AGRI-FLEX® MITICIDE/INSECTICIDE

1. PRODUCT IDENTIFICATION

Product identifier on label: AGRI-FLEX® MITICIDE/INSECTICIDE

Use: Miticide/Insecticide

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:

- Specific Target Organ Toxicity: Single Category 1
- Oral: Category 4
- Carcinogenicity: Category 1A
- Specific Target Organ Toxicity: Repeated Category 1
- Inhalation: Category 2

Signal Word (OSHA): Danger

Hazard Statements:

- Harmful if swallowed
- Fatal if inhaled
- May cause cancer
- Causes damage to organs
- Causes damage to organs through prolonged or repeated exposure

Precautionary Statements:

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Do not breathe mist, vapors, spray.
- Wash hands and face thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves, protective clothing, eye protection.
- In case of inadequate ventilation wear respiratory protection. See Section 8 Exposure Control/Personal Protection.
- If swallowed: Call a poison center, doctor or Syngenta if you feel unwell. Rinse mouth.
AGRI-FLEX® MITICIDE/INSECTICIDE

Date: 11/14/2012
Replaces: 11/14/2012

If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center, doctor or Syngenta.

Get medical advice if you feel unwell.

Specific treatment is urgent (see Section 4 First Aid Measures).
See Section 4 First Aid Measures.

Store locked up.
Dispose of contents and container in accordance with local regulations.

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>Crystalline Silica, Quartz and Cristobalite</td>
<td>Crystalline Silica, Quartz and Cristobalite</td>
<td>14808-60-7</td>
<td>&lt;1.0%</td>
</tr>
<tr>
<td>Attapulgite Clay</td>
<td>Attapulgite Clay</td>
<td>12174-11-7</td>
<td>Trade Secret</td>
</tr>
<tr>
<td>Other ingredients</td>
<td>Other ingredients</td>
<td>Trade Secret</td>
<td>&lt;83.1%</td>
</tr>
<tr>
<td>Abamectin</td>
<td>Abamectin</td>
<td>71751-41-2</td>
<td>3.0%</td>
</tr>
<tr>
<td>3-(2-chloro-1,3-thiazol-5-ylmethyl)-5-methyl-1,3,5-oxadiazinan-4-ylidene(nitro)amine</td>
<td>Thiamethoxam</td>
<td>153719-23-4</td>
<td>13.9%</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:**
Not Applicable

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

Early signs of intoxication include dilation of pupils, muscular incoordination and muscular tremors. Toxicity following accidental ingestion of abamectin can be minimized by early administration of chemical adsorbents (e.g. activated charcoal). If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parenteral fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels and proper respiratory functionality) as indicated by clinical signs, symptoms and measurements. In severe cases, observations should continue for at least
several days until clinical condition is stable and normal. Since abamectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic abamectin exposure.

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:
Store locked up.

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>Crystalline Silica, Quartz and Cristobalite</td>
<td>10 mg/m³/(%SiO₂+2) (respirable dust)</td>
<td>0.025 mg/m³ (respirable silica)</td>
<td>0.05 mg/m³ (respirable dust)</td>
<td>NIOSH</td>
</tr>
<tr>
<td>Attapulgite Clay</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Other ingredients</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Abamectin</td>
<td>Not Established</td>
<td>Not Established</td>
<td>0.02 mg/m³ TWA</td>
<td>Syngenta</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.

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: Tan to beige opaque liquid
Odor: Weak; uncharacteristic
Odor Threshold: Not Available
pH: 4.5 - 5.5 (neat)
Melting point/freezing point: Not Available
Initial boiling point and boiling range: Not Available
Flash Point (Test Method): Not Available
Flammable Limits (% in Air): Not Available
Flammability: Not Available

Vapor Pressure: Abamectin 7.5 x 10^{-8} \text{ mmHg} @ 77^\circ \text{F} (25^\circ \text{C})
Thiamethoxam 2 x 10^{-11} \text{ mmHg} @ 68^\circ \text{F} (20^\circ \text{C})

Vapor Density: Not Available
Relative Density: 1.08 - 1.12 g/ml
Solubility (ies): Abamectin 0.007 - 0.01 mg/l @ 68^\circ \text{F} (20^\circ \text{C})
Thiamethoxam 4.1 g/l @ 77^\circ \text{F} (25^\circ \text{C})

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: Not Available

Incompatible materials: None known.
Hazardous Decomposition Products: Not Available

11. TOXICOLOGICAL INFORMATION

Health effects information
Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Not Applicable
Delayed, immediate and chronic effects of exposure: Possible carcinogenicity

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

- Ingestion: Oral (LD50 Female Rat) : 550 mg/kg body weight
- Dermal: Dermal (LD50 Rat) : > 5000 mg/kg body weight
- Inhalation: Inhalation (LC50 Rat) : 0.052 - 0.52 mg/l air - 4 hours
- Eye Contact: Mildly Irritating (Rabbit)
- Skin Contact: Moderately Irritating (Rabbit)
- Skin Sensitization: Not a Sensitizer (Guinea Pig)

Reproductive/Developmental Effects
Abamectin: Experiments have shown reproductive toxicity effects on laboratory animals.
Thiamethoxam: Developmental: Not teratogenic in rats or rabbits.
Reproductive: No effects on reproduction. Minor increase in a common testis effect in rats at high doses, which did not affect reproduction.

Chronic/Subchronic Toxicity Studies
Abamectin: Central nervous system effects in chronic/subchronic animal tests.
Thiamethoxam: Subchronic: Liver effects occurred in rodents only at high dose levels. Not neurotoxic after high acute and subchronic exposure in rats.

Carcinogenicity
Abamectin: Did not show carcinogenic effects in animal experiments.
Thiamethoxam: Classified as "not likely to be carcinogenic in humans" based on lifetime studies in mice and rats.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>NTP/IARC/OSHA Carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline Silica, Quartz and Cristobalite</td>
<td>IARC 1; ACGIH A2</td>
</tr>
<tr>
<td>Attapulgite Clay</td>
<td>IARC 2B</td>
</tr>
</tbody>
</table>
Other ingredients: No
Abamectin: No
3-(2-chloro-1,3-thiazol-5-ylmethyl)-5-methyl-1,3,5-oxadiazinan-4-yldene(nitro)amine: No

Other Toxicity Information
None

Toxicity of Other Components
Attapulgite Clay
Prolonged or repeated inhalation of dust may cause a disabling, progressive pulmonary fibrosis. Inhalation hazard may not exist in the liquid form. May cause eye irritation.

Crystalline Silica, Quartz and Cristobalite
Chronic inhalation exposure to crystalline silica is known to cause silicosis and pulmonary fibrosis in humans. Experimental animals exposed to crystalline silica developed respiratory tract cancers.

Other ingredients: Not Applicable

Target Organs

Active Ingredients
Abamectin: Skin, eye, CNS
Thiamethoxam: Liver

Inert Ingredients
Attapulgite Clay: Lung, eye
Crystalline Silica, Quartz and Cristobalite: Respiratory tract
Other ingredients: Not Applicable

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity
Abamectin:
Fish (Rainbow Trout) 96-hour LC50 3.6 ppb
Bird (Bobwhite Quail) LD50 Oral > 2000 mg/kg
Invertebrate (Water Flea) 48-hour EC50 0.34 ppb
Green Algae 9-day EC50 > 100 ppm
Bee (Contact) 48-hour LD50 0.41 ug/bee

Thiamethoxam:
Fish (Rainbow Trout) 96-hour LC50 > 100 ppm
Bird (Mallard Duck) LD50 Oral 576 mg/kg
Invertebrate (Daphnia Magna) 48-hour EC50 > 106 ppm
Green Algae 4-day EC50 > 97 ppm

Environmental Fate
Abamectin:
The information presented here is for the active ingredient, abamectin.
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
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Abamectin, Thiamethoxam), Marine Pollutant
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

Air Transport
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Abamectin, Thiamethoxam)
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

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: May be fatal if inhaled. Do not breathe spray mist. Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

EPA Registration Number(s):
100-1350

EPCRA SARA Title III Classification:
Section 311/312 Hazard Classes: Acute Health Hazard
Section 313 Toxic Chemicals: None
California Proposition 65:
This Product contains trace amounts of chemicals, known to the State of California to cause cancer, as unintended impurities resulting from other entities manufacturing or processing operations which Syngenta cannot control.

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

**NFPA Hazard Ratings**

<table>
<thead>
<tr>
<th>Health:</th>
<th>Flammability:</th>
<th>Instability:</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**HMIS Hazard Ratings**

<table>
<thead>
<tr>
<th>Health:</th>
<th>Flammability:</th>
<th>Reactivity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Syngenta Hazard Category:** D,S

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

Original Issued Date: 4/1/2009
Revision Date: 11/14/2012
Replaces: 11/14/2012

Section(s) Revised: 1-16

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.