

**Novartis Crop Protection, Inc**  
**Post Office Box 18300**  
**Greensboro, NC 27419**

**In Case of Emergency, Call**

**Novartis : 1-800-888-8372**  
**CHEMTREC : 1-800-424-9300**

**1. CHEMICAL IDENTIFICATION**

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

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Kaolin Clay	15 mg/m <sup>3</sup> (Total Dust);5 mg/m <sup>3</sup> (Respirable)	2 mg/m <sup>3</sup> (Respirable)	Not Established	No
Surfactant	Not Established	Not Established	Not Established	No
Dispersing Agent	Not Established	Not Established	15 mg/m <sup>3</sup> (Total Dust)*	No
Sodium Sulfite	Not Established	Not Established	Not Established	IARC, 3
Dispersant	Not Established	Not Established	Not Established	No
Prodiamine (65%)	Not Established	Not Established	Not Established	No

\* recommended by manufacturer

**3. HAZARDS IDENTIFICATION**Notes to Physician

There is no specific antidote if this product is ingested.

Treat symptomatically.

Symptoms of Acute Exposure

Exposure may cause eye or skin irritation. A skin sensitizing (allergic) reaction may occur in some individuals.

Hazardous Decomposition Products

None Known

Physical Properties

Appearance: Greenish-Yellow Granules

Odor: Odorless

Unusual Fire, Explosion and Reactivity Hazards

Explosion/ Reactivity Hazards During Manufacturing and Processing: This product qualifies as a ST-2 Hazard Classification according to NFPA 68, Venting of Deflagrations Guide, 1988 edition. It poses a dust explosion hazard because it can generate and store static electricity, is sensitive to ignition by electrostatic discharge, ignites at low dust cloud concentrations and once ignited, generates pressure at a very rapid rate.

Fire Hazards: Thermal decomposition products may include, but are not limited to, Oxides of Nitrogen, Hydrogen Fluoride and Carbon Monoxide.

#### 4. FIRST AID MEASURES

If poisoning is suspected, immediately contact a physician, the nearest hospital, or the nearest Poison Control Center. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given.

**Ingestion:** If victim is fully conscious, give a large quantity of water to drink and induce vomiting. Never give anything by mouth to an unconscious person.

**Eye Contact:** Immediately rinse eyes with a large amount of running water. Hold eye lids apart to rinse the entire surface of the eyes and lids. Do not apply any medicating agents except on the advice of a physician.

**Skin Contact:** Wash with plenty of soap and water, including hair and under fingernails. Do not apply any medicating agents except on the advice of a physician. Remove contaminated clothing and decontaminate prior to use.

**Inhalation:** Move victim from contaminated area to fresh air. Apply artificial respiration if necessary.

##### Notes to Physician

There is no specific antidote if this product is ingested.

Treat symptomatically.

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

Individuals with allergic history or pre-existing dermatitis should use extra care in handling this product.

#### 5. FIRE FIGHTING MEASURES

##### Fire and Explosion

Flash Point (Test Method): Not Applicable

Flammable Limits (% in Air): Lower: %; Upper: % Not Applicable

Autoignition Temperature: Not Available

Flammability: Not Flammable

##### Unusual Fire, Explosion and Reactivity Hazards

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Fire Hazards: Thermal decomposition products may include, but are not limited to, Oxides of Nitrogen, Hydrogen Fluoride and Carbon Monoxide.

##### 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.

#### 6. ACCIDENTAL RELEASE MEASURES

##### In Case of Spill or Leak

Wear chemical safety glasses with side shields or chemical goggles, rubber gloves, rubber boots, long-sleeved shirt, long pants, head covering, and use a particulate filter, NIOSH approved per 42 CFR Part 84. Select N or R or P type as appropriate for the oil characteristics of any other air contaminants present. Filter efficiency may range from 95 - 99.97% as appropriate for the size distribution of dusts present. For small spills, sweep up, keeping dust to a minimum and place in an approved chemical container. Wash the spill area with water containing a strong detergent, absorb with pet litter or other absorbent material, sweep up and place in a chemical container. Seal the container and handle in an approved manner. Flush the area with water to remove any residue. Do not allow wash water to contaminate water supplies.

#### 7. HANDLING AND STORAGE

Store the material in a well-ventilated, secure area out of the reach of children and domestic animals. Do not store food,

beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco usage, and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT.**

**FOR COMMERCIAL APPLICATIONS AND 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. Always wash thoroughly after handling.

Eye Contact: To avoid eye contact, wear safety glasses with side shields or chemical goggles.

Skin Contact: To avoid skin contact, wear rubber gloves, rubber boots, long-sleeved shirt, long pants and a head covering.

Inhalation: To avoid breathing dust, use a particulate filter, NIOSH approved per 42 CFR Part 84. Select N or R or P type as appropriate for the oil characteristics of any other air contaminants present. Filter efficiency may range from 95 - 99.97% as appropriate for the size distribution of dusts present.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Greenish-Yellow Granules

Odor: Odorless

Melting Point: Not Available

Boiling Point: Not Applicable

Specific Gravity/Density: 0.63 g/ml

pH: 9.21

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

Prodiamine : 0.013 ppm @ 25°C

### Vapor Pressure

Prodiamine : 1.00E-06 mm Hg @ 20°C

## 10. STABILITY AND REACTIVITY

### Reactivity

Stability: Stable

Hazardous Polymerization: Will Not Occur

Conditions to Avoid: Oxidizing Agents; Thermal, Mechanical and Electrical Ignition Sources.

### Hazardous Decomposition Products

None Known

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity/Irritation Studies

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: Not Available  
Inhalation LC50 (Rat) : Not Available

Eye Contact: mildly irritating (Rabbit)

Skin Contact: mildly irritating (Rabbit)

Skin Sensitization: sensitizing (Guinea Pig)

### Mutagenic Potential

Prodiamine: None Observed

### Reproductive Hazard Potential

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.

#### Carcinogenic Potential

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

#### Other Toxicity Information

Not Available

#### Toxicity of Other Components

##### Dispersant

Irritating to eyes, skin or respiratory tract. Ingestion may result in gastrointestinal irritation.

##### Dispersing Agent

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

##### Kaolin Clay

Long term overexposure to high concentrations of this dust without the use of a respirator may produce x-ray evidence of dust in the lungs and may affect respiratory function.

##### Surfactant

Exposure can result in moderate eye irritation. Prolonged or repeated contact may cause skin irritation.

#### Target Organs

##### Active Ingredients

Prodiamine : Liver and Thyroid

##### Inert Ingredients

Dispersant : Eyes, Skin or Respiratory Tract

Dispersing Agent : Eyes, Skin and Respiratory Tract

Kaolin Clay : Respiratory Tract

Surfactant : Eyes and Skin

## **12. ECOLOGICAL INFORMATION**

#### Summary of Effects

Prodiamine:  
Not Available

#### Eco-Acute Toxicity

Prodiamine: Rainbow Trout 96-hour LC50 >829 ug/L  
Bluegill Sunfish 96-hour LC50 >552 ug/L  
Daphnia magna 48-hour LC50 >658 ug/L

#### Eco-Chronic Toxicity

Prodiamine: Not Available

#### Environmental Fate

Prodiamine:  
Photolysis: Unstable (dilute aqueous solution half life less than 1 hour) Hydrolysis: Stable Soil Half-life: 2 months.

## **13. DISPOSAL CONSIDERATION**

#### 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:

Not Applicable. Not regulated by DOT.

B/L Freight Classification

Herbicides, NOI

International Transportation

Not Applicable

## 15. REGULATORY INFORMATION

SARA Title III Classification

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

Section 313 chemical(s): Not Applicable

Proposition 65

Not Applicable

CERCLA Reportable Quantity (RQ)

None

RCRA Classification

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

## 16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 1  
Flammability: 1  
Reactivity: 1

0	Least
1	Slight
2	Moderate
3	High
4	Severe

Questions concerning the safe handling of the product should be referred to:

Health, Safety and Environmental Department  
1-800-334-9481 (extension 2701)

Issued Date: 01/02/1992

Revised Date: 02/28/2000

Supersedes: 02/17/2000

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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