

**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: **BARRICADE 65WG HERBICIDE** Product No.: A9950A  
 EPA Signal Word: Caution  
 Active Ingredient(%): Prodiamine (65.0%) CAS No.: 29091-21-2  
 Chemical Name: N3,N3-Di-n-propyl-2,4-dinitro-6-(trifluoromethyl)-m-phenylenediamine  
 Chemical Class: Dinitroaniline Herbicide  
 EPA Registration Number(s): 100-834 **Section(s) Revised: 2**

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Kaolin Clay	15 mg/m <sup>3</sup> TWA (total); 5 mg/m <sup>3</sup> TWA (respirable)	2 mg/m <sup>3</sup> TWA (respirable)	10 mg/m <sup>3</sup> TWA (total); 5 mg/m <sup>3</sup> TWA (respirable)**	No
Dispersing Agent	Not Established	Not Established	15 mg/m <sup>3</sup> TWA (total)*	No
Prodiamine (65.0%)	Not Established	Not Established	10 mg/m <sup>3</sup> TWA ***	No

\* recommended by manufacturer

\*\* recommended by NIOSH

\*\*\* Syngenta Occupational Exposure Limit (OEL)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.  
 Syngenta Hazard Category: C, S

**3. HAZARDS IDENTIFICATION**
Symptoms of Acute Exposure

Causes mild eye and skin irritation. Allergic skin reactions are possible.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Yellow granules

Odor: Odorless

Unusual Fire, Explosion and Reactivity Hazards

This product is considered electrically conductive. Static electricity, mechanical sparks, open flames and certain hot surfaces (greater than 680°F [360°C]) can serve as ignition sources for this material.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

**4. FIRST AID MEASURES**

Have the product container, label or Material 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. Have the person sip a glass of water if able to swallow. 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.

#### Medical Condition Likely to be Aggravated by Exposure

None known.

## **5. FIRE FIGHTING MEASURES**

### Fire and Explosion

Flash Point (Test Method):	Not Applicable	
Flammable Limits (% in Air):	Lower: % Not Applicable	Upper: % Not Applicable
Autoignition Temperature:	Not Available	
Flammability:	Not Flammable	

### Unusual Fire, Explosion and Reactivity Hazards

This product is considered electrically conductive. Static electricity, mechanical sparks, open flames and certain hot surfaces (greater than 680°F [360°C]) can serve as ignition sources for this material.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or 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**

### 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. Sweep up material and place in a 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**

Handle this material only in electrically conductive equipment. Electrically ground and bond this equipment as well as any worker who could contact a dust cloud formed of this material. Eliminate the presence of mechanical sparks and other ignition sources where dust clouds of this material could form. Bulk bags (FIBC) used to contain this material should be either type B or type C. If type C bags are used make sure they are electrically grounded before powder is discharged from the bag. This material is considered explosion class (Kst) 2. This material can energetically decompose at approximately 383°F (195°C). Do not store or process at temperatures above 320°F (160°C).

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, PACKAGING AND USE 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 (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.
- Inhalation: A particulate filter respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use a NIOSH approved respirator with any HE filter.

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: Yellow granules
- Odor: Odorless
- Melting Point: Not Available
- Boiling Point: Not Applicable
- Specific Gravity/Density: 0.63 g/cm<sup>3</sup>
- pH: 8.0 (5% in deionized water)

### Solubility in H<sub>2</sub>O

Prodiamine: 0.013 ppm @ 77°F (25°C)

### Vapor Pressure

Prodiamine: <5.6 x 10<sup>(-6)</sup> mmHg @ 68°F (20°C)

## 10. STABILITY AND REACTIVITY

- Stability: Stable under normal use and storage conditions.
- Hazardous Polymerization: Will not occur.
- Conditions to Avoid: Thermal, mechanical and electrical ignition sources.
- Materials to Avoid: Oxidizing agents.
- Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gases.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity/Irritation Studies (Finished Product)

- Ingestion: Practically Non-Toxic  
Oral (LD50 Rat) : > 5,000 mg/kg body weight
- Dermal: Slightly Toxic  
Dermal (LD50 Rat) : > 2,000 mg/kg body weight
- Inhalation: Slightly Toxic  
Inhalation (LC50 Rat) : 1.81 mg/l air - 4 hours
- Eye Contact: Mildly Irritating (Rabbit)
- Skin Contact: Practically Non-Irritating (Rabbit)
- Skin Sensitization: Sensitizing (Guinea Pig)

### Reproductive/Developmental Effects

Prodiamine: Fetal toxicity at high dose levels (rats); developmental and maternal toxicity observed at 1g/kg/day.

### Chronic/Subchronic Toxicity Studies

Prodiamine: Liver (alteration and enlargement) and thyroid effects (hormone imbalances) at high dose levels (rats); decreased body weight gains.

### Carcinogenicity

Prodiamine: Benign thyroid tumors (rat). None observed (mouse).

### Other Toxicity Information

None.

### Toxicity of Other Components

#### Dispersing Agent

Exposure can result in eye, skin and respiratory tract irritation.

#### Kaolin Clay

The toxicological properties of this material have not been fully investigated. May cause eye and skin irritation. May cause respiratory and digestive tract irritation. This is expected to be a low hazard for usual industrial handling.

Long term exposure to high concentrations of this dust may produce x-ray evidence of dust in the lungs.

Continued long term overexposure may affect respiratory function in some individuals.

### Target Organs

#### Active Ingredients

Prodiamine: Liver, thyroid

#### Inert Ingredients

Dispersing Agent: Eye, skin, respiratory tract

Kaolin Clay: Eye, skin, lung, digestive tract

## **12. ECOLOGICAL INFORMATION**

### Summary of Effects

Prodiamine:

Highly toxic to fish and invertebrates. Practically non-toxic to birds and bees.

### Eco-Acute Toxicity

Prodiamine: Rainbow Trout 96-hour LC50 0.83 ppm  
Bluegill Sunfish 96-hour LC50 0.55 ppm  
Daphnia magna 48-hour LC50 0.66 ppm  
Bobwhite 8-day Dietary LC50 > 10,000 ppm  
Mallard 8-day Dietary LC50 > 10,000 ppm  
Bees LC50/EC50 > 100 ug/bee

### Eco-Chronic Toxicity

Prodiamine: Not Available

### Environmental Fate

Prodiamine:

The information presented here is for the active ingredient, prodiamine.

Does not bioaccumulate. Persistent in soil. Stable in water. Immobile 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.

### B/L Freight Classification

Herbicides, NOI

### Comments

Water Transport - International

Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Prodiamine, 65%), Marine Pollutant

Hazard Class or Division: Class 9

Identification Number: UN 3077

Packing Group: PG III

## 15. REGULATORY INFORMATION

### EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard  
Chronic Health Hazard  
Reactive Hazard

Section 313 Toxic Chemicals: Not Applicable

### California Proposition 65

Not Applicable

### CERCLA/SARA 302 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: 1

### HMIS Hazard Ratings

Health: 2  
Flammability: 2  
Reactivity: 1

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: 01/02/1992

Revision Date: 12/03/2004

Replaces: 10/21/2004

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.

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End of MSDS