


## SAFETY DATA SHEET

### Section 1: Identification: Product identifier and chemical identity

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| <b>Product Identifier:</b>                 | <b>HIGRAN® Turf Miticide</b>  |
| <b>Other Means of Identification:</b>      | <b>Proper shipping name:</b> Environmentally Hazardous Substance, Liquid, N.O.S. (Difenthiuron)<br><b>Applicable only for marine and air transport</b><br><br><b>Product code:</b> A7630A |
| <b>Recommended Use:</b>                    | Miticide for control of Couchgrass Mite in Turf   |
| <b>Details of manufacturer or importer</b> | <b>Syngenta Australia Pty Ltd</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>Website:</b>                            | <b>syngenta.com.au</b>  |
| <b>Phone Number:</b>                       | <b>(02) 8876 8444</b>   |
| <b>Emergency Phone Number:</b>             | <b>24 hours - 1800 033 111</b>  |

### Section 2: Hazards identification

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| <b>Classification of the Hazardous Chemical:</b> | Acute toxicity – oral – Category 4<br>Acute toxicity – inhalation – Category 3<br>Specific organ toxicity – repeated exposure (dermal) – Category 2<br>Specific organ toxicity – repeated exposure (oral) – Category 2   |
| <b>Signal Word:</b>                              | Danger   |
| <b>Hazard Statement(s):</b>                      | H302 Harmful if swallowed.<br>H331 Toxic if inhaled.<br>H373 May cause damage to organs through prolonged or repeated exposure if swallowed.<br>H373 May cause damage to organs through prolonged or repeated exposure in contact with skin.   |
| <b>Precautionary Statement(s):</b>               | P102 Keep out of reach of children.<br>P270 Do not eat, drink or smoke when using this product.<br>P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.<br>P271 Use only outdoors or in a well-ventilated area.<br>P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.<br>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.<br>P311 Call a POISON CENTER or doctor/ physician.<br>P391 Collect spillage.<br>P501 Dispose of contents/ container to an approved waste disposal plant. |
| <b>Hazard Symbols:</b>                           |   |

### Section 3: Composition and information on ingredients

| SUBSTANCE                                   |               |  |
|---|---------------|--|
| <b>Chemical Identity of Pure Substance:</b> | Diafenthiuron |  |
| <b>Synonym:</b>                             | CGA106630     |  |
| <b>CAS Number:</b>                          | 80060-09-9    |  |

| MIXTURE                           |            |                    |
|-----------------------------------|------------|--------------------|
| Chemical Identity of Ingredients: | CAS No     | Proportion (% w/v) |
| Diafenthiuron                     | 80060-09-9 | 50                 |
| Propylene glycol                  | 57-55-6    | <10                |
| Formaldehyde                      | 50-00-0    | <1                 |
| Non-hazardous ingredients         | -          | 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 this container or label. 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. Remove contact lenses. Immediate medical attention is required.</p> <p><b>Skin contact:</b> Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.</p> <p><b>Inhalation:</b> Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or poison control centre immediately.</p> |
| <b>Symptoms Caused by Exposure:</b>                 | Poisoning symptoms in laboratory animals were non-specific   |
| <b>Medical Attention and Special Treatment:</b>     | There is no specific antidote available. Treat symptomatically.  |

### Section 5: Fire fighting measures

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| <b>Suitable Extinguishing Equipment:</b>           | <p><b>Small fires:</b> Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.</p> <p><b>Large fires:</b> Alcohol-resistant foam or water spray</p> <p>DO NOT use a solid water stream as it may scatter and spread fire.</p>                                     |
| <b>Specific Hazards Arising from the Chemical:</b> | As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion. Combustion or thermal decomposition will evolve toxic and irritant vapours. Exposure to decomposition products may be a hazard to health. |

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| <b>Special Protective Equipment and Precautions for Fire Fighters:</b> | Wear full protective clothing and self-contained breathing apparatus. DO NOT allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray. Containers may explode when heated. |
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## Section 6: Accidental release measures

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| <b>Personal Precautions, Protective Equipment and Emergency Procedures:</b> | In case of spillage it is important to take all steps necessary to <ul style="list-style-type: none"><li>• Avoid eye and skin contact</li><li>• Avoid contamination of waterways<ul style="list-style-type: none"><li>• Wear full length clothing and PVC gloves</li><li>• Keep all bystanders away</li></ul></li></ul>  |
| <b>Environmental precautions:</b>   | Prevent further leakage or spillage if safe to do so. DO NOT flush into surface water or sanitary sewer system.  |
| <b>Methods and Materials for Containment and Clean Up:</b>                  | <b>Procedure for spill</b> <ol style="list-style-type: none"><li>(1) Keep all bystanders away</li><li>(2) Wear full length clothing and PVC gloves</li><li>(3) Reposition any leaking containers so as to minimise further leakage</li><li>(4) Dam and absorb spill with an absorbent material (eg sand or soil)</li><li>(5) Shovel the absorbed spill into drums</li><li>(6) Disposal of the absorbed material will depend upon the extent of the spill<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></li><li>(7) Decontaminate spill area with detergent and water and rinse with the smallest volume of water practicable.</li></ol> |

## Section 7: Handling and storage

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| <b>Precautions for Safe Handling:</b>                                | Harmful if swallowed or inhaled. Will irritate the eyes and skin. Avoid contact with eyes and skin. DO NOT inhale spray mist. When opening the container, mixing and loading and using the prepared spray wear: <ul style="list-style-type: none"><li>• cotton overalls, over normal clothing, buttoned to the neck and wrist</li><li>• a washable hat, and</li><li>• elbow length PVC gloves.</li></ul> Wash hands after use. After each day's use, wash gloves and contaminated clothing. |
| <b>Conditions for Safe Storage, Including any Incompatibilities:</b> | Store in the closed, original container in a cool, well ventilated area. DO NOT store for prolonged periods in direct sunlight.   |

## Section 8: Exposure controls and personal protection

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

|                                       | Component   | Exposure limit        | Value type |
|---------------------------------------|---|-----------------------|------------|
| <b>National Exposure Standards:</b>   | Propane-1,2-diol (particulates only)  | 10 mg/m <sup>3</sup>  | TWA        |
|                                       | Propane-1,2-diol total (vapour and particulates)  | 474 mg/m <sup>3</sup> | TWA        |
|                                       |   | 150 ppm               | TWA        |
|                                       | Formaldehyde  | 1 ppm                 | TWA        |
|                                       |   | 1.2 mg/m <sup>3</sup> | TWA        |
| 2 ppm                                 |   | STEL                  |            |
|                                       | 2.5 mg/m <sup>3</sup>   | STEL                  |            |
| <b>Syngenta Exposure Standards:</b>   | Diafenthiuron (skin)  | 0.2 mg/m <sup>3</sup> | 8h TWA     |
| <b>Biological Limit Values:</b>       | No biological limits allocated  |                       |            |
| <b>Engineering Controls:</b>          | No special requirements. Product is used outdoors.  |                       |            |
| <b>Personal Protective Equipment:</b> | <p>Harmful if swallowed or inhaled. Will irritate the eyes and skin. Avoid contact with eyes and skin. DO NOT inhale spray mist. When opening the container, mixing and loading and using the prepared spray wear:</p> <ul style="list-style-type: none"> <li>• cotton overalls, over normal clothing, buttoned to the neck and wrist</li> <li>• a washable hat, and</li> <li>• elbow length PVC gloves.</li> </ul> <p>Wash hands after use. After each day's use, wash gloves and contaminated clothing.</p> |                       |            |

## Section 9: Physical and chemical properties

|                            |                            |                             |                                       |
|----------------------------|----------------------------|-----------------------------|---------------------------------------|
| <b>Appearance:</b>         | White to dark beige liquid | <b>Boiling Point/Range:</b> | > 90°C                                |
| <b>Odour:</b>              | Not available              | <b>Melting Point:</b>       | Not available                         |
| <b>pH:</b>                 | 6 - 10 at 1 % w/v          | <b>Solubility:</b>          | Miscible                              |
| <b>Viscosity, dynamic:</b> | 66.0 - 285 mPa.s at 40°C   | <b>Density:</b>             | 1.03 - 1.07 g/cm <sup>3</sup> at 20°C |
|                            | 82.3 - 293 mPa.s at 20°C   | <b>Surface Tension:</b>     | 42.3 mN/m at 20°C                     |

|                                   |                                    |                              |                 |
|-----------------------------------|------------------------------------|------------------------------|-----------------|
| <b>Flash Point:</b>               | >100°C at 978.4 hPa (DIN EN 22719) | <b>Explosive Properties:</b> | Not explosive   |
| <b>Flammability (solid, gas):</b> | Not highly flammable               | <b>Oxidising Properties:</b> | Not oxidising   |
| <b>Ignition Temperature:</b>      | Not available                      | <b>Combustibility:</b>       | Not combustible |
|                                   |                                    | <b>Corrosiveness:</b>        | Not corrosive   |

## Section 10: Stability and reactivity

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|--|---|
| <b>Reactivity:</b>                         | No information available.                               |
| <b>Chemical Stability:</b>                 | No information available.                               |
| <b>Possibility of Hazardous Reactions:</b> | None known.<br>Hazardous polymerisation does not occur. |

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| <b>Conditions to Avoid:</b>              | No information available.   |
| <b>Incompatible Materials:</b>           | No information available.   |
| <b>Hazardous Decomposition Products:</b> | Combustion or thermal decomposition will evolve toxic and irritant vapours. |

## Section 11: Toxicological information

### Health Effects from Likely Routes of Exposure:

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| <b>Acute</b>   | <p><b>Oral toxicity:</b> <b>HARMFUL</b><br/>Tests on rats indicate this product is harmful following single doses of undiluted product.<br/>LD<sub>50</sub> = 1,950 mg/kg</p> <p><b>Dermal toxicity:</b> <b>LOW TOXICITY</b><br/>Tests on rabbits indicate this has a low toxicity following skin contact with undiluted product.<br/>LD<sub>50</sub> &gt; 4,000 mg/kg</p> <p><b>Inhalation:</b> <b>TOXIC</b><br/>Tests on rats indicate this product is toxic due to inhalation of active ingredient.</p> <p><b>Skin irritation:</b> <b>NON IRRITANT</b></p> <p><b>Eye irritation:</b> <b>NON IRRITANT</b></p> <p><b>Sensitisation:</b> <b>NOT A SENSITISER</b></p> |
| <b>Chronic</b> | <p><b>Diafenthiuron technical</b> has been extensively tested on laboratory mammals and in test tube systems. No evidence was obtained of mutagenic, teratogenic or reproductive effects. In animal studies (rat, mouse, dog), prolonged exposure to diafenthiuron has been shown to produce lung damage. In mice, chronic oral administration has produced lung tumours at high dose levels.</p>  |

## Section 12: Ecological information

|                                       |  |
|---------------------------------------|--|
| <b>Ecotoxicity</b>                    | <p><b>Toxicity to fish:</b> <b>Very highly toxic to fish</b><br/><i>Lepomis macrochirus</i> (bluegill sunfish):<br/>LC<sub>50</sub> = 0.00046 mg/L, 96h<br/><i>Danio rerio</i> (zebra fish):<br/>LC<sub>50</sub> = 0.030 mg/L, 96 h</p> <p><b>Toxicity to daphnia and other aquatic invertebrates:</b> <b>Very highly toxic to Daphnia</b><br/><i>Daphnia magna</i> (Water flea):<br/>EC<sub>50</sub> = 0.00062 mg/L, 48 h<br/><i>Daphnia similis</i>:<br/>EC<sub>50</sub> = 0.007 mg/L, 48 h</p> <p><b>Toxicity to algae:</b> <b>Practically non-toxic to algae</b><br/><i>Pseudokirchneriella subcapitata</i> (green algae):<br/>ErC<sub>50</sub> = &gt;100 mg/L, 72 h</p> |
| <b>Persistence and Degradability:</b> | Diafenthiuron is not persistent in soil.   |
| <b>Mobility in Soil:</b>              | Diafenthiuron is immobile in soil.   |
| <b>Bioaccumulative Potential:</b>     | Diafenthiuron bioaccumulates.  |

### Section 13: Disposal considerations

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| <b>Disposal Methods:</b>                                 | <p><b>For non-refillable containers:</b><br/>Triple rinse containers before disposal. Add rinsings to the spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with Local, State or Territory government regulations. Do not burn empty containers or product.</p> <p><b>For refillable containers:</b><br/>Empty contents fully into application equipment. Close valves and return to point of supply for refill and storage.</p> |
| <b>Special Precautions for Incineration or Landfill:</b> | Not applicable  |

### Section 14: Transport information

|                                 |                                   |  |                |
|---------------------------------|-----------------------------------|--|----------------|
| <b>LAND TRANSPORT</b><br>ADG    | Not a dangerous good in Australia |  |                |
| <b>UN Number:</b>               | None allocated                    | <b>Packing Group:</b>                    | None allocated |
| <b>UN Proper Shipping Name:</b> | None allocated                    | <b>Special Precautions for User:</b>     | None allocated |
| <b>Transport Hazard Class:</b>  | None allocated                    | <b>Hazchem or Emergency Action Code:</b> | None allocated |
| <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. (Difenthiuron) | <b>Packing Group:</b>                                | III              |
| <b>Transport Hazard Class:</b>  | 9  | <b>Environmental hazards for Transport Purposes:</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. (Difenthiuron) | <b>Packing Group:</b>   | III            |
| <b>Transport Hazard Class:</b>     | 9  |                         |                |

## Section 15: Regulatory information

APVMA Product Number: 68340

Poisons Schedule (SUSMP): 5

## Section 16: Any other relevant information

**Date of preparation or last revision:** November 2016

**Source of Data:** 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.

**Note: This product is a registered agricultural chemical and must, therefore, be used in accordance with the container label directions**

**CONTACT POINT:** Regulatory Affairs Manager, Syngenta Australia Pty Ltd  
(02) 8876 8444

**24 HOURS EMERGENCY CONTACT: 1800 033 111**

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.

### **DISCLAIMER**

This product complies with the specifications in its statutory registration. Implied terms and warranties are excluded. Syngenta's liability for breach of the express or any non-excludable implied warranty is limited to product replacement or purchase price refund. The purchaser must determine suitability for intended purpose and take all proper precautions in the handling, storage and use of the product including those on the label and/or safety data sheet failing which Syngenta shall have no liability.