MATERIAL SAFETY DATA SHEET

Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

Product Name: **AVICTA COMPLETE CORN 250** Product No.: A18112D

EPA Signal Word: Warning

Active Ingredient(%):	Abamectin (10.30%)	CAS No.:	65195-56-4 & 65195-55-3
Chemical Name:	A mixture of avermectins containing primarily Avermectin B1a and Avermectin B1b		
Chemical Class:	Glycoside Insecticide		
Active Ingredient(%):	Azoxystrobin (0.12%)	CAS No.:	131860-33-8
Chemical Name:	Methyl (E)-2-{2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate		
Chemical Class:	A Beta-Methyoxyacrylate Fungicide		
Active Ingredient(%):	Fludioxonil (0.30%)	CAS No.:	131341-86-1
Chemical Name:	4-(2,2-difluoro-1,3-benzodioxol-4-yl)-1H-pyrrole-3-carbonitrile		
Chemical Class:	Substituted Benzodioxalcarbonitrile Fungicide		
Active Ingredient(%):	Mefenoxam (0.23%)	CAS No.:	70630-17-0 & 69516-34-3
Chemical Name:	(R,S)-2-[(2,6-dimethylphenyl)-methoxyacetylamino]-propionic acid methyl ester		
Chemical Class:	Phenylamide Fungicide		
Active Ingredient(%):	Thiabendazole (2.34%)	CAS No.:	148-79-8
Chemical Name:	2-(thiazol-4-yl)benzimidazole		
Chemical Class:	Benzimidazole Fungicide		
Active Ingredient(%):	Thiamethoxam (11.70%)	CAS No.:	153719-23-4
Chemical Name:	3-(2-chloro-1,3-thiazol-5-ylmethyl)-5-methyl-1,3,5-oxadiazinan-4-ylidene(nitro)amine		
Chemical Class:	Neonicotinoid Insecticide		

EPA Registration Number(s): 100-1405 **Section(s) Revised: 9**

2. HAZARDS IDENTIFICATION

Health and Environmental

Fatal if inhaled. Harmful if swallowed.

Hazardous Decomposition Products

None known.

Physical Properties

Appearance: Beige liquid

Odor: Aromatic

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Propylene Glycol	Not Established	Not Established	10 mg/m³ TWA ****	No
Glycerin	15 mg/m³ TWA (total); 5 mg/m³ TWA (respirable)	10 mg/m³ TWA (total)	Not Established	No
Azoxystrobin (0.12%)	Not Established	Not Established	2 mg/m³ TWA ***	No
Mefenoxam (0.23%)	Not Established	Not Established	10 mg/m³ TWA ***	No
Fludioxonil (0.30%)	Not Established	Not Established	10 mg/m³ TWA ***	No
Thiabendazole (2.34%)	Not Established	Not Established	10 mg/m³ TWA ***	No
Abamectin (10.30%)	Not Established	Not Established	0.02 mg/m³ TWA ***	No
Thiamethoxam (11.70%)	Not Established	Not Established	3 mg/m³ TWA ***	No

*** Syngenta Occupational Exposure Limit (OEL)

**** Recommended by AIHA (American Industrial Hygiene Association)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
Syngenta Hazard Category: D

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison contol 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. Have the person sip a glass of water if able to swallow. 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

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.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash Point (Test Method):	214°F	
Flammable Limits (% in Air):	Lower: Not Applicable	Upper: Not Applicable
Autoignition Temperature:	Not Available	
Flammability:	Not Applicable	

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire

Use dry chemical, foam or CO2 extinguishing media. 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 container and arrange for disposition.

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 AND PACKAGING 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.
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:	Control airborne active ingredient levels below the Syngenta Occupational Exposure Limit of 0.02 mg/m³ (8-hour time-weighted average). Use process enclosures, exhaust ventilation controls, good work practices and respiratory protection to minimize exposure to liquid mists or dust from dried product. Follow U.S. EPA product label respirator requirements when using this formulated product to treat seed, bag seed, clean up equipment and conduct other miscellaneous activities. See the product label for specific respirator requirements. In case of emergency spills, use a NIOSH approved respirator with an organic vapor cartridge and any R, P or HE filter. For more information, contact Syngenta Industrial Hygiene at 1-800-334-9481.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Beige liquid
Odor:	Aromatic
Melting Point:	Not Applicable

Boiling Point:	Not Available
Specific Gravity/Density:	1.119 g/cm³ ; 9.35 lbs/gal @ 68°F (20°C)
pH:	6.6 (1% solution in deionized H2O @ 77°F [25°C])

Solubility in H2O

Abamectin:	0.007 - 0.01 mg/l @ 68°F (20°C)
Azoxystrobin :	6 mg/l in water @ 68°F (20°C)
Fludioxonil:	1.8 mg/l @ 77°F (25°C)
Mefenoxam:	26 g/l @ 77°F (25°C)
Thiabendazole:	30 mg/l (pH 7, pH 10) @ 68°F in water
Thiamethoxam:	4.1 g/l @ 77°F (25°C)

Vapor Pressure

Abamectin:	7.5 x 10(-8) mmHg @ 77°F (25°C)
Azoxystrobin :	8.25 x 10(-13) mmHg @ 68°F (20°C)
Fludioxonil:	2.9 x 10(-9) mmHg @ 77°F (25°C)
Mefenoxam:	2.5 x 10(-5) mmHg @ 77°F (25°C)
Thiabendazole:	4.0 x 10(-9) mmHg @ 77°F (25°C)
Thiamethoxam:	2 x 10(-11) 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:	None known.
Hazardous Decomposition Products:	None known.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:		
	Oral (LD50 Female Rat) :	310 mg/kg body weight
Dermal:		
	Dermal (LD50 Rat) :	> 5000 mg/kg body weight
Inhalation:		
	Inhalation (LC50 Rat) :	> 0.052 mg/l air - 4 hours
Eye Contact:	Non-Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Abamectin: Reproductive toxin in animal studies only at doses acutely toxic to the maternal animal.

Azoxystrobin : Shows weak chromosomal damage in mammalian cells at cytotoxic levels. Negative in whole animal assays for chromosomal and DNA damage at high dosages (> or = 2000 mg/kg).
In rabbits, no effect was observed up to the highest dose level (500 mg/kg/day). In rats, developmental effects were seen only at maternally toxic doses (100 mg/kg/day).

Fludioxonil: Delayed development at doses causing maternal toxicity.

Mefenoxam: None observed.

Thiabendazole: Evidence of developmental effects (skeletal defects, cleft palate) observed in animal studies.

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. When used in accordance with label directions and recommendations in this MSDS, no effects would be expected in humans.

Chronic/Subchronic Toxicity Studies

Abamectin: Central nervous system effects in animals.

Azoxystrobin : In a rat 90-day feeding study, liver toxicity was observed at 2000 ppm. This was manifest as gross distension of the bile duct, increased numbers of lining cells and inflammation of the duct. No toxicologically significant effects were seen in repeat dose dog studies.
Data reviews do not indicate any potential for endocrine disruption.
There is no evidence of neurotoxicity in any of the studies conducted with azoxystrobin.

Fludioxonil: Liver and kidney toxicity at high dose levels.

Mefenoxam: Liver effects at high dose animal tests.

Thiabendazole: Increased incidence of anemia and changes in the gall bladder, kidney, liver, spleen and thyroid gland in rat and dog tests.

No adverse health effects are expected in humans at airborne levels below the occupational exposure limit.

Thiamethoxam: Subchronic: Liver effects occurred in rodents only at high dose levels. Not neurotoxic after high acute and subchronic exposure in rats.

Carcinogenicity

Abamectin: None observed.

Azoxystrobin : No carcinogenic effects observed in rats or mice at doses up to the maximum tolerated dose.

Fludioxonil: Marginal increase (7%) of liver tumors (female, rats: 3,000 ppm); Within historical control range (1 to 10%).

Mefenoxam: None observed.

Thiabendazole: None observed.

Thiamethoxam: Classified as "not likely to be carcinogenic in humans" based on lifetime studies in mice and rats.

Other Toxicity Information

None

Toxicity of Other Components

Glycerin

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

Propylene Glycol

Test results reported in Section 11 for the final product take into account any acute hazards related to the propylene glycol in the formulation.
Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea.
Chronic dietary exposure caused kidney and liver injury in experimental animals.

Target Organs

Active Ingredients

Abamectin: Skin, eye, CNS

Azoxystrobin : Liver

Fludioxonil: Liver, kidney

Mefenoxam: Liver

Thiabendazole: Thyroid, liver, spleen, kidney, gall bladder, blood

Thiamethoxam: Liver

Inert Ingredients

Glycerin: Not Applicable

Propylene Glycol: CNS, kidney, liver

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects

Azoxystrobin :

Fish (Rainbow Trout) 96-hour LC50 470 ppb

Green Algae 5-day EC50 106 ppb

Invertebrate (Water Flea) 48-hour EC50 259 ppb

Bird (Mallard Duck) 14-day LD50 > 250 mg/kg

Mefenoxam:

Fish (Rainbow Trout) 96-hour LC50 > 121 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 > 113 ppm

Bird (Bobwhite Quail) 14-day LD50 981 mg/kg

Fludioxonil:

Fish (Rainbow Trout) 96-hour LC50 0.47 ppm

Green Algae 5-day EC50 0.087 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 0.9 ppm

Bird (Bobwhite Quail) 14-day LD50 > 2000 mg/kg

Thiabendazole:

Bird (Bobwhite Quail) LD50 Oral > 2250 mg/kg

Fish (Trout) 96-hour LC50 0.56 ppm

Invertebrate (Water Flea) 48-hour EC50 0.31 ppm

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.
Low bioaccumulation potential. Not persistent in soil. Stable in water. Low mobility in soil. Mixes in water (after 24 h).

Azoxystrobin :

The information presented here is for the active ingredient, azoxystrobin.
Low bioaccumulation potential. Not persistent in soil. Stable in water. Moderate mobility in soil. Sinks in water (after 24 h).

Fludioxonil:

The information presented here is for the active ingredient, fludioxonil.
Does not bioaccumulate. Persistent in soil. Stable in water. Low mobility in soil. Sinks in water (after 24 h).

Mefenoxam:

The information presented here is for the active ingredient, mefenoxam.
Does not bioaccumulate. Not persistent in soil or water. Moderate mobility in soil. Mixes/sinks (after 24 h).

Thiabendazole:

The information presented here is for the active ingredient, thiabendazole.
Low bioaccumulation potential. Stable in soil and water. Sinks in water (after 24 h).

Thiamethoxam:

The information presented here is for the active ingredient, thiamethoxam.
Not persistent in soil. Stable in water. Moderate mobility in soil. Floats 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
Proper Shipping Name: Pesticide, Liquid, Toxic, N.O.S. (Abamectin)
Hazard Class: Class 6.1
Identification Number: UN 2902
Packing Group: PG III

Comments

Water Transport - International
Proper Shipping Name: Pesticide, Liquid, Toxic, N.O.S. (Abamectin), Marine Pollutant
Hazard Class: Class 6.1
Identification Number: UN 2902
Packing Group: PG III

Air Transport
Proper Shipping Name: Pesticide, Liquid, Toxic, N.O.S. (Abamectin)
Hazard Class: Class 6.1
Identification Number: UN 2902
Packing Group: PG III

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: Thiabendazole (2.34%) (CAS No. 148-79-8)

California Proposition 65

Not Applicable

CERCLA/SARA 304 Reportable Quantity (RQ)

Not Applicable

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings		HMIS Hazard Ratings	
Health:	4	Health:	3
Flammability:	1	Flammability:	1
Instability:	0	Reactivity:	0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 4/20/2011

Revision Date: 1/5/2012 Replaces: 12/7/2011

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.

End of MSDS