# SAFETY DATA SHEET

**STARKLE 200 SG INSECTICIDE** Date of Issue: November 2021

## 1. IDENTIFICATION

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| **Product Identifier:** | **Starkle 200 SG Insecticide** |
| **Other Means of Identification:** | Dinotefuran 20% SG |
| **Recommended Use of the Chemical and Restrictions on Use:** | **Insecticide** |
| **Details of Manufacturer or Importer:** | AgNova Technologies Pty Ltd<br>70 097 705 158<br>Unit 4, 482 Kingsford Smith Drive<br>Hamilton, Qld 4007 Australia<br>(03) 9899 8100<br>agnova.com.au |
| **Emergency Telephone Number:** | 1800 033 111 (24 hrs)<br>Poison Information Centre 13 11 26 |

## 2. HAZARD(S) IDENTIFICATION

Pictogram: Environment

Signal Word: 'Warning'

**GHS Hazard Class and Category: (as determined by Safe Work Australia)**
Hazardous to the Aquatic Environment: Long-Term Hazard – Category 1: Warning
Hazard Statement: H410 (Very toxic to aquatic life with long lasting effects).

Precautionary Statements:
**Prevention**
P273 Avoid release to the environment.

**Response**
P391 Collect spillage.

**Storage**
No additional information.

**Disposal**
P501 Dispose of contents/container in accordance with regulations on hazardous waste or packaging and packaging waste respectively.

**ADG Classification:** Classified as "Dangerous Goods" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail see section 14.

**SUSMP Classification:** Schedule 5 (Standard for Uniform Scheduling of Medicines and Poisons).

## 3. COMPOSITION AND INFORMATION ON INGREDIENTS

| Ingredients | CAS Number | Concentration |
|---|---|---|
| Dinotefuran* | 165252-70-0 | 20% |
| Other non-hazardous ingredients | - | 80% |

**N*-methyl-*N*'-nitro-*N*"-((tetrahydro-3-furyl)methyl)guanidine
(*RS*)-1-methyl-2-nitro-3-(tetrahydro-3-furylmethyl)guanidine

## 4. FIRST AID MEASURES

**If poisoning occurs, immediately contact a doctor or Poisons Information Centre (Phone 13 11 26), and follow the advice given. Show this Safety Data Sheet to a doctor.**

**Description of Necessary First Aid Measures:**

**Ingestion:** Rinse mouth with water. Get medical attention immediately. Induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious or convulsing person.

**Inhalation:** If you feel unwell, move to fresh air immediately. Get medical attention if cough or other symptoms develop. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Skin contact:** Immediately remove contaminated clothing and shoes. Flush skin and clean off with large amounts of water. Get medical attention if symptoms develop.

**Eye contact:** Immediately flush with plenty of water. Part eyelids with fingers to

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| | assure complete flushing. Check for and remove contact lenses if easily possible. Get medical attention if irritation persists. |
| **First Aid Facilities:** | Provide washing facilities in the workplace. |
| **Symptoms Caused by Exposure, Both Acute and Delayed:** | Not available. |
| **Medical Attention and Special Treatment:** | Treat symptomatically. |

## 5. FIREFIGHTING MEASURES

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| **Suitable Extinguishing Media:** | Foam, dry chemical, $CO_2$, water, sand. |
| **Specific Hazards Arising from the Chemical:** | Emits toxic fumes in fire condition. This product is not expected to burn or explode in normal conditions, but will burn violently if involved in fire. Dinotefuran is self-reactive substance under high temperatures. Exposure to heat may promote violent decomposition. Hazardous combustion products: nitrogen oxides. |
| **Special Protective Equipment and Precautions for Firefighters:** | Keep unnecessary and unprotected personnel away. Shut off supply if possible. Remove containers to safe place if possible. Keep containers and surroundings cool by spraying with water. Fight fire from an upwind position. Respiratory and eye protection required for firefighting personnel. Full protective equipment and self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. |

## 6. ACCIDENTAL RELEASE MEASURES

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| **Personal Precautions, Protective Equipment and Emergency** | Warn and evacuate in the neighbourhood as necessary. Keep unnecessary and unprotected personnel away. Wear appropriate personal protective equipment as specified in Section 8. Remove all sources of ignition. Stop leak if possible without personal risk. |

**Procedures:**

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| **Environmental Precautions:** | Do not let this product enter the environment. |
| **Methods and Materials for Containment and Cleaning Up:** | Scoop or sweep up the spilled product and place it in a disposal container. Use appropriate tools. Avoid dispersal of dust in the air. |

## 7. HANDLING AND STORAGE

**Precautions for Safe Handling:**

Use only with adequate ventilation.
Where there may be potential of fire or explosion hazard, use explosion-proof electrical equipment and take precautions against build-up of electrostatic charges.
Wear appropriate personal protective equipment. Keep away from heat, sparks, open flames and hot surfaces.

*Handling Precautions*
Handle with care. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Take precautionary measures against static discharge.

*Advice on general occupational hygiene*
Provide hand and eye wash station near work area. Wash hands thoroughly after use. Take off contaminated protective equipment before entering rest areas. Do not eat, drink or smoke when using this product.

**Conditions for Safe Storage, including any Incompatibilities:**

Keep away from heat, flame and all sources of ignition. Store in a cool, dark and well-ventilated area. Keep container tightly closed and sealed until ready for use.
Do not contaminate other pesticides, fertilisers, water, foodstuffs or feed by storage and disposal.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Control Measures:**

Occupational Exposure Limit Values:
[Particulates (Not otherwise specified) (no more than 1% crystalline silica)]
ACGIH-TLV (US): 10 mg/m$^3$, 8 Hr. TWA as inhalable dust
3 mg/m$^3$, 8 Hr. TWA as respirable dust

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| **Biological Monitoring:** | No data available. |
| **Control Banding:** | No data available. |
| **Engineering Controls:** | Provide general ventilation. Using closed system or local exhaust ventilation is recommended. Provide safety shower and eye wash station near work area. |
| **Individual Protection Measures, for example, Personal Protective Equipment (PPE):** | *For Product Users*<br>When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), chemical resistant gloves and face shield or goggles.<br>*For Use in Enclosed Spaces*<br>Dust respirator is recommended. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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| **Appearance:** | White granule |
| **Odour:** | Faint characteristic odour |
| **pH:** | Not available |
| **Melting Point:** | Not available |
| **Flash Point:** | Not available |
| **Bulk Density:** | 0.50-0.70 g/mL |
| **Solubility:** | Not available |

## 10. STABILITY AND REACTIVITY

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| **Reactivity:** | No hazardous reaction when handled and stored according to provisions. |
| **Chemical Stability:** | Stable under normal conditions. |
| **Possibility of Hazardous Reactions:** | No hazardous reaction when handled and stored according to provisions. |
| **Conditions to Avoid:** | Exposure to heat, ignition sources. |

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| **Incompatible Materials:** | Strong oxidisers. |
| **Hazardous Decomposition Products:** | Nitrogen oxides. |

## 11. TOXICOLOGICAL INFORMATION

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| **Acute Toxicity** | |
| **Oral Toxicity** | $LD_{50}$ Rat >2000 mg/kg [Not classified] |
| **Dermal Toxicity** | $LD_{50}$ Rat >2000 mg/kg [Not classified] |
| **Inhalation Toxicity** | $LC_{50}$ Rat (4 h) >2.943 mg/L [Classification not possible] |
| **Skin Corrosion/ Irritation:** | Slight irritant (rabbit) [Not classified] |
| **Serious Eye Damage/Irritation:** | Mild irritant (rabbit) [Not classified] |
| **Respiratory Sensitisation:** | Not available [Classification not possible] |
| **Skin Sensitisation:** | Not a skin sensitiser (guinea pig) [Not classified] |
| **Germ Cell Mutagenicity:** | Not available [Classification not possible] |
| **Carcinogenicity:** | Not available [Classification not possible] |
| **Reproductive Toxicity:** | Not available [Classification not possible] |
| **Specific Target Organ Toxicity – Single Exposure:** | Not available [Classification not possible] |
| **Specific Target Organ Toxicity – Repeated Exposure:** | Not available [Classification not possible] |
| **Aspiration Hazard:** | Not available [Classification not possible] |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Highly toxic to bees and will kill bees foraging in a treated crop or in hives which are accidentally sprayed or contaminated by spray drift. Toxic to silkworms.

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| *Toxicity to Fish:* | $LC_{50}$ (96 h) rainbow trout 108 mg/L<br>$LC_{50}$ (96 h) carp >100 mg/L |
| *Toxicity to Aquatic Invertebrates:* | $EC_{50}$ (48 h) *Daphnia magna* 199 mg/L |
| *Toxicity to Aquatic Plants:* | $EC_{50}$ algae (*Pseudokirchneriella subcapitata*) >100 mg/L |
| *[Dinotefuran] Chironomid Toxicity:* | NOEC(27d) (*Chironomus riparius*, water spiked study) 0.00288 mg/L |

**Persistence and Degradability:** Not available.

**Bioaccumulative Potential:** Not available.

**Mobility in Soil:** Not available.

**Other Adverse Effects:** Hazardous to the aquatic environment.
Acute: Ecotoxicity data do not meet the criteria for classification. [Not classified]
Chronic: Contains Dinotefuran. (Category 1, M=10) [Category 1]
Hazardous to the ozone layer.
This product does not contain >0.1% of at least one ingredient listed in the Annexes to the Montreal Protocol. [Classification not possible]

## 13. DISPOSAL CONSIDERATIONS

**Disposal Methods:** Triple 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. 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 the 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 relevant local, state or territory government regulations. Do not burn empty containers or product.

## 14. TRANSPORT INFORMATION

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| **Transport Classification:** | **Road and Rail Transport:** Not classified as a dangerous goods under the ADG7 when being transported in IBCs or other receptacles <500 L (kg), (Special Provision AU01).<br>**Marine and Air:** Classified as Dangerous Goods for transport by sea and air according to the criteria of the UN Model Regulations for Transport of Dangerous Goods 13th Edition |
| **UN Number:** | 3077 |
| **Proper Shipping Name or Technical Name:** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Dinotefuran mixture) |
| **Transport Hazard Class:** | 9 |
| **Packing Group Number:** | III |
| **Environmental Hazards for Transport Purposes:** | Marine Pollutant |
| **Special Precautions for User:** | Make sure that the containers have no puncture or leakage. Avoid rough handling and dropping. Prevent collapse of cargo piles. |
| **Hazchem or Emergency Action CodeCode:** | 2Z |

## 15. REGULATORY INFORMATION

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| **APVMA** | Registered according to the Agricultural and Veterinary Chemicals Act 1994 (Cwlth).<br>APVMA Product Number: 69398 |
| **SUSMP** | Schedule 5 |

## 16. OTHER INFORMATION

Prepared in accordance with Safe Work Australia's 'Preparation of safety data sheets for hazardous chemicals; Code of Practice; July 2020'

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| **Date of Preparation or Revision:** | November 2021 |
| **Reason for Revision:** | 5-year review.<br>Revised information throughout in line with updated manufacturer SDS |
| **Abbreviations and Acronyms:** | ACGIH – American Conference of Governmental Industrial Hygienists, Inc.<br>ADG7 – Australian Code for the Transport of Dangerous Goods by Road & Rail, 7th Edition<br>APVMA – Australian Pesticides and Veterinary Medicines Authority<br>EC – Effective Concentration<br>LC – Lethal Concentration<br>LD – Lethal Dose<br>NOEC – No Observed Effect Concentration<br>SUSMP – Standard for the Uniform Scheduling of Medicines and Poisons<br>TLV – Threshold Limit Value<br>TWA – Time Weighted Average |
| **Data Sources:** | Manufacturer product safety data and published data |

This SDS 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.

The opinions expressed herein are those of qualified experts with the manufacturer. Since the

use of this information and of these opinions and the conditions of use of this product are not within the control of AgNova Technologies Pty Ltd, it is the user's obligation to determine the conditions of safe use of the product.

END OF SDS