

SAFETY DATA SHEET

Date: December 21, 2022
Serial No.: AGG10084Ca_00

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME **Starkle 20SG**
SYNONYM Dinotefuran 20SG
USE OF PRODUCT Insecticide
REGISTRATION NUMBER 34653 PEST CONTROL PRODUCTS ACT
COMPANY IDENTIFICATION
Mitsui Chemicals Agro, Inc.
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(Chemical Emergency Only)

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Physical hazards

Explosives	Not applicable
Flammable gases	Not applicable
Flammable aerosols	Not applicable
Oxidizing gases	Not applicable
Gases under pressure	Not applicable
Flammable liquids	Not applicable
Flammable solids	Not classified
Self-reactive chemicals	Not classified
Pyrophoric liquids	Not applicable
Pyrophoric solids	Not classified
Self-heating chemicals	Not classified
Chemicals which, in contact with water, emit flammable gases	Not classified
Oxidizing liquids	Not applicable
Oxidizing solids	Not classified
Organic peroxides	Not applicable
Corrosive to metals	Classification not possible

Health hazards

Acute toxicity	
Oral	Not classified
Dermal	Not classified
Inhalation	Classification not possible
Skin corrosion/irritation	Not classified
Serious eye damage/eye irritation	Not classified
Respiratory Sensitization	Classification not possible
Skin sensitization	Not classified
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive Toxicity	Classification not possible

Specific Target Organ Toxicity

Single exposure

Not classified

Repeated exposure

Classification not possible

Aspiration Hazard

Classification not possible

Aquatic hazard

Acute

Not classified

Chronic

Category 1

GHS LABEL ELEMENTS

Hazard Pictograms



Signal Word

Warning

Hazard Statements

H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention

P273: Avoid release to the environment.

Response

P391: Collect spillage.

Disposal

P501: Dispose of contents or container in accordance with local, regional, national and international regulations.

OTHER HAZARDS

Toxic to bees and silkworms.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%	CAS RN®
Dinotefuran (*)	20	165252-70-0
Amorphous silica	<10	112926-00-8
Sodium dodecylbenzene sulfonate	<10	25155-30-0
Other ingredients	>60	-

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

Occupational exposure limits are, if available, listed in Section 8.

4. 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 eyes with plenty of water. Part eyelids with fingers to assure complete flushing. Check for and remove contact lenses if easily possible. Get medical attention if irritation persists.

5. FIREFIGHTING MEASURES**SUITABLE EXTINGUISHING MEDIA**

Foam, dry chemical, CO₂, water, sand.

GENERAL HAZARD

Emits toxic fumes in fire condition. This product is not expected to burn or explode in normal conditions, but may burn violently if involved in fire. Dinotefuran is self-reactive under high temperature. Exposure to heat may promote violent decomposition.

HAZARDOUS COMBUSTION PRODUCTS

Nitrogen oxides.

FIREFIGHTING INSTRUCTIONS

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.

FIREFIGHTING EQUIPMENT

Respiratory and eye protection is 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**PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES**

Warn and evacuate in the neighborhood 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.

ENVIRONMENTAL PRECAUTIONS

Do not let this product enter the environment.

METHODS AND MATERIAL 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**HANDLING****Technical Measures**

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.

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.

STORAGE

Storage Conditions

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, fertilizers, water, foodstuffs or feed by storage and disposal.

Packaging Materials

Fiber drums. aluminum bags.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMIT VALUES

[Amorphous silica]

OSHA-PEL: 80/(%SiO₂) mg/m³

ENGINEERING CONTROLS

Provide general ventilation. Using closed system or local exhaust ventilation is recommended.

Provide safety shower and eye wash station near work area.

PERSONAL PROTECTION

Eye/face protection:

Safety glasses, goggles, face shield.

Skin Protection:

Hand protection:

Chemical resistant gloves.

Body Protection:

Safety helmet, protective clothing, safety boots.

Respiratory protection:

Dust respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

White granule

Odor:

Faint characteristic odor

Odor threshold:

Not available

pH:

6.2 (24°C)

Melting point:

Not available

Initial boiling point and boiling range:

Not applicable

Flash point:

Not available

Flammability:

Not flammable

Vapor pressure:

Not available

Vapor density:

Not available

Evaporation rate:

Not available

Auto-ignition temperature:

Not available

Decomposition temperature:

Not available

Bulk density:

0.62

Solubilities:

Not available

Partition coefficient

n-octanol/water:

Not available

Viscosity:

Not available

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY

Stable under normal conditions.

HAZARDOUS REACTIONS

No hazardous reaction when handled and stored according to provisions.

CONDITIONS TO AVOID

Exposure to heat, ignition sources.

INCOMPATIBLE MATERIALS

Not available.

HAZARDOUS DECOMPOSITION PRODUCTS

Nitrogen oxides.

11. TOXICOLOGICAL INFORMATION**Acute Toxicity**

Oral:	Rat	LD ₅₀	>2000 mg/kg
Dermal:	Rat	LD ₅₀	>2000 mg/kg
Inhalation:	Rat	LC ₅₀	>2.943 mg/L (4H)

Skin Corrosion/Irritation

Rabbit Slight irritant

Serious Eye Damage/Irritation

Rabbit Mild irritant

Respiratory Sensitization

No data for the product are available.

Skin Sensitization

Guinea pig Not a skin sensitizer.

Germ Cell Mutagenicity

No data for the product are available.

Carcinogenicity

No data for the product are available.

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP or OSHA as a carcinogen.

Reproductive Toxicity

No data for the product are available.

Specific Target Organ Toxicity

Single Exposure: Based on available data, the classification criteria are not met.

Repeated Exposure: No data for the product are available.

Aspiration Hazard

No data for the product are available.

12. ECOLOGICAL INFORMATION**HAZARDOUS TO THE AQUATIC ENVIRONMENT**

Acute: The ecotoxicological data do not meet the criteria for classification.

Chronic: Contains Dinotefuran (Category 1, M=10).

[Category 1]

ECOTOXICITY:**[Mixture]**

Carp	LC ₅₀ (96H)	>100 mg/L
Rainbow trout	LC ₅₀ (96H)	>108 mg/L
<i>Daphnia magna</i>	EC ₅₀ (48H)	199 mg/L
Algae (<i>Pseudokirchneriella subcapitata</i>)	EC ₅₀ (72H)	>100 mg/L

[Dinotefuran]

Chironomid (<i>Chironomus riparius</i> , water spiked study)	NOEC (27d)	0.003 mg/L
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13. DISPOSAL CONSIDERATIONS

WASTE FROM RESIDUES

Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

CONTAMINATED PACKAGING

Do not reuse or refill this container. Completely empty container by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment.

Then offer for recycling if available or dispose of liner in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORT INFORMATION

UN

Hazard Class:	9
UN Number:	UN3077
Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Dinotefuran mixture)
Packing Group:	III
Marine Pollutant:	Yes

Not regulated by TDG when transported solely on land by road or railway vehicle.

SPECIAL PRECAUTIONS FOR TRANSPORT

Make sure that the containers have no puncture or leakage. Avoid rough handling and dropping. Prevent the collapse of cargo piles.

15. REGULATORY INFORMATION

Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets.

The following is the hazard information required on the pest control product label:

CAUTION – EYE AND SKIN IRRITANT

There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label.

Responsibility for compliance with applicable laws and regulations is with the user.

16. OTHER INFORMATION

References: In-house data

To the best of our knowledge, the information contained herein is accurate.

However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.