1. PRODUCT IDENTIFICATION

Product identifier on label: **FERENCE Insecticide**
Product No.: A20520A
Use: 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: Inhalation: Category 4
Signal Word (OSHA): Warning
Hazard Statements: Harmful if inhaled

Precautionary Statements: Avoid breathing mist, vapors, spray.
Use only outdoors or in a well-ventilated area.
If inhaled: Remove person to fresh air and keep comfortable for breathing.

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>81.34%</td>
</tr>
<tr>
<td>3-bromo-1-(3-chloro-2-pyridinyl)-N-[4-cyano-2-methyl-1H-pyrazole-5-carboxamide</td>
<td>Cyantraniliprole</td>
<td>736994-63-1</td>
<td>18.66%</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:
There is no specific antidote if this product is ingested.
Treat symptomatically.

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>Cyantraniliprole</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Applicable</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 splash-proof chemical goggles.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White liquid
Odor: Odorless
Odor Threshold: Not Available
pH: 6 - 8 Not Available
Melting point/freezing point: Not Available
Initial boiling point and boiling range: Not Available
FERENCE Insecticide

Date: 4/2/2015
Replaces: 10/3/2014

- Flash Point (Test Method): Not Available
- Flammable Limits (% in Air): Not Available
- Flammability: Not Available
- Vapor Pressure: Cyantraniliprole 3.85 x 10(-5) mmHg
- Vapor Density: Not Available
- Relative Density: 1.0 - 1.2 g/ml
- Solubility (ies): Cyantraniliprole 0.014 g/ml @ 68°F (20°C)
- Partition coefficient: n-octanol/water: Not Available
- Autoignition Temperature: Not Available
- Decomposition Temperature: Not Available
- Viscosity: Not Available
- Other: Not Available

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: Protect from frost. Keep away from sources of ignition.
- 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: Not Applicable

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

- Ingestion: Oral (LD50 Mouse) > 5000 mg/kg body weight
- Dermal: Dermal (LD50 Rat) > 5000 mg/kg body weight
- Inhalation: Inhalation (LC50 Rat) > 3.7 mg/l air - 4 hours
- Eye Contact: Non-Irritating (Rabbit)
- Skin Contact: Non-Irritating (Rabbit)
- Skin Sensitization: Animal test did not cause sensitization by skin contact. (Multiple species)
Reproductive/Developmental Effects
Cyantraniliprole: Animal testing showed no reproductive toxicity. Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Chronic/Subchronic Toxicity Studies
Cyantraniliprole: The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.
- Oral Rat 28 - 90 d. Thyroid effects. Organ weight changes. No effect to neurotoxicity.
- Oral Mouse 90 d. No toxicologically significant effects were found.
- Oral Dog 90 d. Altered blood chemistry. Liver effects.
- Oral Multiple species. No toxicologically significant effects were found.
- Dermal Rat 28 d. No toxicologically significant effects were found.

Carcinogenicity
Cyantraniliprole: Animal testing did not show any carcinogenic effects. Evidence suggests this substance does not cause genetic damage in animals. Evidence suggests this substance does not cause genetic damage in cultured mammalian cells. Evidence suggests this substance does not cause genetic damage in cultured bacterial cells.

Chemical Name: Cyantraniliprole
NTP/IARC/OSHA Carcinogen: No

Other ingredients: No
3-bromo-1-(3-chloro-2-pyridinyl)-N-[4-cyano-2-methyl-6-[(methylamino)carbonyl]phenyl]-1H-pyrazole-5-carboxamide: No

Other Toxicity Information
None

Toxicity of Other Components
Other ingredients: Not Applicable

Target Organs
Active Ingredients: Cyantraniliprole: Thyroid, blood, liver

Inert Ingredients
Other ingredients: Not Applicable

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity
Cyantraniliprole:
- Fish (Rainbow Trout) 96-hour LC50 >12.6 mg/l
- Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 0.0204 mg/l
- Green Algae 72-hour ErC50 > 13 mg/l

Environmental Fate
Cyantraniliprole:
- The information presented here is for the active ingredient, cyantraniliprole.
- Product is not readily biodegradable.
Product is not considered to be persistent, bioaccumulating or toxic (PBT). Not considered to be very persistent or very bioaccumulating (vPvB).

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. (Cyantraniliprole), 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. (Cyantraniliprole)
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:

Not Applicable: Keep out of reach of children.

EPA Registration Number(s):
100-1551

EPCRA SARA Title III Classification:
Section 311/312 Hazard Classes: Acute Health Hazard
Section 313 Toxic Chemicals: None

CERCLA/SARA 304 Reportable Quantity (RQ):
Not Applicable
Safety Data Sheet

FERENCE Insecticide

Date: 4/2/2015
Replaces: 10/3/2014

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></td>
<td>1</td>
</tr>
<tr>
<td>Flammability:</td>
<td>Flammability:</td>
</tr>
<tr>
<td></td>
<td>1</td>
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<tr>
<td>Instability:</td>
<td>Reactivity:</td>
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<tr>
<td></td>
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</table>

Syngenta Hazard Category: B

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

Original Issued Date: 6/24/2014
Revision Date: 4/2/2015
Replaces: 10/3/2014
Section(s) Revised: 4, 15

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