

## RESOLUTE 65WG HERBICIDE

Date: 7/23/2015  
Replaces: 4/8/2015

4520-0SDS

### 1. PRODUCT IDENTIFICATION

Product identifier on label: **RESOLUTE 65WG HERBICIDE**

Product No.: A9950A

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  
Specific Target Organ Toxicity: Repeated Category 2  
Specific Target Organ Toxicity: Respiratory Irritation Category 3  
Carcinogenicity: Category 1A

Signal Word (OSHA): Danger

Hazard Statements: May cause an allergic skin reaction  
Harmful if inhaled  
May cause respiratory irritation  
May cause cancer  
May cause damage to organs through prolonged or repeated exposure

Hazard Symbols:



Precautionary Statements: Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust.  
Use only outdoors or in a well-ventilated area.  
Contaminated work clothing must not be allowed out of the workplace.  
Wear protective gloves, protective clothing, eye protection.  
If on skin: Wash with plenty of soap and water.  
If skin irritation or rash occurs: Get medical advice.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
If exposed or concerned: Get medical advice/attention.

## RESOLUTE 65WG HERBICIDE

Date: 7/23/2015  
Replaces: 4/8/2015

Call a poison center, doctor or Syngenta if you feel unwell.  
See Section 4 First Aid Measures.  
Wash contaminated clothing before reuse.  
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
Crystalline Silica, Quartz and Cristobalite	Crystalline Silica, Quartz and Cristobalite	14808-60-7	Trade Secret
Kaolin Clay	Kaolin Clay	1332-58-7	Trade Secret
Other ingredients	Other ingredients	Trade Secret	<35.0%
N3, N3-Di-n-propyl-2,4-dinitro-6-(trifluoromethyl)-m-phenylenediamine	Prodiamine	29091-21-2	65.0%

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:

Allergic skin reaction  
Respiratory irritation

Indication of immediate medical attention and special treatment needed:

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.

**RESOLUTE 65WG HERBICIDE**

Date: 7/23/2015

Replaces: 4/8/2015

**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:

This material is considered explosion class (Kst) 2.

Fire will spread by burning with flame.

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:

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**

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.

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
Crystalline Silica, Quartz and	10 mg/m <sup>3</sup> /(%SiO <sub>2</sub> +2)	0.025 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>	NIOSH

## RESOLUTE 65WG HERBICIDE

Date: 7/23/2015  
Replaces: 4/8/2015

Cristobalite	(respirable dust)	(respirable silica)	(respirable dust)	
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)	NIOSH
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Prodiamine	Not Established	Not Established	5 mg/m <sup>3</sup> 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 dust-proof chemical 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.

**Inhalation:**

A particulate filter respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use NIOSH certified respirator with any N, R, P or 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

Odor Threshold: Not Available

pH: 8.0 - 9.5 (5% in deionized water)

Melting point/freezing point: Not Available

Initial boiling point and boiling range: Not Applicable

Flash Point (Test Method): Not Applicable

Flammable Limits (% in Air): Not Available

Flammability: Combustible powder

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

Vapor Density: Not Available

Relative Density: Bulk density: 0.577 - 0.689 g/cm<sup>3</sup> ; 38 - 45 lb/ft<sup>3</sup>

Solubility (ies): Prodiamine 0.013 ppm @ 77°F (25°C)

Partition coefficient: n-octanol/water: Not Available

Autoignition Temperature: Not Available

Decomposition Temperature: Not Available

## RESOLUTE 65WG HERBICIDE

Date: 7/23/2015

Replaces: 4/8/2015

Viscosity: Not Available

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: Thermal, mechanical and electrical ignition sources.

Incompatible materials: None known.

Hazardous Decomposition Products: None known.

### 11. TOXICOLOGICAL INFORMATION

#### Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Respiratory irritation

Delayed, immediate and chronic effects of exposure: Possible carcinogenicity, Allergic skin reaction, Respiratory irritation

#### Numerical measures of toxicity (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. These were congenital anomalies occurring in test and control animals that are not considered to be treatment related.

#### 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: Possible human carcinogen based on limited animal evidence in the absence of human data. Information is insufficient for classification.

# RESOLUTE 65WG HERBICIDE

Date: 7/23/2015  
Replaces: 4/8/2015

Chemical Name	NTP/IARC/OSHA Carcinogen
Crystalline Silica, Quartz and Cristobalite	IARC 1; ACGIH A2
Kaolin Clay	No
Other ingredients	No
N3, N3-Di-n-propyl-2,4-dinitro-6-(trifluoromethyl)-m-phenylenediamine	No

## Other Toxicity Information

None

## Toxicity of Other Components

### Crystalline Silica, Quartz and Cristobalite

Chronic inhalation exposure to crystalline silica is known to cause silicosis and pulmonary fibrosis in humans. Experimental animals exposed to crystalline silica developed respiratory tract cancers.

### Kaolin Clay

May cause eye and respiratory tract irritation.  
Long-term exposure to high concentrations of this dust may produce x-ray evidence of dust in the lungs. Continued long-term exposure may affect respiratory function in some individuals.

### Other ingredients

Not Applicable

## Target Organs

### Active Ingredients

Prodiamine: Liver, thyroid

### Inert Ingredients

Crystalline Silica, Quartz and Cristobalite: Respiratory tract

Kaolin Clay: Eye, respiratory tract, lung

Other ingredients: Not Applicable

## 12. ECOLOGICAL INFORMATION

### Eco-Acute Toxicity

#### Prodiamine:

Fish (Bluegill Sunfish) 96-hour LC50 > 552 ppb

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 > 83 ppb

Bird (Bobwhite Quail) 14-day LD50 > 2250 mg/kg

### 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.

## RESOLUTE 65WG HERBICIDE

Date: 7/23/2015

Replaces: 4/8/2015

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, Solid, N.O.S. (Prodiamine), 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. (Prodiamine)  
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 inhaled or absorbed through the skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### EPA Registration Number(s):

100-834

#### EPCRA SARA Title III Classification:

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

Section 313 Toxic Chemicals: None

#### California Proposition 65:

This product contains trace amounts of chemicals known to the State of California to cause cancer as unintended impurities resulting from other entities' manufacturing or processing operations which Syngenta cannot control.

#### CERCLA/SARA 304 Reportable Quantity (RQ):

None

#### RCRA Hazardous Waste Classification (40 CFR 261):

Not Applicable

#### TSCA Status:

## RESOLUTE 65WG HERBICIDE

Date: 7/23/2015  
Replaces: 4/8/2015

Exempt from TSCA, subject to FIFRA

### 16. OTHER INFORMATION

#### NFPA Hazard Ratings

Health: 2  
Flammability: 3  
Instability: 1

#### HMIS Hazard Ratings

Health: 2\*  
Flammability: 3  
Reactivity: 1

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: 10/21/2004  
Revision Date: 7/23/2015 Replaces: 4/8/2015  
Section(s) Revised: 2, 4, 11

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.