

## SAFETY DATA SHEET

### Section 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

|                                    |  |
|------------------------------------|--|
| <b>Product Name:</b>               | <b>DYNASTY® Fungicide Seed Treatment</b>   |
| <b>Other Names:</b>                | <b>Proper shipping name:</b> Environmentally Hazardous Substance, Liquid, N.O.S. (azoxystrobin)<br><b>Applicable only for marine and air transport</b> |
|                                    | <b>Product code:</b> A13012B   |
| <b>Recommended Use:</b>            | Fungicide seed treatment for the control of seedling damping-off caused by <i>Pythium</i> spp. and <i>Rhizoctonia solani</i> in Cotton.                |
| <b>Company Details:</b>            | <b>Syngenta Crop Protection Pty Limited</b><br>ABN 33 002 933 717  |
| <b>Address:</b>                    | <b>Level 1, 2-4 Lyonpark Road</b><br><b>MACQUARIE PARK NSW 2113</b><br><b>AUSTRALIA</b>  |
| <b>Telephone Number:</b>           | <b>(02) 8876 8444</b>  |
| <b>Emergency Telephone Number:</b> | <b>24 hours - 1800 033 111</b>   |

### Section 2: HAZARDS IDENTIFICATION

|                               |   |
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| <b>Hazard Classification:</b> | Classified as a hazardous chemical according to the Australian criteria for the classification of chemicals |
| <b>Risk Phrases:</b>          | R43 May cause sensitization by skin contact.  |
| <b>Safety Phrases:</b>        | –   |

### Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

| SUBSTANCE                                   |              |             |             |
|---|--------------|-------------|-------------|
| <b>Chemical Identity of Pure Substance:</b> | Azoxystrobin | Metalaxyl-M | Fludioxonil |
| <b>Synonym:</b>                             | ICI5504      | CGA329351   | CGA173506   |
| <b>CAS Number:</b>                          | 131860-33-8  | 70630-17-0  | 131341-86-1 |

| MIXTURE  |             |                   |
|--|-------------|-------------------|
| Chemical Identity of Ingredients                 | CAS No      | Proportion (%w/v) |
| Azoxystrobin                                     | 131860-33-8 | 7.5               |
| Metalaxyl-M                                      | 70630-17-0  | 3.75              |
| Fludioxonil                                      | 131341-86-1 | 1.25              |
| 1,2-propanediol                                  |             | 5 – 10            |
| Other ingredients determined not to be hazardous | -           | to 100            |

## Section 4: FIRST AID MEASURES

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| <b>Description of Necessary First Aid Measures:</b> | <p>In case of poisoning by any exposure route contact a doctor or Poisons Information Centre on 131 126.<br/>Have the product label or SDS with you when calling or going for treatment.</p> <p><b>Ingestion:</b> If swallowed, seek medical advice immediately and show the container or label.<br/>Do NOT induce vomiting.</p> <p><b>Eye contact:</b> Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.<br/>Remove contact lenses.<br/>Immediate medical attention is required.</p> <p><b>Skin contact:</b> Take off all contaminated clothing immediately.<br/>Wash off immediately with plenty of water.<br/>If skin irritation persists, call a physician.<br/>Wash contaminated clothing before re-use.</p> <p><b>Inhalation:</b> Move the victim to fresh air.<br/>If breathing is irregular or stopped, administer artificial respiration.<br/>Keep patient warm and at rest.<br/>Call a doctor or Poisons Information Centre immediately.</p> |
| <b>Poisoning Symptoms:</b>                          | Poisoning symptoms in laboratory animals were non-specific  |
| <b>Medical Advice:</b>                              | Treat symptomatically.  |

## Section 5: FIRE FIGHTING MEASURES

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| <b>Suitable Extinguishing Media:</b>                                   | <p><i>Extinguishing media - small fires</i><br/>Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.</p> <p><i>Extinguishing media - large fires</i><br/>Alcohol-resistant foam or water spray.</p>            |
| <b>Hazards from Combustion Products:</b>                               | <p>As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).<br/>Exposure to decomposition products may be a hazard to health.</p> |
| <b>Special Protective Precautions and Equipment for Fire Fighters:</b> | <p>Wear full protective clothing and self-contained breathing apparatus.<br/>Do not allow run-off from fire fighting to enter drains or water courses.<br/>Cool closed containers exposed to fire with water spray.</p>            |
| <b>Hazchem Code:</b>   | 2X   |

## Section 6: ACCIDENTAL RELEASE MEASURES

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| <b>Emergency Procedures:</b>                               | <p>In case of spillage it is important to take all steps necessary to</p> <ul style="list-style-type: none"> <li>• Avoid eye and skin contact</li> <li>• Avoid contamination of waterways</li> </ul> |
| <b>Methods and Materials for Containment and Clean Up:</b> | <p><b>Procedure for spill</b></p> <ol style="list-style-type: none"> <li>(1) Keep all bystanders away</li> <li>(2) Wear full length clothing and PVC gloves</li> </ol>                               |

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|  | <p>(3) Reposition any leaking containers so as to minimise further leakage</p> <p>(4) Dam and absorb spill with an absorbent material (eg sand or soil)</p> <p>(5) Shovel the absorbed spill into drums</p> <p>(6) Disposal of the absorbed material will depend upon the extent of the spill</p> <ul style="list-style-type: none"> <li>• For quantities up to 50 L of product bury in a secure landfill site</li> <li>• For quantities greater than 50 L seek advice from the manufacturer (use emergency contact number below) before attempting disposal. Contain in a secure location until disposal method is established</li> </ul> <p>(7) Decontaminate spill area with detergent and water and rinse with the smallest volume of water practicable</p> |
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## Section 7: HANDLING AND STORAGE

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| <b>Precautions for Safe Handling:</b> | <p>Will irritate the eyes. Avoid contact with eyes. Repeated exposure may cause allergic disorders. Wash hands after use. When preparing the slurry, wear:</p> <ul style="list-style-type: none"> <li>• cotton overalls buttoned to the neck and wrist</li> <li>• a washable hat</li> <li>• elbow-length PVC gloves</li> <li>• face shield.</li> </ul> <p>When using the prepared slurry, wear:</p> <ul style="list-style-type: none"> <li>• cotton overalls buttoned to the neck and wrist</li> <li>• a washable hat</li> <li>• elbow-length PVC gloves.</li> </ul> <p>After each day's use, wash gloves, face shield and contaminated clothing.</p> |
| <b>Conditions for Safe Storage:</b>   | <p>Store in the closed, original container in a cool, well-ventilated area. DO NOT store for prolonged periods in direct sunlight.</p>  |

## Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

**ALWAYS READ AND FOLLOW THE LABEL INSTRUCTIONS AND WARNINGS**

|                                     | <i>Component</i>  | <i>Exposure limit</i>   | <i>Value type</i> |
|-------------------------------------|---|---|-------------------|
| <b>National Exposure Standards:</b> | 1,2-propanediol   | 10 mg/m <sup>3</sup> Particulates<br>150 ppm Total (vapour & particulates)<br>474 mg/m <sup>3</sup> | 8h TWA            |
| <b>Syngenta Exposure Standards:</b> | azoxystrobin  | 2 mg/m <sup>3</sup>   | 8h TWA            |
|                                     | fludioxonil   | 10 mg/m <sup>3</sup>  | 8h TWA            |
|                                     | metalaxyl-M   | 10 mg/m <sup>3</sup>  | 8h TWA            |
| <b>Biological Limit Values:</b>     | No biological limits allocated  |   |                   |
| <b>Engineering Controls:</b>        | <p>Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use.</p> <p>If airborne mists or vapours are generated, use local exhaust ventilation controls.</p> <p>Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.</p> <p>Where necessary, seek additional occupational hygiene advice.</p> |   |                   |

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| <b>Personal Protective Equipment:</b> | <p>The use of technical measures should always have priority over the use of personal protective equipment.</p> <p>When selecting personal protective equipment, seek appropriate professional advice.</p> <p>Personal protective equipment should be certified to appropriate standards.</p> <p>When preparing the slurry, wear:</p> <ul style="list-style-type: none"> <li>• cotton overalls buttoned to the neck and wrist</li> <li>• a washable hat</li> <li>• elbow-length PVC gloves</li> <li>• face shield.</li> </ul> <p>When using the prepared slurry, wear:</p> <ul style="list-style-type: none"> <li>• cotton overalls buttoned to the neck and wrist</li> <li>• a washable hat</li> <li>• elbow-length PVC gloves.</li> </ul> |
|---------------------------------------|---|

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

|                         |                            |                                     |                               |
|-------------------------|----------------------------|-------------------------------------|-------------------------------|
| <b>Appearance:</b>      | Cream to beige liquid      | <b>Vapour Density:</b>              | Not known                     |
| <b>Odour:</b>           | Sweetish, slightly pungent | <b>Boiling Point/Range:</b>         | >95°C at 1013.25 hPa          |
| <b>pH:</b>              | 5 - 9 at 1 % w/v           | <b>Solubility:</b>                  | 4.1 g/L at 25°C in water      |
| <b>Vapour Pressure:</b> | Not available              | <b>Specific Gravity or Density:</b> | 1.10 - 1.14 g/cm <sup>3</sup> |

|   |                       |                              |                          |
|---|-----------------------|------------------------------|--------------------------|
| <b>Flash Point:</b>   | > 100°C               | <b>Explosive Properties:</b> | Not explosive            |
| <b>Upper and Lower Flammable (Explosive) Limits in Air:</b> | Not known             | <b>Oxidising Properties:</b> | Not oxidising            |
| <b>Ignition Temperature:</b>                                | 585°C (auto-ignition) | <b>Combustibility:</b>       | Not a combustible liquid |
|   |                       | <b>Corrosiveness:</b>        | Not corrosive            |

## Section 10: STABILITY AND REACTIVITY

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| <b>Chemical Stability:</b>               | Stable under normal conditions.   |
| <b>Conditions to Avoid:</b>              | None known.   |
| <b>Incompatible Materials:</b>           | None known.   |
| <b>Hazardous Decomposition Products:</b> | Combustion or thermal decomposition will evolve toxic and irritant vapours. |
| <b>Hazardous Reactions:</b>              | None known. Hazardous polymerisation does not occur.                        |

## Section 11: TOXICOLOGICAL INFORMATION

### Health Effects from Likely Routes of Exposure:

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|-----------------|--|
| <b>Acute:</b>   | <p><b>Oral toxicity:</b>      <b>LOW TOXICITY</b><br/>Tests on rats indicate this product has a low toxicity following single doses of undiluted product.<br/>(LD<sub>50</sub> &gt;5000 mg/kg)</p> <p><b>Dermal toxicity:</b>    <b>LOW TOXICITY</b><br/>Tests on rats indicate this product has a low toxicity following skin contact with undiluted product.<br/>(LD<sub>50</sub> &gt;5000 mg/kg)</p> <p><b>Inhalation:</b>            <b>LOW TOXICITY</b><br/>Tests on rats indicate this product is not harmful due to inhalation of undiluted product.<br/>(LC<sub>50</sub> (4h) &gt;5.34 mg/L air)</p> <p><b>Skin irritation:</b>        <b>SLIGHT IRRITANT (rabbit)</b></p> <p><b>Eye irritation:</b>        <b>SLIGHT IRRITANT (rabbit)</b></p> <p><b>Sensitisation:</b>        <b>SKIN SENSITISER (Guinea pigs)</b></p> |
| <b>Chronic:</b> | <p><b>Azoxystrobin technical</b> has been extensively tested on laboratory mammals and in test-tube systems. No evidence of mutagenic, neurotoxic, carcinogenic, teratogenic or reproductive effects was obtained.</p> <p><b>Fludioxonil technical</b> has been extensively tested on laboratory mammals and in test-tube systems. No evidence of mutagenic, carcinogenic, teratogenic or reproductive effects was obtained.</p> <p><b>Metalaxyl-M</b>, either as technical grade metalaxyl-M or as a 50% component of technical grade metalaxyl, has been extensively tested on laboratory mammals and in test-tube systems. No evidence of mutagenic, teratogenic or reproductive effects was obtained.</p>  |

## Section 12: ECOLOGICAL INFORMATION

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| <b>Ecotoxicity</b>                    | <i>Toxicity to fish:</i>                                    | <b>Moderately toxic to fish</b><br><i>Oncorhynchus mykiss</i> (rainbow trout): LC <sub>50</sub> = 6.8 mg/L, 96 h   |
|                                       | <i>Toxicity to daphnia and other aquatic invertebrates:</i> | <b>Moderately toxic to Daphnia</b><br><i>Daphnia magna</i> (Water flea): EC <sub>50</sub> = 2.4 mg/L, 48 h   |
|                                       | <i>Toxicity to algae:</i>                                   | <b>Moderately toxic to algae</b><br><i>Pseudokirchneriella subcapitata</i> (green algae): E <sub>b</sub> C <sub>50</sub> = 1.9 mg/L, 72 h; E <sub>r</sub> C <sub>50</sub> = 13 mg/L, 72 h  |
| <b>Persistence and Degradability:</b> | <i>Azoxystrobin:</i>  | <i>Water</i><br>Degradation half life: >12 d<br>Azoxystrobin is stable in water<br><i>Soil</i><br>Degradation half life : 59.5 d<br>Azoxystrobin is not persistent in soil.                |
|                                       | <i>Metalaxyl-M:</i>   | <i>Water</i><br>Degradation half life: 22.4 - 47.5 d<br>Metalaxyl-M is not persistent in water.<br><i>Soil</i><br>Degradation half life : < 50 d<br>Metalaxyl-M is not persistent in soil. |
|                                       | <i>Fludioxonil:</i>   | <i>Water</i><br>Degradation half life: >8 d<br>Fludioxonil is stable in water  |

|                                       |                      |   |
|---------------------------------------|----------------------|---|
|                                       |                      | <i>Soil</i><br>Degradation half life : 6 - 25 d<br>Fludioxonil is not persistent in soil. |
| <b>Mobility</b>                       | <i>Azoxystrobin:</i> | Azoxystrobin has low to very high mobility in soil.                                       |
|                                       | <i>Metalaxyl-M:</i>  | Metalaxyl-M has a range from low to very high mobility in soil depending on soil type.    |
|                                       | <i>Fludioxonil:</i>  | Fludioxonil has low to very high mobility in soil.  |
| <b>Environmental Fate (Exposure):</b> | <i>Azoxystrobin:</i> | Incorporated into organic molecules.  |
|                                       | <i>Metalaxyl-M:</i>  | Incorporated into organic molecules.  |
|                                       | <i>Fludioxonil:</i>  | Incorporated into organic molecules.  |
| <b>Bioaccumulative Potential:</b>     | <i>Azoxystrobin:</i> | Azoxystrobin has medium potential to bioaccumulate.                                       |
|                                       | <i>Metalaxyl-M:</i>  | Metalaxyl-M has a low potential for bioaccumulation.                                      |
|                                       | <i>Fludioxonil:</i>  | Fludioxonil does not bioaccumulate.   |

### Section 13: DISPOSAL CONSIDERATIONS

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| <b>Disposal Methods and Containers:</b>                  | <p><i>Non-returnable containers</i><br/>Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point.<br/>If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.</p> <p><i>Returnable containers</i><br/>Empty contents fully into application equipment. Close all valves and return to point of sale for refill or storage.</p> |
| <b>Special Precautions for Landfill or Incineration:</b> | Not applicable   |

### Section 14: TRANSPORT INFORMATION

|                                 |  |                                      |                |
|---------------------------------|--|--------------------------------------|----------------|
| <b>LAND TRANSPORT</b>           |  |                                      |                |
| ADG                             |  |                                      |                |
| <b>UN Number:</b>               | 3082   | <b>Packing Group:</b>                | III            |
| <b>UN Proper Shipping Name:</b> | Environmentally Hazardous Substance, Liquid, N.O.S. (azoxystrobin) | <b>Special Precautions for User:</b> | None allocated |
| <b>Class:</b>                   | 9  | <b>Hazchem Code:</b>                 | 2X             |
| <b>Subsidiary Risk:</b>         | None allocated   |                                      |                |

|                                 |  |                          |                  |
|---------------------------------|--|--------------------------|------------------|
| <b>SEA TRANSPORT</b><br>IMDG    |  |                          |                  |
| <b>UN Number:</b>               | 3082   | <b>Subsidiary Risk:</b>  | None allocated   |
| <b>UN Proper Shipping Name:</b> | Environmentally Hazardous Substance, Liquid, N.O.S. (azoxystrobin) | <b>Packing Group:</b>    | III              |
| <b>Class:</b>                   | 9  | <b>Marine Pollutant:</b> | Marine pollutant |

|                                    |  |                         |                |
|------------------------------------|--|-------------------------|----------------|
| <b>AIR TRANSPORT</b><br>IATA - DGR |  |                         |                |
| <b>UN Number:</b>                  | 3082   | <b>Subsidiary Risk:</b> | None allocated |
| <b>UN Proper Shipping Name:</b>    | Environmentally Hazardous Substance, Liquid, N.O.S. (azoxystrobin) | <b>Packing Group:</b>   | III            |
| <b>Class:</b>                      | 9  |                         |                |

## Section 15: REGULATORY INFORMATION

|                                  |       |
|----------------------------------|-------|
| <b>APVMA Product Number:</b>     | 58355 |
| <b>Poisons Schedule (SUSDP):</b> | 5     |

## Section 16: OTHER INFORMATION

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| <b>Date of preparation or last revision:</b> May 2010  |
| <b>Source of Data:</b> The information provided in this SDS is sourced from Syngenta internal studies which have been conducted according to Regulatory requirements including OECD and CIPAC Guidelines and EC Directives. A comprehensive package of toxicological and environmental data for the active ingredients of this product has been submitted to the government health and environment authorities and has been evaluated by expert toxicologists and environmental scientists.                                      |
| <b>Note:</b> This product is a registered agricultural chemical and must, therefore, be used in accordance with the container label directions   |
| <b>CONTACT POINT:</b> Regulatory Affairs Manager, Syngenta Crop Protection Pty Limited<br>(02) 8876 8444<br><b>24 HOURS EMERGENCY CONTACT: 1800 033 111</b>  |
| This Material Safety Data Sheet summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. |

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