Safety Data Sheet

> 5.620 mg/kg diet Practically non-toxic. BOBWHITE QUAIL (COLINUS VIRGINIANUS): DIETARY TOXICITY, 5 DAYS, LC50: > 5.620 mg/kg diet Practically non-toxic. ARTHROPOD TOXICITY: HONEY BEE (APIS MELLIFERA): ORAL, 48 HOURS, LD50: > 100 µg/bee Practically non-toxic. HONEY BEE (APIS MELLIFERA): CONTACT, 48 HOURS, LD50: > 200 µg/bee Practically non-toxic. SOIL ORGANISM TOXICITY, INVERTEBRATES: EARTHWORM (EISENIA FOETIDA): ACUTE TOXICITY, 14 DAYS, LC50: 211 - 397 mg/kg dry soil Slightly toxic. BIOACCUMULATION: Bluegill sunfish (Lepomis macrochirus): WHOLE FISH: BCF: 20 Rapid depuration after end of exposure. DISSIPATION: WATER, AEROBIC, 20 DEG C: HALF LIFE: 25.9 - 55.1 days SOIL, AEROBIC, 20 DEG C:

13. DISPOSAL CONSIDERATIONS

HALF LIFE: 3.4 - 29 days

PRODUCT:

KOC: 74 - 422

Recycle if appropriate facilities/equipment available.

Keep out of drains, sewers, ditches and water ways.

Burn in special, controlled high temperature incinerator.

Follow all local/regional/national/international regulations.

CONTAINER: See the individual container label for disposal information.

Emptied containers retain vapour and product residue.

Observe all labeled safeguards until container is cleaned, reconditioned or

destroyed. Empty packaging completely.

Triple or pressure rinse empty containers.

Do NOT contaminate water when disposing of rinse waters.

Ensure packaging cannot be reused. Do NOT re-use containers.

Store for collection by approved waste disposal service.

Recycle if appropriate facilities/equipment available.

Follow all local/regional/national/ international regulations. Use handling recommendations in

Section 7 and personal protection recommendations in Section 8.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation. US DOT BASIC DESCRIPTION AND TECHNICAL NAME: Not regulated for domestic ground transportation. SPECIAL PROVISIONS: This material meets the definition of a marine pollutant.

IMDG CODE: Use description for ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. IATA/ICAO: Use description for ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

15. REGULATORY INFORMATION
TSCA INVENTORY: Exempt
OSHA HAZARDOUS COMPONENTS:

Acetochlor Glycerin

Glycerin
Petroleum Distillates Hydrotreated Light
SARA TITLE III RULES:
SECTION 311/312 HAZARD
CATEGORIES: Immediate
SECTION 302 EXTREMELY HAZARDOUS
SUBSTANCES: Not applicable.
SECTION 313 TOXIC CHEMICAL(S): Not

applicable.
CERCLA REPORTABLE QUANTITY: Not applicable.

16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data.
Follow all local/regional/national/

international regulations.

Please consult supplier if further information is needed.

In this document the British spelling was applied.

Significant changes versus previous edition. NFPA:

HEALTH: 2 FLAMMABILITY: 1

INSTABILITY: 1
0 = Minimal hazard, 1 = Slight hazard, 2 = Moderate hazard, 3 = Severe hazard,

4 = Extreme hazard Full denomination of most frequently used acronyms. BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M. (intramuscular), I.P. (intraperitoneal), I.V. (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No. Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PII (Primary Irritation Index), Pow (Partition coefficient noctanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit) This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING

health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label. Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, MONSANTO Company or any of its subsidiaries makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for the purposes prior to use. In no event will MONSANTO Company or any of its subsidiaries be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR TO THE PRODUCT TO WHICH INFORMATION REFERS 000000040700 End of document

Warrior

Syngenta

01/08/13

3622

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: Warrior Insecticide with Zeon Technology PRODUCT NO.: A12838B EPA SIGNAL WORD: Warning ACTIVE INGREDIENT(%): Lambda-Cyhalothrin (11.4%) CAS NO.: 91465-08-6 CHEMICAL NAME: [1a(S*),3a(Z)]-cyano (3-phenoxyphenyl)methyl-3-(2-chloro-3,3,3trifluoro-1-propenyl)-2, 2-dimethylcyclopropanecarboxylate CHEMICAL CLASS: A pyrethroid insecticide EPA REGISTRATION NUMBER(S): 100-1112 SECTION(S) REVISED: 9, 15

(attached to and accompanying the product

container). This MSDS provides important

2. HAZARDS IDENTIFICATION

HEALTH AND ENVIRONMENTAL: Harmful if swallowed or inhaled. Causes mild eye and skin irritation. Vapors may cause drowsiness and dizziness. May be harmful if swallowed and enters airway. May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

HAZARDOUS DECOMPOSITION
PRODUCTS: Not Available
PHYSICAL PROPERTIES:
APPEARANCE: Blue opaque liquid
(capsule suspension)
ODOR: Not Available
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

Petroleum Solvent OSHA PEL: Not Established ACGIH TLV: Not Established OTHER: 50 mg/m(3) (8 ppm) TWA * NTP/IARC/OSHA CARCINOGEN: No Propylene, Glycol OSHA PEL: Not Established ACGIH TLV: Not Established OTHER: 10 mg/m(3) TWA ****
NTP/IARC/OSHA CARCINOGEN: No Naphthalene (< 1.5%) OSHA PEL: 10 ppm TWA ACGIH TLV: 10 ppm TWA (skin) OTHER: 10 ppm TWA ** NTP/IARC/OSHA CARCINOGEN: See "Toxicity", Sec. 11 Lambda-Cyhalothrin (11.4%) OSHA PEL: Not Established ACGIH TLV: Not Established OTHER: 0.04 mg/m(3) TWA (skin) *** NTP/IARC/OSHA CARCINOGEN: No * recommended by manufacturer ** recommended by NIOSH *** Syngenta Occupational Exposure Limit (OEL)
**** Recommended by AIHA (American

4. FIRST AID MEASURES

not product specifications.

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.

Ingredients not precisely identified are

proprietary or non-hazardous. Values are

SYNGENTA HAZARD CATEGORY: C, S

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.

NOTES TO PHYSICIAN: There is no specific antidote if this product is ingested. Treat symptomatically. Skin contact paresthesia effects (itching, tingling, burning or numbness) are transient, lasting up to 24 hours. Treat symptomatically. Contains petroleum distillate - vomiting may cause aspiration pneumonia. MEDICAL CONDITION LIKELY TO BE AGGRAVATED BY EXPOSURE: Not Available

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION:
FLASH POINT (TEST METHOD):
> 200 deg 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.

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 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, nitrile rubber, neoprene rubber or Viton), coveralls, socks and chemical-resistant footwear. Stringent housekeeping measures are necessary to prevent translocation of the material from contaminated work surfaces to uncontaminated surfaces (railings, doors, etc.). Unprotected contact with such translocated material can result in paresthesia effects (see Section 11 of MSDS). Do not touch unprotected skin areas (face) with contaminated gloves or clothing. INHALATION: A combination particulate/organic vapor respirator should be used until effective engineering controls are installed to comply with occupational exposure limits, or until exposure limits are established. Use a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE

are installed to comply with occupational exposure limits, or until exposure limits are established. Use a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE filter. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where airpurifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Blue opaque liquid (capsule suspension)
ODOR: Not Available
MELTING POINT: Not Available
BOILING POINT: Not Available
SPECIFIC GRAVITY/DENSITY:
1.060 - 1.070 g/ml
pH: 4.5 - 6.0 (neat)
SOLUBILITY IN H2O:
LAMBDA-CYHALOTHRIN: 0.004 mg/l
VAPOR PRESSURE:
LAMBDA-CYHALOTHRIN: 1.5 x 10(-9)
mmHg @ 68 deg F (20 deg C)

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal use and storage conditions.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Not Available

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Safety Data Sheet

MATERIALS TO AVOID: Not Available HAZARDOUS DECOMPOSITION PRODUCTS: Not Available

11. TOXICOLOGICAL INFORMATION ACUTE TOXICITY/IRRITATION STUDIES (FINISHED PRODUCT):

INGESTION: ORAL (LD50 MALE RAT): 351 mg/kg body weight DERMAL:

DERMAL (LD50 RAT): > 2000 mg/kg body weight

INHALATION: INHALATION (LC50 RAT):

> 2.5 mg/l air - 4 hours EYE CONTACT: Mildly Irritating (Rabbit) SKIN CONTACT: Slightly Irritating (Rabbit) SKIN SENSITIZATION: Not Available REPRODUCTIVE/DEVELOPMENTAL **EFFECTS**:

LAMBDA-CYHALOTHRIN: Not a developmental or reproductive toxicant. CHRONIC/SUBCHRONIC TOXICITY STUDIES:

LAMBDA-CYHALOTHRIN: Reversible paresthesia (abnormal skin sensation). Reversible clinical signs of neurotoxicity in mammals.

CARCINOGENICITY:

LAMBDA-CYHALOTHRIN: No treatmentrelated tumors in rats or mice.

OTHER TOXICITY INFORMATION: In humans, contact with exposed skin may result in temporary itching, tingling, burning or numbness, called paresthesia. The effect may result from splash, aerosol, or hot vapor contact, or transfer to the face from contaminated gloves and hands. The symptoms normally disappear within 24 hours. Face and genital areas are especially susceptible to this effect. Paresthesia involving the face is also known as "subjective facial sensation" or

TOXICITY OF OTHER COMPONENTS: NAPHTHALENE (< 1.5%): Test results reported in Section 11 for the final product take into account any acute hazards related to the naphthalene in the formulation. Chronic overexposure to naphthalene can affect the liver, kidney, respiratory tract and blood.

CARCINOGEN STATUS: NTP: Anticipated Carcinogen IARC: Group 2B Possible Human Carcinogen Petroleum Solvent Repeated exposure may case skin dryness or cracking. If swallowed, may be aspirated and cause lung damage. May be irritating to the eyes, nose, throat and lungs. Breathing of high vapor concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. 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:

LAMBDA-CYHALOTHRIN: Liver, nervous

INERT INGREDIENTS:

NAPHTHALENE: Liver, kidney, respiratory tract, blood

PETROLEUM SOLVENT: Respiratory tract, stomach, liver, thyroid, urinary bladder, CNS, skin Propylene

GLYCOL: CNS, kidney, liver

12. ECOLOGICAL INFORMATION **ECOTOXICITY EFFECTS:**

LAMBDA-CYHALOTHRIN: Fish (Rainbow Trout) 96-hour LC50 0.19 ppb

Bird (Mallard Duck) LD50 Oral > 3950 mg/kg

Invertebrate (Water Flea) 48-hour EC50 0.04 ppb

FNVIRONMENTAL FATE:

LAMBDA-CYHALOTHRIN: The information presented here is for the active ingredient, lambda-cyhalothrin. Not persistent in soil or water. Immobile in soil. Sinks in water (after

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: Pyrethroid Pesticides, Liquid, Toxic, (contains Lambda-Cyhalothrin) HAZARD ĆLASS OR DIVISION: 6.1 **IDENTIFICATION NUMBER: UN 3352** PACKING GROUP: PG III COMMENTS:

Water Transport - International PROPER SHIPPING NAME: Pyrethroid Pesticides, Liquid, Toxic, (contains Lambda-Cyhalothrin), Marine Pollutant HAZARD CLASS OR DIVISION: 6.1 **IDENTIFICATION NUMBER: UN 3352** PACKING GROUP: PG III AIR TRANSPORT: PROPER SHIPPING NAME: Pyrethroid Pesticides, Liquid, Toxic, (contains

Lambda-Cyhalothrin) HAZARD CLASS OR DIVISION: 6.1

IDENTIFICATION NUMBER: UN 3352 PACKING GROUP: PG III

15. REGULATORY INFORMATION EPCRA SARA TITLE III CLASSIFICATION: SECTION 311/312 HAZARD CLASSES: Acute Health Hazard Chronic Health Hazard SECTION 313 TOXIC CHEMICALS: Naphthalene (< 1.5%) (CAS No. 91-20-3) 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): Report product spills > 800 gal. (based on naphthalene [RQ = 100 lbs.] content in the formulation) RCRA HAZARDOUS WASTE Classification (40 CFR 261): Not Applicable TSCA STATUS: Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION NFPA HAZARD RATINGS: HEALTH: 2 FLAMMABILITY: 1 INSTABILITY: 0 HMIS HAZARD RATINGS: HEALTH: 2 FLAMMABILITY: 1 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: 12/12/2000 REVISION DATE: 1/8/2013 REPLACES: 7/16/2010 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.

Warrior II with Zeon

Syngenta

07/16/10

End of MSDS

Syngenta Crop Protection, Inc. Post Office Box 18300 Greensboro, NC 27419 IN CASE OF EMERGENCY, CALL: 1-800-888-8372

1. PRODUCT IDENTIFICATION PRODUCT NAME: WARRIOR II WITH ZEON TECHNOLOGY PRODUCT NO.: A12871Q EPA SIGNAL WORD: Warning ACTIVE INGREDIENT(%): Lambda-Cyhalothrin (22.8%) CAS NO.: 91465-08-6 CHEMICAL NAME: [1a(S*),3a(Z)]-cyano(3phenoxyphenyl)methyl-3-(2-chloro-3,3,3trifluoro-1-propenyl)-2,2dimethylcyclopropanecarboxylate CHEMICAL CLASS: A pyrethroid insecticide EPA REGISTRATION NUMBER(S): 100-1295 SECTION(S) REVISED: 12

2. HAZARDS IDENTIFICATION

HEALTH AND ENVIRONMENTAL: Toxic if swallowed. Harmful if inhaled. May be harmful in contact with skin. Irritating to eyes and skin. May cause an allergic skin reaction.

May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

Vapors may cause drowsiness or dizziness. May be harmful if swallowed and enters airway.