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

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.
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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common Name</th>
<th>CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline Silica, Quartz and Cristobalite</td>
<td>Crystalline Silica, Quartz and Cristobalite</td>
<td>14808-60-7</td>
<td>Trade Secret</td>
</tr>
<tr>
<td>Kaolin Clay</td>
<td>Kaolin Clay</td>
<td>1332-58-7</td>
<td>Trade Secret</td>
</tr>
<tr>
<td>Other ingredients</td>
<td>Other ingredients</td>
<td></td>
<td>&lt;35.0%</td>
</tr>
<tr>
<td>N3, N3-Di-n-propyl-2,4-dinitro-6- (\text{trifluoromethyl})-m-phenylenediamine</td>
<td>Prodiamine</td>
<td>29091-21-2</td>
<td>65.0%</td>
</tr>
</tbody>
</table>

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.
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:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline Silica, Quartz and</td>
<td>10 mg/m³/(%SiO₂+2)</td>
<td>0.025 mg/m³</td>
<td>0.05 mg/m³</td>
<td>NIOSH</td>
</tr>
</tbody>
</table>
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^{-6} \text{ mmHg} \text{ @ 68°F (20°C)}
Vapor Density: Not Available
Relative Density: Bulk density: 0.577 - 0.689 \text{ g/cm}^3 ; 38 - 45 \text{ lb/ft}^3
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
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))

<table>
<thead>
<tr>
<th>Route</th>
<th>Toxicity Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>Oral (LD50 Rat): &gt; 5000 mg/kg body weight</td>
</tr>
<tr>
<td></td>
<td>Dermal (LD50 Rat): &gt; 2000 mg/kg body weight</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Inhalation (LC50 Rat): 1.81 mg/l air - 4 hours</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>Mildly Irritating (Rabbit)</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>Practically Non-Irritating (Rabbit)</td>
</tr>
<tr>
<td>Skin Sensitization</td>
<td>Sensitizing (Guinea Pig)</td>
</tr>
</tbody>
</table>

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

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.
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:
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA Hazard Ratings</th>
<th>HMIS Hazard Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>0</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Instability</td>
<td>2</td>
</tr>
</tbody>
</table>

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
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.