1. PRODUCT AND COMPANY IDENTIFICATION

Product name Beleaf 50 SG Insecticide
Formula code 6225
Active Ingredient(s) Flonicamid
Synonyms N-(cyanomethyl)-4-(trifluoromethyl)-3-pyridinecarboxamide
Chemical Family Pyridinecarboxamide Insecticide

Supplier FMC Corporation
Agricultural Products Group
1735 Market Street
Philadelphia, PA 19103
General Information: Phone: (215) 299-6000
E-Mail: msdsinfo@fmc.com

Emergency telephone number
Medical Emergencies: (800) 331-3148 (U.S.A. & Canada)
(651) 632-6793 (All Other Countries - Collect)
For leak, fire, spill or accident emergencies, call:
(800) 424-9300 (CHEMTREC - U.S.A.)
(703) 527-3887 (CHEMTREC - Collect - All Other Countries)

2. Hazards identification

Appearance Solid granules
Physical State Solid
Odor mild
Physical hazards Combustible material

Potential health effects
Acute effects
Eyes May cause slight irritation.
Skin Does not pose a potential of skin irritation and sensitization.
Inhalation May cause irritation of respiratory tract.
Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic effects Prolonged exposure may cause chronic effects. Repeated contact may cause allergic reactions in very susceptible persons. See Section 11 for additional Toxicological Information.

Environmental hazard See Section 12 for additional Ecological Information.
### Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flonicamid</td>
<td>158062-67-0</td>
<td>50</td>
</tr>
<tr>
<td>Formaldehyde condensate</td>
<td>RR-24503-4</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Dioctyl sodium sulfosuccinate</td>
<td>577-11-7</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>

### 4. First aid measures

**Eye contact**
Flush eyes with water for at least 15 minutes. Get medical attention if eye irritation develops or persists.

**Skin contact**
Take off contaminated clothing. Wash skin with soap and water. Call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

**Inhalation**
Move to fresh air. If breathing is difficult, give oxygen. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. If symptoms persist, call a physician.

**Ingestion**
If swallowed, call a poison control center or doctor immediately. Drink 1 or 2 glasses of water. Do not induce vomiting or give anything by mouth to an unconscious person.

### 5. Fire-fighting measures

**Flammable properties**
Combustible material

**Special hazards arising from the substance or mixture**

**Sensitivity to Mechanical Impact**
not applicable

**Sensitivity to Static Discharge**
not applicable

**Extinguishing media**

**Suitable extinguishing media**
Carbon dioxide (CO₂). Foam. Dry chemical. If necessary: Use water spray or fog; do not use straight streams.

**Advice for fire-fighters**

**Protective equipment and precautions for firefighters**
Wear self-contained breathing apparatus and protective suit. Isolate fire area. Evaluate downwind.

**NFPA**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Hazard</td>
<td>1</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Stability</td>
<td>0</td>
</tr>
<tr>
<td>Special Hazards</td>
<td>-</td>
</tr>
</tbody>
</table>

### 6. Accidental release measures

**Personal precautions**
Isolate and post spill area. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.

**Environmental precautions**
Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.
Methods for containment
Cover powder spill with plastic sheet or tarp to minimize spreading. Use a wet sweeping compound or water to prevent dust formation. Dike far ahead of spill to collect runoff water. Vacuum, shovel or pump waste into a drum and label contents for disposal.

Methods for cleaning up
Clean and neutralize spill area, tools and equipment by washing with bleach water and soap. Absorb rinsate and add to the collected waste. Dispose of waste as indicated in Section 13.

OTHER INFORMATION
For further clean-up instructions call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

7. Handling and storage

Handling
Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal. For personal protection see section 8.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Store in original container only.

8. Exposure controls/personal protection

Exposure guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Occupational exposure controls

Engineering measures
Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Personal protective equipment

General Information
Clean water should be available for washing in case of eye or skin contamination. Wash hands prior to eating, drinking, chewing gum or using tobacco. Shower at the end of the workday.

Respiratory protection
For dust, splash, mist or spray exposures wear a filtering mask.

Eye/face protection
For dust, splash, mist or spray exposure, wear chemical protective goggles or a face-shield.

Skin and body protection
Wear long-sleeved shirt, long pants, socks, shoes, and gloves.

Hand protection
Protective gloves

Hygiene measures
Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid granules</td>
</tr>
<tr>
<td>Color</td>
<td>light brown</td>
</tr>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Odor</td>
<td>mild</td>
</tr>
<tr>
<td>pH</td>
<td>6.0 @ 23 °C (1% solution)</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No information available</td>
</tr>
</tbody>
</table>
Beleaf 50 SG Insecticide

Boiling Point/Range not applicable
Flash Point not applicable
Evaporation rate not applicable
Autoignition Temperature not applicable
Flammable properties Combustible material
Vapor pressure not applicable
Vapor density No information available
Density 33.5 lb/cu ft (loose); 37.2 lb/cu ft (tapped)
Specific Gravity No information available
Bulk density No information available
Water solubility Soluble in water
Percent volatile No information available
Partition coefficient: not applicable
Autoignition Temperature not applicable
Viscosity No information available
Oxidizing properties not applicable

10. Stability and reactivity

Stability Stable
Conditions to avoid Heat, flames and sparks
Hazardous decomposition products Thermal decomposition can lead to release of irritating gases and vapors.
Hazardous polymerization Hazardous polymerization does not occur

11. Toxicological information

Eye contact May cause temporary eye irritation (rabbit).
Skin contact Non-irritating during normal use (rabbit).
LD50 Dermal Similar material: > 2,000 mg/kg (rat)
LD50 Oral > 2,000 mg/kg (rat)
LC50 Inhalation: > 5.36 mg/L 4 hr (rat)
Sensitization Based on a similar formulation, this product is not expected to produce skin sensitization.

12. Ecological information

Ecotoxicity
Beleaf 50 SG Insecticide

Flonicamid (158062-67-0)

<table>
<thead>
<tr>
<th>Active Ingredient</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flonicamid Technical</td>
<td>96 h LC50</td>
<td>Bluegill sunfish, Rainbow trout</td>
<td>&gt;100</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td>96 h LC50</td>
<td>Sheepshead minnow</td>
<td>&gt;120</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td>48 h LC50</td>
<td>Daphnia magna</td>
<td>&gt;100</td>
<td>mg/L</td>
</tr>
</tbody>
</table>

Environmental Fate

Persistence and degradability
Based on a similar formulation, biodegradation in soil is 1 - 10 days.

13. Disposal considerations

<table>
<thead>
<tr>
<th>Waste disposal methods</th>
<th>Can be incinerated, when in compliance with local regulations. The appropriate regulatory agencies should be contacted prior to disposal.</th>
</tr>
</thead>
</table>

Contaminated packaging
Dispose of in accordance with local regulations. Completely empty bag into application equipment. When completely empty, offer for recycling if available, or dispose of bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14. Transport information

<table>
<thead>
<tr>
<th>Packaging Type</th>
<th>Non-Bulk</th>
</tr>
</thead>
</table>

DOT
Not regulated in transportation.

TDG
Not regulated in transportation.

ICAO/IATA
Not regulated in transportation.

IMDG/IMO
Not regulated in transportation.

15. Regulatory information

U.S. Federal Regulations
SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
- Acute Health Hazard: yes
- Chronic Health Hazard: yes
- Fire Hazard: No
- Sudden Release of Pressure Hazard: No
- Reactive Hazard: No
CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

International Regulations

Mexico - Grade
No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
Non-controlled

16. Other information

Revision Date: 2010-06-28
Reason for revision: No information available

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Prepared By

FMC Corporation

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End of Material Safety Data Sheet