

ACURON® FLEXI

Date: 7/25/2018
Replaces: 7/9/2018

1. PRODUCT IDENTIFICATION

Product identifier on label: **ACURON® FLEXI**
Product No.: A20540D
Use: Herbicide
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
Skin Sensitizer: Category 1B
Eye Damage/Irritation: Category 2A
Reproductive Toxicity: Category 1B
Signal Word (OSHA): Danger
Hazard Statements: May cause an allergic skin reaction
Causes serious eye irritation
Harmful if inhaled
May damage fertility or the unborn child

Hazard Symbols:

Precautionary Statements: Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing mist, vapors, spray.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear eye protection.
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.
If skin irritation or rash occurs: Get medical advice.
If eye irritation persists: Get medical advice.
Wash contaminated clothing before reuse.

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Store locked up.
Wash hands and face thoroughly after handling.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Wear protective gloves, protective clothing, eye protection.
If on skin: Wash with plenty of soap and water.
See Section 4 First Aid Measures.
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
Copper Hydroxide	Copper Hydroxide	20427-59-2	<1%
2H-1,4-Benzoxazine, 4-(dichloroacetyl)-3,4-dihydro-3-methyl-	Benoxacor	98730-04-2	<5%
Acetamide, 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)-,(S)	S-Metolachlor (CGA-77102)	87392-12-9	31.2%
2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione	Mesotrione	104206-82-8	3.47%
Bicyclo[3.2.1]oct-3-en-2-one, 4-hydroxy-3-[[2-[(2-methoxyethoxy)methyl]-6-(trifluoromethyl)-3-pyridinyl]carbonyl]-	Bicyclopyrone	352010-68-5	0.87%

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:

Eye irritation
Skin irritation
Allergic skin reaction

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Respiratory Sensitization

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:

Flammable hydrogen gas may be formed on contact with incompatible metals. See "Conditions to Avoid", Section 10.

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:

Spray solutions of this product should be mixed, stored and applied using only plastic, plastic-lined steel, stainless steel or fiberglass/plastic containers. Concentrate should not be stored or maintained in long-term contact with galvanized steel, carbon steel, aluminum, brass or cast iron.

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:

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Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Copper Hydroxide	1 mg/m ³ (copper dust and mist) TWA	1 mg/m ³ (copper dust and mist) TWA	Not Established	Not Applicable
Benoxacor	Not Established	Not Established	1 mg/m ³ TWA	Syngenta
S-Metolachlor (CGA-77102)	Not Established	Not Established	10 mg/m ³ TWA	Syngenta
Mesotrione	Not Established	Not Established	5 mg/m ³ TWA	Syngenta
Bicyclopyrone	Not Established	Not Established	2 mg/m ³ 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 (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear.

Inhalation:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with an N, P or R 95 or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection. 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 certified respirator with any N, R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Green liquid

Odor: Weak aromatic

Odor Threshold: Not Available

pH: 4-6

Melting point/freezing point: Not Available

Initial boiling point and boiling range: Not Available

Flash Point (Test Method): <218°F

Flammable Limits (% in Air): Not Available

Flammability: Not Available

Vapor Pressure: Benoxacor 4.4 mmHg @ 68°F (20°C)

Bicyclopyrone 3.75 x 10⁻⁸ mmHg @ 68°F (20°C)

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Mesotrione < 4.3 x 10⁻⁸ mmHg @ 68°F (20°C)
S-Metolachlor (CGA-77102) 2.8 x 10⁻⁵ mmHg @ 77°F (25°C)

Vapor Density: Not Available

Relative Density: 1.090 g/ml

Solubility (ies): Benoxacor 60 ppm @ 77°F (25°C)
Bicyclopyrone Not soluble
Mesotrione 160 mg/l @ 68°F (20°C) (99.7% pure)
S-Metolachlor (CGA-77102) 0.48 g/l @ 77°F (25°C)

Partition coefficient: n-octanol/water:

Autoignition Temperature: 455°C

Decomposition Temperature: Not Available

Viscosity: 232mPa @ 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: Concentrate should not be stored in galvanized steel, carbon steel or aluminum. Brass and/or cast iron fittings should not be used. Spray solutions should not be mixed, stored or applied in containers other than plastic, plastic-lined steel, stainless or fiberglass/plastic.

Store above 32°F (0°C).

Stable in acidic and neutral solution. Decomposed by alkali and in the presence of U.V. light. Compound inactivated by adsorption onto inert clay.

Incompatible materials: None known.

Hazardous Decomposition Products: Not Available

11. TOXICOLOGICAL INFORMATION

Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Eye irritation, Rash, redness or itching, Skin irritation

Delayed, immediate and chronic effects of exposure: Developmental toxicity, Eye irritation, Skin irritation, Allergic skin reaction, Allergy or asthma effects

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

Ingestion:	Oral (LD50 Rat) :	> 5000 mg/kg body weight
Dermal:	Dermal (LD50 Rat) :	> 5000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 2.56 mg/l

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Eye Contact: Mild Irritant
Skin Contact: Not an Irritant
Skin Sensitization: A skin sensitizer.

Reproductive/Developmental Effects

Benoxacor : None observed.
Bicyclopyrone: Animal testing did not show any effects on fertility. Some evidence of adverse effects on development, based on animal experiments.
Mesotrione : Did not show reproductive effects in animal experiments.
S-Metolachlor (CGA-77102): Did not show reproductive effects in animal experiments.

Chronic/Subchronic Toxicity Studies

Benoxacor : Stomach, liver and kidney toxicity at high doses.
Bicyclopyrone: No significant adverse effects were reported.
Mesotrione : No adverse effect has been observed in chronic toxicity tests.
S-Metolachlor (CGA-77102): No adverse effect has been observed in chronic toxicity tests.

Carcinogenicity

Benoxacor : Tumors in nonglandular portion of stomach of rodents (hitomorphologic region not found in humans).
Bicyclopyrone: Limited evidence of carcinogenicity in animal studies. There is no evidence that these findings are relevant to humans.
Mesotrione : Did not show carcinogenic effects in animal experiments.
S-Metolachlor (CGA-77102): Did not show carcinogenic effects in animal experiments.

Chemical Name	NTP/IARC/OSHA Carcinogen
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Copper Hydroxide	No
2H-1,4-Benzoxazine, 4-(dichloroacetyl)-3,4-dihydro-3-methyl-	No
Acetamide, 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl)-, (S)	No
2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione	No
Bicyclo[3.2.1]oct-3-en-2-one, 4-hydroxy-3-[[2-[(2-methoxyethoxy)methyl]-6-(trifluoromethyl)-3-pyridinyl]carbonyl]-	No

Other Toxicity Information

Not Available

Toxicity of Other Components

Copper Hydroxide
Inhalation may cause irritation of mucous membranes. Chronic inhalation effects include irritation of the upper respiratory tract and occasional ulceration and perforation of the nasal septum.

Target Organs

Active Ingredients

Benoxacor : Gastrointestinal tract, liver, kidney

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Bicyclopyrone:	Heart
Mesotrione :	Blood, eye, kidney, liver.
S-Metolachlor (CGA-77102):	Liver
<u>Inert Ingredients</u>	
Copper Hydroxide:	Upper respiratory tract, eye, skin

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

Benoxacor :

Invertebrate (Water Flea) LC50/EC50 11.5 - 17 ppm
Fish (Trout) LC50/EC50 2.4 ppm
Bird (Bobwhite Quail) 8-day dietary LC50/EC50 3600 ppm

S-Metolachlor (CGA-77102):

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 11.24 mg/l
Green Algae 96-hour ErC50 0.077 mg/l
Fish (Rainbow Trout) 96-hour LC50 1.23 mg/l

Mesotrione :

Fish (Rainbow Trout) 96-hour LC50 >120 mg/l
Fish (Bluegill Sunfish) 96-hour LC50 >120 mg/l
Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 900 mg/l
Green Algae 72-hour EbC50 4.5 mg/l

Bicyclopyrone:

Fish (Rainbow Trout) 96-hour LC50 > 100 mg/l
Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 > 100 mg/l
Green Algae 96-hour EbC50 2.3 mg/l

Environmental Fate

Benoxacor :

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

Bicyclopyrone:

The following information is for the active ingredient, NOA449280.
Not readily biodegradable. Not persistent in soil. Very high mobility in soil.

Mesotrione :

The substance has low potential for bioaccumulation. Mesotrione has medium to high mobility in soil.

S-Metolachlor (CGA-77102):

No data available for the formulation. The information presented here is for the active ingredient, s-metolachlor. A thorough review of environmental information is not possible in this document.
Low bioaccumulation potential. Not persistent in soil. Stable in water. Sinks in water (after 24 h).

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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.
(Mesotrione, S-Metolachlor), 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.
(Mesotrione, S-Metolachlor)

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:

Caution: Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with eyes or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

EPA Registration Number(s):

100-1568

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: Copper Hydroxide <1% (CAS No. 20427-59-2)

CERCLA/SARA 304 Reportable Quantity (RQ):

Not Applicable

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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
*	Chronic

Syngenta Hazard Category: D,S

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 7/9/2018

Revision Date: 7/25/2018

Replaces: 7/9/2018

Section(s) Revised: 2

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.