1. PRODUCT IDENTIFICATION

Product Name: DACONIL ACTION
EPA Signal Word: Warning
Active Ingredient(%): Acibenzolar-S-Methyl (0.11%)
Chemical Name: 1,2,3-Benzothiadiazole-7-carbothioic acid S-methyl ester
Chemical Class: Plant Activator
Active Ingredient(%): Chlorothalonil (53.94%)
Chemical Name: Tetrachloroisophthalonitrile
Chemical Class: Chlorinated Benzonitrile Fungicide

2. HAZARDS IDENTIFICATION

Health and Environmental
Toxic if inhaled. May be harmful if swallowed. Irritating to eyes and skin. May cause an allergic skin reaction.

Hazardous Decomposition Products
None known.

Physical Properties
Appearance: Grey liquid
Odor: Weak paint

Unusual Fire, Explosion and Reactivity Hazards
During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Material</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other</th>
<th>NTP/IARC/OSHA Carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene Glycol</td>
<td>Not Established</td>
<td>Not Established</td>
<td>10 mg/m³ TWA</td>
<td>**** No</td>
</tr>
<tr>
<td>Chlorothalonil (53.94%)</td>
<td>Not Established</td>
<td>Not Established</td>
<td>0.1 mg/m³ TWA</td>
<td>*** IARC Group 2B</td>
</tr>
<tr>
<td>Acibenzolar-S-Methyl (0.11%)</td>
<td>Not Established</td>
<td>Not Established</td>
<td>10 mg/m³ TWA</td>
<td>*** No</td>
</tr>
</tbody>
</table>

**** Syngenta Occupational Exposure Limit (OEL)

In case of exposure, consult the product label and follow the emergency procedures.

4. FIRST AID MEASURES

Product Name: DACONIL ACTION
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**
- **Medical Condition Likely to be Aggravated by Exposure**
  - None known.

**Unusual Fire, Explosion and Reactivity Hazards**
During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

- **During a fire,** irritant 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.

**Flammability:**
- Not Applicable
- > 212°F (Pensky-Martens CC)
- > 1202°F
- Flammable Limits (% in Air): Lower: Not Applicable Upper: Not Applicable
- Autoignition Temperature: > 1202°F
- Flammanbility: Not Applicable

**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. Cover entire spill with absorbing material and place into 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.

**Ingestion:** 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**

**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. Cover entire spill with absorbing material and place into 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**
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 AND PACKAGING 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. Facilities storing or utilizing this material should be
equipped with an eyewash facility and a safety shower.

Skin Contact: Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber,
neoprene rubber, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.

Inhalation: A respirator is not normally required when handling this substance. Use effective engineering controls to
comply with occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Grey liquid
Odor: Weak paint
Melting Point: Not Applicable
Boiling Point: Not Available
Specific Gravity/Density: 1.350 g/cm³ @ 68°F (20°C)

pH: 7.4 (1% solution in deionized H₂O @ 77°F [25°C])

Solubility in H₂O
Acibenzolar-S-Methyl: 7.7 mg/l @ 68°F (20°C)
Chlorothalonil: 0.81 mg/l @ 77°F (25°C)

Vapor Pressure
Acibenzolar-S-Methyl: 1.65 x 10(-6) mmHg @ 68°F (20°C)
Chlorothalonil: 5.7 x 10(-7) mmHg @ 77°F (25°C)

10. STABILITY AND REACTIVITY

Stability: Stable under normal use and storage conditions.
Hazardous Polymerization: Will not occur.
Conditions to Avoid: None known.
Materials to Avoid: None known.
Hazardous Decomposition Products: None known.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:

Oral (LD₅₀ Female Rat) : 3045 mg/kg body weight

Dermal:

Dermal (LD₅₀ Rat) : > 5000 mg/kg body weight

Inhalation:

Inhalation (LC₅₀ Rat) : > 0.51 mg/l air - 4 hours

Eye Contact: Severely Irritating (Rabbit)
Skin Contact: Slightly Irritating (Rabbit)
Skin Sensitization: A weak skin sensitizer (based on the technical material)
Reproductive/Developmental Effects
Acibenzolar-S-Methyl: Developmental toxicity and fetal malformations at high maternal doses (rats).
Chlorothalonil: Did not show reproductive toxicity effects in animal experiments. Did not show teratogenic effects in animal experiments.

Chronic/Subchronic Toxicity Studies
Acibenzolar-S-Methyl: Slight hemolytic anemia at highest dose level (rats, mice and dogs). Liver and spleen effects observed in highest dose level (rats and dogs).
Chlorothalonil: In dogs, 1 year administration caused a significant decrease in body weight gain and increases in absolute liver and kidney weights.
Neurotoxicity: No evidence in regulatory studies.

Carcinogenicity
Acibenzolar-S-Methyl: Not carcinogenic at dietary levels up to 7500 ppm (rat) and 6000 ppm (mouse).
Chlorothalonil: Chlorothalonil causes kidney tumors in rats and mice via a nongenotoxic mode of action secondary to target organ toxicity.
Did not show mutagenic effects in animal experiments.
IARC identifies chlorothalonil as a 2B carcinogen (possibly carcinogenic to humans).

Other Toxicity Information
None

Toxicity of Other Components
Propylene Glycol
Test results reported in Section 11 for the final product take into account any acute hazards related to the propylene glycol in the formulation.
Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea.
Chronic dietary exposure caused kidney and liver injury in experimental animals.

Target Organs
Active Ingredients
Acibenzolar-S-Methyl: Blood, liver, spleen
Chlorothalonil: Lung, eye, kidney
Inert Ingredients
Propylene Glycol: CNS, kidney, liver

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects
Chlorothalonil:
- Green Algae 5-day EC50 190 ppb
- Bird (Mallard Duck) LD50 Oral > 4640 mg/kg
- Invertebrate (Water Flea) 48-hour EC50 70 ppb
- Fish (Rainbow Trout) 96-hour LC50 47 ppb

Acibenzolar-S-Methyl:
- Fish (Rainbow Trout) 96-hour LC50 0.88 ppm
- Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 2.9 ppm
- Green Algae 72-hour EC50 80.1 ppm
- Bird (Bobwhite Quail) 14-day LD50 > 2000 mg/kg

Environmental Fate
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.

Comments
Water Transport - International
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Chlorothalonil), Marine Pollutant
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

Air Transport
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Chlorothalonil)
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification
Section 311/312 Hazard Classes: Acute Health Hazard
Chronic Health Hazard

Section 313 Toxic Chemicals: Chlorothalonil (53.94%) (CAS No. 1897-45-6)

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

Acibenzolar-S-Methyl:
The information presented here is for the active ingredient, acibenzolar-s-methyl.
Low bioaccumulation potential. Not persistent in soil or water. Low mobility in soil. Sinks in water (after 24 h).

Chlorothalonil:
The information presented here is for the active ingredient, chlorothalonil.
Low bioaccumulation potential. Not persistent in soil or water. Low mobility in soil. Sinks in water (after 24 h).
16. OTHER INFORMATION

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<th>NFPA Hazard Ratings</th>
<th>HMIS Hazard Ratings</th>
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For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 5/3/2011
Revision Date: 7/21/2011
Replaces:

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.

End of MSDS