(s) Revised: 14

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