SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: ENVIDOR® 2 SC MITICIDE
MSDS Number: 102000011424
EPA Registration No.: 264-831

Bayer CropScience
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-866-99BAYER (1-866-992-2937)

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Average % by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spirodiclofen</td>
<td>148477-71-8</td>
<td>22.30</td>
</tr>
<tr>
<td>Glycerine</td>
<td>56-81-5</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview: Caution! Harmful if swallowed or absorbed through skin. Do not get in eyes, on skin, or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Physical State: viscous liquid suspension

Appearance: white to beige

Routes of Exposure: Ingestion, Eye contact, Skin contact, Skin Absorption

Immediate Effects
Eye: Do not get in eyes.
Skin: Harmful if absorbed through skin. May cause sensitization by skin contact. Avoid contact with skin and clothing.
Ingestion: Harmful if swallowed. Do not take internally.

Chronic or Delayed
Long-Term: This product is not listed by NTP, IARC or regulated as a carcinogen by OSHA. This product or its components may have target organ effects.
Potential Environmental Effect

Highly toxic to bees. Toxic to fish and aquatic invertebrates.

SECTION 4. FIRST AID MEASURES

General
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Eye
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Skin
Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Ingestion
Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Inhalation
Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Notes to Physician Treatment
There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash point
Not relevant; aqueous solution

Fire and Explosion Hazards
In the event of fire the following can be released:
Hydrogen chloride (HCl)
Carbon monoxide (CO)

Suitable Extinguishing Media
Water, Dry chemical, Foam

Fire Fighting Instructions
Keep out of smoke. Fight fire from upwind position. Cool closed containers/tanks exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Wear self-contained breathing apparatus and protective suit.
SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods for Cleaning Up
Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).

Additional Advice
Use personal protective equipment.

SECTION 7. HANDLING AND STORAGE

Handling Procedures
Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

Storing Procedures
Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Work/Hygienic Procedures
Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Wash thoroughly and put on clean clothing. Before removing gloves clean them with soap and water. Remove Personal Protective Equipment (PPE) immediately after handling this product.

Min/Max Storage Temperatures
Recommended minimum transport/storage temperature: -10 °C / 14 °F
Recommended maximum transport/storage temperature: 40 °C / 104 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection
Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

Follow all label instructions. Train employees in safe use of the product.

Eye/Face Protection
Safety glasses

Hand Protection
Chemical resistant nitrile rubber gloves
Body Protection
Wear long-sleeved shirt and long pants and shoes plus socks.

Respiratory Protection
When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Exposure Limits

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
<th>GHS/OSHA Specifications</th>
<th>Exposure Level</th>
<th>Limit Value</th>
<th>Form of Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerine</td>
<td>56-81-5</td>
<td>ACGIH TWA Mist.</td>
<td>10 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z1 PEL Mist.</td>
<td>5 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z1 PEL Respirable fraction.</td>
<td>15 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z1A TWA Total dust.</td>
<td>5 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA Z1A TWA Respirable fraction.</td>
<td>10 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>US CA OEL TWA PEL Total dust.</td>
<td>5 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>US CA OEL TWA PEL Respirable fraction.</td>
<td>10 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spirodiclofen</td>
<td>148477-71-8</td>
<td>OES BCS* TWA Total dust.</td>
<td>0.39 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>white to beige</td>
</tr>
<tr>
<td>Physical State</td>
<td>viscous liquid suspension</td>
</tr>
<tr>
<td>pH</td>
<td>4 - 6 (100 %)</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.09 at 20 °C</td>
</tr>
<tr>
<td>Density</td>
<td>1.09 g/cm³ at 20 °C</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>-17.8 °C / -0.0 °F</td>
</tr>
<tr>
<td>Water solubility</td>
<td>miscible</td>
</tr>
<tr>
<td>Viscosity</td>
<td>700 - 1,000 mPa.s at 23 °C</td>
</tr>
</tbody>
</table>

SECTION 10. STABILITY AND REACTIVITY

Hazardous Reactions
Stable under recommended storage conditions.
SECTION 11. TOXICOLOGICAL INFORMATION

Only acute studies have been performed on this product as formulated. The non-acute information pertains to the technical-grade active ingredient, spirodiclofen.

Acute Oral Toxicity  
male/female combined rat: LD50: > 2,000 mg/kg

Acute Dermal Toxicity  
male/female combined rat: LD50: > 4,000 mg/kg

Acute Inhalation Toxicity  
male/female combined rat: LC50: > 3.146 mg/l
Exposure time: 4 h
Determined in the form of a respirable aerosol.
(actual)

male/female combined rat: LC50: > 12.58 mg/l
Exposure time: 1 h
Determined in the form of a respirable aerosol.
Extrapolated from the 4 hr LC50.
(actual)

Skin Irritation  
rabbit: No skin irritation.

Eye Irritation  
rabbit: No eye irritation.

Sensitization  
guinea pig: sensitizing

Chronic Toxicity  
Spirodiclofen caused effects in the liver, kidney, adrenal, uterus, prostrate and/or testis in chronic studies in rats, mice and dogs.

Assessment Carcinogenicity  
Spirodiclofen has been classified by EPA as "likely to be carcinogenic to humans" based on uterine and testicular tumors in rats and liver tumors in mice.

ACGIH  
None.

NTP  
None.

IARC  
None.

OSHA  
None.

Reproductive & Developmental Toxicity  
REPRODUCTION: Spirodiclofen was not primary reproductive toxicant in a two-generation reproduction study in rats. Reproductive effects were observed only at doses that caused systemic toxicity.

DEVELOPMENTAL TOXICITY: Spirodiclofen was not a primary developmental toxicant in rats and rabbits. A developmental effect was observed in rabbits but
was considered secondary to maternal toxicity.

**Neurotoxicity**
Spirodiclofen was not a neurotoxicant in acute and subchronic screening studies in rats.

**Mutagenicity**
Spirodiclofen was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

### SECTION 12. ECOLOGICAL INFORMATION

**Environmental Precautions**
Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. Do not allow to get into surface water, drains and ground water.

### SECTION 13. DISPOSAL CONSIDERATIONS

**General Disposal Guidance**
Pesticide wastes are toxic. Follow container label instructions for disposal of wastes generated during use in compliance with the product label.

**Container Disposal**
Triple rinse containers. If burned, stay out of smoke. Puncture container to avoid re-use. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning.

### SECTION 14. TRANSPORT INFORMATION

**DOT CLASSIFICATION:**
Not regulated for Domestic Surface Transportation

**FREIGHT CLASSIFICATION:**
Insecticides or Fungicides, N.O.I., other than poison

### SECTION 15. REGULATORY INFORMATION

**EPA Registration No.**
264-831

**US Federal Regulations**
- **TSCA list**
  - Glycerine 56-81-5
- **US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**
  - None.
- **SARA Title III - Section 302 - Notification and Information**
  - None.
- **SARA Title III - Section 313 - Toxic Chemical Release Reporting**

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None.

**US States Regulatory Reporting**

**CA Prop65**

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

**US State Right-To-Know Ingredients**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>States Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerine</td>
<td>56-81-5</td>
<td>IL, MN, RI</td>
</tr>
</tbody>
</table>

**Canadian Regulations**

**Canadian Domestic Substance List**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
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<tr>
<td>Glycerine</td>
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</tbody>
</table>

**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

**International Regulations**

**European Inventory of Existing Commercial Substances (EINECS)**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
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<tr>
<td>Glycerine</td>
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</tr>
</tbody>
</table>

### SECTION 16. OTHER INFORMATION

**NFPA 704 (National Fire Protection Association):**

- Health: 1
- Flammability: 1
- Reactivity: 0
- Others: none

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

**Reason to Revise:** Updated Section 11: Toxicological Information

**Revision Date:** 01/11/2008

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