

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:	ENDURANCE 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, 4, 5, 8, 12

2. HAZARDS IDENTIFICATION

Health and Environmental

Harmful if inhaled. May be harmful in contact with skin. May cause sensitization by skin contact. Causes mild eye and skin irritation.

Hazardous Decomposition Products

May 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 can serve as ignition sources for this material.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

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

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.

Persons suffering a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

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 Applicable	

Unusual Fire, Explosion and Reactivity Hazards

This product is considered electrically conductive. Static electricity, mechanical sparks, open flames and certain hot surfaces 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 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. 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 ³
pH:	8.0 (5% in deionized water)
<u>Solubility in H₂O</u>	
Prodiamine:	0.013ppm @ 77°F (25°C)
<u>Vapor Pressure</u>	
Prodiamine:	<5.6 x 10 ⁻⁶ 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: May decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:	Oral (LD50 Rat) :	> 5000 mg/kg body weight
Dermal:	Dermal (LD50 Rat) :	> 2000 mg/kg body weight
Inhalation:	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:

Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Eco-Acute Toxicity

Prodiamine:

- Invertebrate (Water Flea) 48-hour EC50 > 83 ppb
- Fish (Rainbow Trout) 96-hour LC50 > 829 ppb
- Fish (Bluegill Sunfish) 96-hour LC50 > 552 ppb
- Bird (Bobwhite Quail) 8-day dietary LC50 > 10000 ppm
- Bird (Mallard Duck) 8-day dietary LC50 > 10000 ppm

Bee 48-hour LD50 > 100 ug/bee

Eco-Chronic Toxicity

Prodiamine:

Invertebrate (Water Flea) 21-day LOEC 25 ppb

Bird (Bobwhite Quail) Reproduction 20-week LOEL > 1000 ppm

Fish (Rainbow Trout) 87-day LOEC 25 ppb

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 (NMC Class 60)

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: 8/1/1994

Revision Date: 1/4/2008

Replaces: 12/3/2004

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