1. PRODUCT IDENTIFICATION

Product Name: **FUSION**

EPA Signal Word: Caution

Active Ingredient(%): Fenoxaprop-P-Ethyl (6.76%)  
Chemical Name: (D+)-ethyl 2-(4-(6-chloro-2-benoxazoloyloxy)-phenoxy)propanoate

Chemical Class: Benzoxazole Herbicide

Active Ingredient(%): Fluazifop-P-Butyl Technical (24.15%)

Chemical Name: Butyl(RS)-2-[4-[[5-(trifluoromethyl)-2-pyridinyl]oxy]phenoxy]propanoate

Chemical Class: A post emergence herbicide

EPA Registration Number(s): 100-1059

Section(s) Revised: 2, 3, 5, 8, 11, 12, 15, 16

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Material</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other</th>
<th>NTP/IARC/OSHA Carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Solvent</td>
<td>Not Established</td>
<td>Not Established</td>
<td>100 mg/m³ (15 ppm) TWA *</td>
<td>No</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene (&lt;= 1.1%)</td>
<td>Not Established</td>
<td>25 ppm TWA</td>
<td>25 ppm TWA**</td>
<td>No</td>
</tr>
<tr>
<td>Naphthalene (&lt;= 6.6%)</td>
<td>10 ppm TWA</td>
<td>10 ppm TWA (skin)</td>
<td>10 ppm TWA**</td>
<td>See “Toxicity”, Sec. 11</td>
</tr>
<tr>
<td>Xylene (&lt;= 2.2%)</td>
<td>100 ppm TWA</td>
<td>100 ppm TWA: 150 ppm STEL</td>
<td>100 ppm TWA**</td>
<td>IARC Group 3</td>
</tr>
<tr>
<td>Fluazifop-P-Butyl Technical</td>
<td>Not Established</td>
<td>Not Established</td>
<td>0.5 mg/m³ TWA***</td>
<td>No</td>
</tr>
<tr>
<td>(24.15%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fenoxaprop-P-Ethyl (6.76%)</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
<td>No</td>
</tr>
</tbody>
</table>

* recommended by manufacturer
** recommended by NIOSH
*** Syngenta Occupational Exposure Limit (OEL)

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

Syngenta Hazard Category: B, S

3. HAZARDS IDENTIFICATION

**Symptoms of Acute Exposure**

- Can cause skin, eye and respiratory tract irritation. Harmful if inhaled or swallowed.
- Exposure to high vapor levels may cause headache, dizziness, numbness, nausea, incoordination, or other central nervous system effects.

**Hazardous Decomposition Products**

- Can decompose at high temperatures forming toxic gases.

**Physical Properties**
Appearance: Uniform dark brown liquid, insoluble material free
Odor: Aromatic

Unusual Fire, Explosion and Reactivity Hazards
Combustible liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Heavy vapors can flow along surfaces to distant ignition sources and flash back. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

4. FIRST AID MEASURES

Have the product container, label or Material 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.

Notes to Physician
There is no specific antidote if this product is ingested.
Treat symptomatically.
Contains petroleum distillate - vomiting may cause aspiration pneumonia.

Medical Condition Likely to be Aggravated by Exposure
None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion
Flash Point (Test Method): 149°F (method not available)
Flammable Limits (% in Air): Lower: % Not Applicable Upper: % Not Applicable
Autoignition Temperature: Not Available
Flammability: Combustible liquid

Unusual Fire, Explosion and Reactivity Hazards
Combustible liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Heavy vapors can flow along surfaces to distant ignition sources and flash back. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire
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.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak
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.
7. HANDLING AND STORAGE

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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

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 (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

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 R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Uniform dark brown liquid, insoluble material free
Odor: Aromatic
Melting Point: Not Applicable
Boiling Point: Not Available
Specific Gravity/Density: 1.00 g/ml
pH: 5.8 (1% w/w dilution in deionized water)

Solubility in H2O
Fenoxaprop-P-Ethyl : 0.7 - 0.8 mg/l @ 77°F (25°C)
Fluazifop-P-Butyl Technical: Almost insoluble in water (1 mg/l @ pH 5 - 6.5)

Vapor Pressure
Fenoxaprop-P-Ethyl : 1.4 x 10(-6) mmHg @ 68°F (20°C)
Fluazifop-P-Butyl Technical: 4.5 x 10(-7) mmHg @ 68°F (20°C)

10. STABILITY AND REACTIVITY

Stability: Stable under normal use and storage conditions.
Hazardous Polymerization: Will not occur.
Conditions to Avoid: None known.
Materials to Avoid: Oxidizing agents.
Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion: Slightly Toxic
Oral (LD50 Rat) : 3,154 mg/kg body weight
Dermal: Slightly Toxic
Dermal (LD50 Rat) : > 2,000 mg/kg body weight
Inhalation: Practically Non-Toxic
Reproductive/Developmental Effects

Fenoxaprop-P-Ethyl: Evidence of developmental toxicity at maternally toxic doses. No reproductive or developmental risk to humans.

Fluazifop-P-Butyl: Embryo/foetotoxic effects have been reported in rats. Did not show teratogenic effects in animal experiments.

Chronic/Subchronic Toxicity Studies

Fenoxaprop-P-Ethyl: Increased liver weights, changes in enzyme, cholesterol and lipid levels, and histopathology findings in rodents and dogs.

Fluazifop-P-Butyl: Effects on red cells, bone marrow, liver and spleen observed in long-term high dose feeding tests in dogs. No adverse health effects are expected in humans at airborne levels below the occupational exposure limit.

Carcinogenicity

Fenoxaprop-P-Ethyl: Increased incidence of liver tumors in mice at hepatotoxic doses only. Results have little if any relevance to humans.

Fluazifop-P-Butyl: Did not show mutagenic effects in animal experiments. Did not show carcinogenic effects in animal experiments.

Other Toxicity Information

None

Toxicity of Other Components

1,2,4-Trimethylbenzene (<= 1.1%)

Test results reported in Section 11 for the final product take into account any acute hazards related to the 1,2,4-trimethylbenzene in the formulation.

Naphthalene (<= 6.6%)

Test results reported in Section 11 for the final product take into account any acute hazards related to the naphthalene in the formulation.

Chronic overexposure to naphthalene can affect the liver, kidney, respiratory tract and blood.

Carcinogen Status:

NTP: Anticipated Carcinogen

IARC: Group 2B Possible Human Carcinogen

Petroleum Solvent

Inhalation of vapors at high concentrations can cause central nervous system effects (dizziness, headache), irritation to eyes or respiratory tract.

Xylene (<= 2.2%)

Test results reported in Section 11 for the final product take into account any acute hazards related to the xylene in the formulation.

Target Organs

Active Ingredients

Fenoxaprop-P-Ethyl: Liver, eye

Fluazifop-P-Butyl Technical: Blood, bone marrow, liver, spleen

Inert Ingredients

1,2,4-Trimethylbenzene: Not Applicable

Naphthalene: Liver, kidney, respiratory tract, blood

Petroleum Solvent: Respiratory tract, stomach, liver, thyroid, urinary bladder, CNS, skin

Xylene: Not Applicable
12. ECOLOGICAL INFORMATION

Summary of Effects
Fenoxaprop-P-Ethyl:
This product is practically non-toxic to birds and bees, but is moderately to highly toxic to fish and other aquatic organisms.

Fluazifop-P-Butyl Technical:
Toxic to fish and invertebrates. Slightly toxic to birds. Practically non-toxic to bees.

Eco-Acute Toxicity
Fluazifop-P-Butyl Technical:
Bees LC50/EC50 > 200 ug/bee
Invertebrates (Water Flea) LC50/EC50 1.0 ppm
Fish (Trout) LC50/EC50 1.4 ppm
Fish (Bluegill) LC50/EC50 0.53 ppm
Birds (8-day dietary - Bobwhite Quail) LC50/EC50 > 4.659 ppm
Birds (8-day dietary - Mallard Duck) LC50/EC50 4,321 ppm

Fenoxaprop-P-Ethyl:
Rainbow Trout 96-hour LC50 0.46 - 0.61 mg/l
Bluegill Sunfish 96-hour LC50 0.31 - 0.58 mg/l
Bobwhite Quail Oral LD50 > 2,000 mg/kg
Mallard Oral LD50 > 2,000 mg/kg
Daphnia magna 48-hour EC50 > 1.058 mg/l
Honeybee (Oral) LC50 17 mg/bee

Eco-Chronic Toxicity
Fluazifop-P-Butyl Technical:
Not Available

Fenoxaprop-P-Ethyl:
Fish (Rainbow trout) Early Life Stage MATC 0.051 mg/l
Invertebrate (Daphnia magna) 21-day aquatic bioassay NOEC 0.22 mg/l

Environmental Fate
Fenoxaprop-P-Ethyl:
The information presented here is for the active ingredient, fenoxaprop-p-ethyl.
Slightly soluble in water, absorbs strongly to soils, and has low mobility.

Fluazifop-P-Butyl Technical:
The information presented here is for the active ingredient, fluazifop-p-butyl.
Not persistent in soil or water. Immobile in soil. 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.

B/L Freight Classification
Herbicides, NOI (NMC Class 60)

Comments
None
15. REGULATORY INFORMATION

EPCRA SARA Title III Classification
Section 311/312 Hazard Classes: Acute Health Hazard
Chronic Health Hazard
Fire Hazard
Section 313 Toxic Chemicals:
1,2,4-Trimethylbenzene (<= 1.1%) (CAS No. 95-63-6)
Naphthalene (<= 6.6%) (CAS No. 91-20-3)
Xylene (<= 2.2%) (CAS No. 1330-20-7)

California Proposition 65
Not Applicable
CERCLA/SARA 302 Reportable Quantity (RQ)
>1,300 lbs (based on naphthalene, CAS # 91-20-3 [RQ = 100 lbs] in the formulation)
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>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health:</td>
<td>2</td>
<td>Minimal</td>
<td>Slight</td>
<td>Moderate</td>
<td>Serious</td>
<td>Extreme</td>
</tr>
<tr>
<td>Flammability:</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instability:</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reactivity:</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For non-emergency questions about this product call:
1-800-334-9481

Original Issued Date: 10/19/1998
Revision Date: 10/31/2005
Replaces: 02/07/2002

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.

RSVP# : SCP-955-00336B

End of MSDS