Safety Data Sheet

AVICTA® DUO COT202

Date: 7/2/2015
Replaces: 3/30/2015

1. PRODUCT IDENTIFICATION

Product identifier on label: **AVICTA® DUO COT202**
Product No.: A20703C
Use: Nematicide/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 3
Carcinogenicity: Category 2
Reproductive Toxicity: Category 2
Specific Target Organ Toxicity: Respiratory Irritation Category 3
Specific Target Organ Toxicity: Repeated Category 1
Oral: Category 3

Signal Word (OSHA): Danger

Hazard Statements:
Toxic if swallowed
Toxic if inhaled
May cause respiratory irritation
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
Causes damage to organs through prolonged or repeated exposure

Hazard Symbols:



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.
If swallowed: Immediately call a poison center, doctor or Syngenta. Rinse mouth.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

If exposed or concerned: Get medical advice/attention.

Call a poison center, doctor or Syngenta if you feel unwell.

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

Chemical Name	Common Name	CAS Number	Concentration
Glycerin	Glycerin	56-81-5	<5%
Titanium Dioxide	Titanium Dioxide	13463-67-7	<5%
1,2-Propanediol	Propylene Glycol	57-55-6	<5%
Other ingredients	Other ingredients	Trade Secret	45.8%
Abamectin	Abamectin	71751-41-2	11.2%
3-(2-chloro-1,3-thiazol-5-ylmethyl)-5-methyl-1,3,5-oxadiazinan-4-ylidene(nitro)amine	Thiamethoxam	153719-23-4	28.0%

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 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. 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:

Lack of coordination, tremors, dilated pupils

Respiratory irritation

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 MK936 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 MK936 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 MK936 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:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Glycerin	15 mg/m³ TWA (total); 5 mg/m³ TWA (respirable)	Not Established	Not Established	Not Applicable

Titanium Dioxide	15 mg/m³ TWA (total)	10 mg/m³ TWA	2.4 mg/m³10-hr TWA (fine dust); 0.3 mg/m³ (ultrafine dust)	Manufacturer
Propylene Glycol	Not Established	Not Established	10 mg/m³ TWA	AIHA
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Abamectin	Not Established	Not Established	0.02 mg/m³ TWA	Syngenta
Thiamethoxam	Not Established	Not Established	3 mg/m³ TWA	Syngenta

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. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin Contact:

Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene 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.

Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Red Liquid

Odor: Aromatic

Odor Threshold: Not Available

pH: 6.7 %

Melting point/freezing point: Not Available

Initial boiling point and boiling range: Not Available

Flash Point (Test Method): >102°C

Flammable Limits (% in Air): Not Available

Flammability: Not classified in terms of its flash point

Vapor Pressure: Abamectin 7.5 x 10(-8) mmHg @ 77°F (25°C)
Thiamethoxam 2 x 10(-11) mmHg @ 68°F (20°C)

Vapor Density: Not Available

Relative Density: 1.19 g/ml

Solubility (ies): Abamectin 0.007 - 0.01 mg/l @ 68°F (20°C)

Thiamethoxam 4.1 g/l @ 77°F (25°C)

Partition coefficient: n-octanol/water: Not Available

Autoignition Temperature: 450°C

Decomposition Temperature: Not Available

Viscosity: 410mPa @ 68°F (20°C)

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: None known.

Incompatible materials: None known.

Hazardous Decomposition Products: Not Available

11. TOXICOLOGICAL INFORMATION

Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Lack of coordination, tremors, dilated pupils, Respiratory irritation

Delayed, immediate and chronic effects of exposure: Developmental toxicity, Possible carcinogenicity, Respiratory system effects

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

Ingestion:	Oral (LD50 Rat) :	225 mg/kg body weight
Dermal:	Dermal (LD50 Rat) :	> 5000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 0.52 mg/l
Eye Contact:	Practically Non-Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Local Lymph Node Assay Mouse)	

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.

Chemical Name	NTP/IARC/OSHA Carcinogen
Glycerin	No
Titanium Dioxide	IARC Group 2B
1,2-Propanediol	No
Other ingredients	No
Abamectin	No
3-(2-chloro-1,3-thiazol-5-ylmethyl)-5-methyl-1,3,5-oxadiazinan-4-ylidene(nitro)amine	No

Other Toxicity Information

None

Toxicity of Other Components

Glycerin

Repeated or prolonged exposure to concentrated solutions may result in dermatitis.

Other ingredients

Not Applicable

Propylene Glycol

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

Titanium Dioxide

Titanium dioxide is listed as an IARC Group 2B (Possibly Carcinogenic to Humans).
Prolonged exposure causes respiratory irritation and may lead to pulmonary fibrosis.
Normal handling and field strength application of this product are not expected to result in exposures exceeding the occupational exposure limit(s) for this ingredient.

Target Organs

Active Ingredients

Abamectin:	Skin, eye, CNS
Thiamethoxam:	Liver

Inert Ingredients

Glycerin:	Skin
Other ingredients:	Not Applicable
Propylene Glycol:	CNS, kidney, liver
Titanium Dioxide:	Lung

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.
Low bioaccumulation potential. Not persistent in soil. Stable in water. Low mobility in soil. Mixes 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, Thiamethoxam)
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, Thiamethoxam)
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, Thiamethoxam)
Hazard Class: Class 6.1
Identification Number: UN 2902
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 swallowed. May be fatal if inhaled. Do not breathe vapor. 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.

EPA Registration Number(s):
100-1538

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: None

CERCLA/SARA 304 Reportable Quantity (RQ):
None

RCRA Hazardous Waste Classification (40 CFR 261):
Not Applicable

TSCA Status:
TSCA R & D Exempt

16. OTHER INFORMATION

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

Syngenta Hazard Category: D

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme
*	Chronic

For non-emergency questions about this product call:

1-800-334-9481

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