SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: ALLEGIANCE® FL SEED TREATMENT FUNGICIDE
MSDS Number: 102000012827
EPA Registration No.: 264-935

Bayer CropScience
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-866-99BAYER (1-866-992-2937)

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Average % by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metalaxyl</td>
<td>57837-19-1</td>
<td>28.35</td>
</tr>
<tr>
<td>Attapulgite clay</td>
<td>12174-11-7</td>
<td>0.40</td>
</tr>
</tbody>
</table>

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview
Warning! Harmful if swallowed or absorbed through skin. Causes skin irritation. Moderate eye irritation. Do not get in eyes, on skin, or on clothing. Avoid inhalation of vapour or mist.

Physical State: liquid
Appearance: light tan to brown
Routes of Exposure: Skin Absorption, Skin contact, Eye contact, Ingestion, Inhalation

Immediate Effects
Eye: Moderate eye irritation. Do not get in eyes.
Skin: Causes skin irritation. Harmful if absorbed through skin. Do not get in eyes, on skin, or on clothing.
Ingestion: Harmful if swallowed. Do not take internally.
Inhalation: Avoid inhalation of vapour or mist.
Chronic or Delayed Long-Term

This product or its components may have target organ effects.

SECTION 4. FIRST AID MEASURES

General
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Eye
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Skin
Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Call a physician or poison control center immediately.

Ingestion
Call a physician or poison control center immediately. Rinse out mouth and give water in small gulps to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Inhalation
Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

Notes to Physician Treatment
There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point
> 93.4 °C / > 200.1 °F

Suitable Extinguishing Media
foam, dry chemical, carbon dioxide (CO2)

Fire Fighting Instructions
Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES
Personal Precautions
Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods for Cleaning Up
Take up with absorbent material (e.g. sand, diatomaceous earth or a proprietary absorbent material). Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional Advice
Use personal protective equipment. Do not allow product to enter streams, sewers or other waterways.

SECTION 7. HANDLING AND STORAGE

Handling Procedures
Handle and open container in a manner as to prevent spillage.

Storing Procedures
Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Work/Hygienic Procedures
Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Take off contaminated clothing and shoes immediately. Then wash thoroughly and put on clean clothing.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. As soon as practical, wash thoroughly and change into clean clothing.

Min/Max Storage Temperatures
Do not transport or store below 3 °C / 37 °F
Do not transport or store above 32 °C / 90 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection
Follow all label instructions. Train employees in safe use of the product.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

Engineering Controls
Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

Eye/Face Protection
tightly fitting safety goggles

Hand Protection
Chemical resistant nitrile rubber gloves

Body Protection
Wear long-sleeved shirt and long pants and shoes plus socks.
### Respiratory Protection

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or Industry recommendations.

<table>
<thead>
<tr>
<th>Exposure Limits</th>
<th>Kaolin 1332-58-7</th>
<th>ACGIH TWA</th>
<th>NIOSH REL</th>
<th>US CA OEL TWA PEL</th>
<th>OSHA Z1 PEL</th>
<th>OSHA Z1 TWA</th>
<th>OSHA Z1A TWA</th>
<th>Z3 TWA</th>
<th>Z3 TWA</th>
<th>Z3 TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form of Exposure</td>
<td>Respirable fraction.</td>
<td>Form of Exposure</td>
<td>Respirable.</td>
<td>Form of Exposure</td>
<td>Respirable fraction.</td>
<td>Form of Exposure</td>
<td>Respirable fraction.</td>
<td>Form of Exposure</td>
<td>Respirable fraction.</td>
<td>Form of Exposure</td>
</tr>
<tr>
<td>Remarks</td>
<td>The value is for particulate matter containing no asbestos and &lt;1% crystalline silica.</td>
<td>Remarks</td>
<td>Remarks</td>
<td>Remarks</td>
<td>Remarks</td>
<td>Remarks</td>
<td>Remarks</td>
<td>Remarks</td>
<td>Remarks</td>
<td>Remarks</td>
</tr>
<tr>
<td></td>
<td>2 mg/m³</td>
<td>5 mg/m³</td>
<td>10 mg/m³</td>
<td>2 mg/m³</td>
<td>5 mg/m³</td>
<td>15 mg/m³</td>
<td>10 mg/m³</td>
<td>15 mg/m³</td>
<td>5 mg/m³</td>
<td>15 mg/m³</td>
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<tr>
<td></td>
<td>5 mg/m³</td>
<td>15 mg/m³</td>
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</tbody>
</table>
Bayer CropScience

Material Safety Data Sheet
ALLEGIANCE® FL SEED TREATMENT FUNGICIDE

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>light tan to brown</td>
</tr>
<tr>
<td>Physical State</td>
<td>liquid</td>
</tr>
<tr>
<td>pH</td>
<td>5.0 - 8.0 (undiluted)</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>9.05 - 9.20 lb/gal.</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>miscible</td>
</tr>
<tr>
<td>Viscosity</td>
<td>400 - 600 mPa.s</td>
</tr>
</tbody>
</table>

SECTION 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Stability</td>
<td>Stable under recommended storage conditions.</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Exposure to extreme heat.</td>
</tr>
<tr>
<td>Incompatibility</td>
<td>strong acids, strong bases, oxidizing agents</td>
</tr>
<tr>
<td>Hazardous</td>
<td>Decomposition Products</td>
</tr>
<tr>
<td></td>
<td>In case of fire hazardous decomposition products may be produced such as:</td>
</tr>
<tr>
<td></td>
<td>nitrogen oxides (NOx)</td>
</tr>
<tr>
<td></td>
<td>carbon dioxide (CO2)</td>
</tr>
<tr>
<td></td>
<td>Carbon monoxide</td>
</tr>
</tbody>
</table>

SECTION 11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Oral Toxicity</td>
<td>rat: LD50: &gt; 2,900 mg/kg</td>
</tr>
<tr>
<td>Acute Dermal Toxicity</td>
<td>rabbit: LD50: &gt; 2,000 mg/kg</td>
</tr>
<tr>
<td>Acute Inhalation Toxicity</td>
<td>rat: LC50: &gt; 21.94 mg/l Exposure time: 1 h No deaths</td>
</tr>
<tr>
<td>Skin Irritation</td>
<td>Moderate skin irritation.</td>
</tr>
<tr>
<td>Eye Irritation</td>
<td>Slight irritation.</td>
</tr>
<tr>
<td>Chronic Toxicity</td>
<td>In lifetime feeding studies with high doses of Metalaxyl, experimental animals exhibited an increase in liver weights and circulating blood enzymes. No other target organs were affected.</td>
</tr>
</tbody>
</table>
Assessment Carcinogenicity

ACGIH
None.

NTP
None.

IARC
- Attapulgite clay 12174-11-7 Overall evaluation: 2B
- Attapulgite clay 12174-11-7 Overall evaluation: 3

OSHA
None.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Precautions
For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below mean high water mark. Do not apply when weather conditions favor runoff or drift. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product only as specified on the label.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance
Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Open dumping is prohibited.

Container Disposal
Do not re-use empty containers. Triple rinse containers. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

SECTION 14. TRANSPORT INFORMATION

TRANSPORTATION CLASSIFICATION:
Not regulated for Domestic Surface Shipment

FREIGHT CLASSIFICATION:
Insecticides or Fungicides, N.O.I.; other than poison

SECTION 15. REGULATORY INFORMATION

EPA Registration No. 264-935

US Federal Regulations
TSCA list
None.
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D) 
None.

SARA Title III - Section 302 - Notification and Information
None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting
None.

US States Regulatory Reporting
CA Prop65
This product contains a chemical known to the State of California to cause cancer.
Attapulgite clay 12174-11-7

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients
Attapulgite clay 12174-11-7 CA

Canadian Regulations
Canadian Domestic Substance List
None.

Environmental
CERCLA
None.

Clean Water Section 307 Priority Pollutants
None.

Safe Drinking Water Act Maximum Contaminant Levels
None.

International Regulations
European Inventory of Existing Commercial Substances (EINECS)
Metalaxyl 57837-19-1

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):
Health - 2  Flammability - 1  Reactivity - 0  Others - none
0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Updated to new system format.

Revision Date: 04/07/2006

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