

ARILON®

Date: 7/1/2015

Replaces: 3/16/2015

1. PRODUCT IDENTIFICATIONProduct identifier on label: **ARILON®**

Product No.: A20382A

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: Oral: Category 4
Inhalation: Category 4
Specific Target Organ Toxicity: Repeated Category 1

Signal Word (OSHA): Danger

Hazard Statements: Harmful if swallowed
Harmful if inhaled
Causes damage to organs through prolonged or repeated exposure

Hazard Symbols:

Precautionary Statements: 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.
If swallowed: Call a poison center, doctor or Syngenta if you feel unwell. Rinse mouth.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a poison center, doctor or Syngenta if you feel unwell.
Dispose of contents and container in accordance with local regulations.

Other Hazard Statements: May form combustible dust concentrations in air.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
Other ingredients	Other ingredients	Trade Secret	80%
methyl (4aS)-7-chloro-2,5-dihydro-2- [[[(methoxycarbonyl)]4- (trifluoromethoxy)phenyl]amino]carbonyl]in deno[1,2-e][1,3,4]oxadiazine-4a(3H)- carboxylate	Indoxacarb Technical	173584-44-6	20%

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.

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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:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Indoxacarb Technical	Not Established	Not Established	1 mg/m ³ 8hr & 12hr TWA (respirable)	Manufacturer

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 dust-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, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.

Inhalation:

A particulate filter respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use NIOSH certified respirator with any N, R, P or HE filter. Use a self-contained breathing apparatus in

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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: Light tan to white granules

Odor: Slight

Odor Threshold: Not Available

pH: 8.1 - 9.1

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: Indoxacarb Technical Not Available

Vapor Density: Not Available

Relative Density: 0.50 - 0.70 g/ml Bulk density (tapped)

Solubility (ies): Indoxacarb Technical Not Available

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 INFORMATIONHealth effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Not Applicable

Delayed, immediate and chronic effects of exposure: Not Applicable

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

Ingestion: Oral (LD50 Rat) : 1909 mg/kg body weight
 Dermal: Dermal (LD50 Rat) : > 5000 mg/kg body weight
 Inhalation: Inhalation (LC50 Rat) : > 4.8 mg/l air - 4 hours
 Eye Contact: Slightly Irritating (Rabbit)
 Skin Contact: Slightly Irritating (Rabbit)
 Skin Sensitization: Not a sensitizer in animal tests (Guinea Pig)

Reproductive/Developmental Effects

Indoxacarb Technical: Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity.

Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Chronic/Subchronic Toxicity Studies

Indoxacarb Technical: The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

Inhalation; rat; Incoordination, mortality, red blood cell destruction causing abnormal decrease in number of red blood cells (anemia)

Carcinogenicity

Indoxacarb Technical: Animal testing did not show any carcinogenic effects.

Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Did not cause genetic damage in animals.

Chemical Name	NTP/IARC/OSHA Carcinogen
Other ingredients	No
methyl (4aS)-7-chloro-2,5-dihydro-2- [[[(methoxycarbonyl)[4- (trifluoromethoxy)phenyl]amino]carbonyl]inden o[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylate	No

Other Toxicity Information

None

Toxicity of Other Components

Other ingredients

Not Applicable

Target Organs

Active Ingredients

Indoxacarb Technical: Nervous system

Inert Ingredients

Other ingredients: Not Applicable

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12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

Indoxacarb Technical:

Fish (Rainbow Trout) 96-hour LC50 0.65 mg/l

Bird (Bobwhite Quail) LD50 Oral 98 mg/kg

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 0.60 mg/l

Environmental Fate

Indoxacarb Technical:

Information given is based on data on the components and the ecotoxicology of similar products.

Environmental Hazards: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark.

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, Solid, N.O.S. (Indoxacarb)

Hazard Class: Class 9

Identification Number: UN 3077

Packing Group: PG III

Air Transport

Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Indoxacarb)

Hazard Class: Class 9

Identification Number: UN 3077

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:

Caution: CAUTION: Harmful if swallowed. Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact

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with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Harmful if inhaled. Avoid breathing (dust, vapor or spray mist). Remove contaminated clothing and wash clothing before reuse.

EPA Registration Number(s):
 100-1501

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

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: 1
 Flammability: 1
 Reactivity: 0

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

Syngenta Hazard Category: D

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 5/6/2013
 Revision Date: 7/1/2015
 Section(s) Revised: 2, 4, 11, 16
 Replaces: 3/16/2015

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.

SAFETY DATA SHEET

Date Printed: 03/10/2016

Date Revised: 05/15/2015

SECTION 1. IDENTIFICATION

Product Name: (5N) 99.999% Copper Mesh

Product Number: CU-M-05-GZ

CAS #: 7440-50-8

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements

1093 Broxton Ave. Suite 2000

Los Angeles, CA 90024

Tel: +1 310-208-0551

Fax: +1 310-208-0351

Emergency telephone number:

Domestic, North America +1 800-424-9300

International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The substance is not classified as hazardous to health or the environment according to the CLP regulation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Not applicable

Information concerning particular hazards for human and environment:

No information known.

Hazards not otherwise classified

No information known.

Label elements

Labelling according to Regulation (EC) No 1272/2008

Not applicable

Hazard pictograms

Not applicable

Signal word

Not applicable

Hazard statements

Not applicable

WHMIS classification

Not controlled

Classification system

HMIS ratings (scale 0-4)