

RAVE® Herbicide

Date: 6/3/2015
 Replaces: 8/19/2014

1. PRODUCT IDENTIFICATION

Product identifier on label: **RAVE® Herbicide**
 Product No.: A11815B
 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: Specific Target Organ Toxicity: Repeated Category 2
 Specific Target Organ Toxicity: Respiratory Irritation Category 3
 Signal Word (OSHA): Warning
 Hazard Statements: May cause respiratory irritation
 May cause damage to organs through prolonged or repeated exposure

Hazard Symbols:



Precautionary Statements: Do not breathe dust.
 Use only outdoors or in a well-ventilated area.
 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 Call a poison center, doctor or Syngenta if you feel unwell.
 Store locked up.
 Dispose of contents and container in accordance with local regulations.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
Starch	Starch	9005-25-8	Trade Secret
Amorphous Silica	Amorphous Silica	112945-52-5	Trade Secret
Other ingredients	Other ingredients	Trade Secret	36.2%

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3-(6-methoxy-4-methyl-1,3,5-triazin-2-yl)-1-[2-(2-chloroethoxy)phenylsulfonyl]-urea	Triasulfuron	82097-50-5	8.8%
3,6-dichloro-o-anisic acid	Dicamba (Sodium Salt)	1982-69-0	55.0%

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 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:

Respiratory irritation

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.

See also Sec. 7.

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:

Avoid dust formation.

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. Sweep up material and place in a compatible disposal container. Scrub area with hard water detergent (e.g. commercial products

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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:

This material is capable of forming flammable dust clouds in air, which, if ignited, can produce a dust cloud explosion. Flames, hot surfaces, mechanical sparks and electrostatic discharges can serve as ignition sources for this material. Electrical equipment should be compatible with the flammability characteristics of this material. The flammability characteristics will be made worse if the material contains traces of flammable solvents or is handled in the presence of flammable solvents.

This material can become readily charged in most operations.

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
Starch	15 mg/m ³ (total) TWA; 5 mg/m ³ (resp) TWA	10 mg/m ³ TWA	10 mg/m ³ (total) TWA; 5 mg/m ³ (resp) TWA	NIOSH
Amorphous Silica	20 mppcf	Not Established	Not Established	Not Applicable
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Triasulfuron	Not Established	Not Established	3 mg/m ³ TWA	Syngenta
Dicamba (Sodium Salt)	Not Established	Not Established	5 mg/m ³ TWA (Dicamba)	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 dust-proof chemical goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin Contact:

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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:

Use good handling practices to minimize dust. Use local exhaust ventilation to meet the recommended occupational exposure limit. If exposure is excessive, use any NIOSH Class N95 particulate filter respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Beige to brown granules

Odor: Phenolic

Odor Threshold: Not Available

pH: 5 - 7 (1% in deionized H₂O; 68-77°F (20 - 25°C))

Melting point/freezing point: Not Applicable

Initial boiling point and boiling range: Not Applicable

Flash Point (Test Method): Not Available

Flammable Limits (% in Air): Not Available

Flammability: Combustible powder

Vapor Pressure: Dicamba (Sodium Salt) Not Available
Triasulfuron < 1.5 x 10⁻⁸ mmHg @ 77°F (25°C)

Vapor Density: Not Available

Relative Density: 0.45 - 0.55 g/cm³ (bulk density)

Solubility (ies): Dicamba (Sodium Salt) 360 g/l @ 77°F (25°C)
Triasulfuron 815 mg/l @ 77°F (25°C)

Partition coefficient: n-octanol/water: Not Available

Autoignition Temperature: Not Available

Decomposition Temperature: Not Available

Viscosity: Not Available

Other: Not Available

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

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11. TOXICOLOGICAL INFORMATION

Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Respiratory irritation

Delayed, immediate and chronic effects of exposure: Respiratory system effects

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

Ingestion:	Oral (LD50 Rat) :	4541 mg/kg body weight
Dermal:	Dermal (LD50 Rat) :	> 2000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	> 2.75 mg/l air - 4 hours
Eye Contact:	Moderately Irritating (Rabbit)	
Skin Contact:	Non-Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Dicamba (Sodium Salt): Did not show teratogenic effects in animal experiments.

Triasulfuron: None observed.

Chronic/Subchronic Toxicity Studies

Dicamba (Sodium Salt): None observed.

Triasulfuron: Liver, kidney, spleen and blood effects.

Carcinogenicity

Dicamba (Sodium Salt): Did not show carcinogenic or mutagenic effects in animal experiments.

Triasulfuron: None observed.

Chemical Name	NTP/IARC/OSHA Carcinogen
Starch	No
Amorphous Silica	No
Other ingredients	No
3-(6-methoxy-4-methyl-1,3,5-triazin-2-yl)-1-[2-(2-chloroethoxy)phenylsulfonyl]-urea	No
3,6-dichloro-o-anisic acid	No

Other Toxicity Information

None

Toxicity of Other Components

Amorphous Silica

Prolonged exposure to amorphous silica fumed may cause damage to respiratory system and irritation to skin and eyes. Conjunctivitis of the eye, dermatitis of the skin and asthma may result.

Other ingredients

Not Applicable

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Starch

May cause eye and skin irritation. May cause respiratory tract irritation.

Target OrgansActive Ingredients

Dicamba (Sodium Salt): Not Applicable
Triasulfuron: Liver, kidney, spleen, blood

Inert Ingredients

Amorphous Silica: Respiratory tract, skin, eye
Other ingredients: Not Applicable
Starch: Eye, skin, respiratory tract

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

Triasulfuron:

Fish (Rainbow Trout) 96-hour LC50 > 100 ppm
Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 > 100 ppm
Bird (Bobwhite Quail) 14-day LD50 > 2150 mg/kg
Green Algae 12-day EC50 35 ppb

Dicamba (Sodium Salt):

Fish (Rainbow Trout) 96-hour LC50 558 ppm
Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 38.1 ppm

Environmental Fate

Dicamba (Sodium Salt):

The information presented here is for the active ingredient, dicamba (sodium salt).
Hydrolysis: Resistant to hydrolysis Photolysis: Not Available Soil Half-life: 2 to 25 days

Triasulfuron:

The information presented here is for the active ingredient, triasulfuron.
Not persistent in soil or water. Moderate mobility in soil. Sinks 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
Not regulated

Comments

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Water Transport - International
 Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Triasulfuron), Marine Pollutant
 Hazard Class: Class 9
 Identification Number: UN 3077
 Packing Group: PG III

Air Transport
 Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Triasulfuron)
 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: Harmful if swallowed or absorbed through skin. Causes eye irritation. Avoid contact with skin, eyes, or clothing.

EPA Registration Number(s):
 100-927

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard
 Fire Hazard

Section 313 Toxic Chemicals: Dicamba (Sodium Salt) 55.0% (CAS No. 1982-69-0)

CERCLA/SARA 304 Reportable Quantity (RQ):

None

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: 2
 Instability: 0

HMIS Hazard Ratings

Health: 1*
 Flammability: 2
 Reactivity: 0

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

Syngenta Hazard Category: B,S

For non-emergency questions about this product call:

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Original Issued Date: 4/1/1998
Revision Date: 6/3/2015 Replaces: 8/19/2014
Section(s) Revised: 2, 4, 11

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