

Safety Data Sheet

Issue Date : April 7, 2020

Revision Date : -

Version No. : 1

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Name of product : **Quintec®**
Other names : Quintec® Fungicide, Quintec® 25SC, Legend®, Legend® 250SC, Fortress®, Arius®, Arius® 250SC, Abir® SC, Abir® 250SC, Quinoxifen 250SC, Quinoxifen 25SC
Formulation code : EF-1295
Type of formulation : Suspension Concentrate (SC)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Function: Plant protection product, Fungicide

1.3. Details of the supplier of the safety data sheet

Nissan Chemical Corporation
5-1, Nihonbashi 2-chome, Chuo-ku, Tokyo 103-6119, Japan
Contact person: Mr. Masanori Kai, Phone: +81-(0)-3-4463-8310, Fax: +81-(0)-3-4463-8331

1.4. Emergency telephone number

Nissan Chemical Corporation: +81-(0)-3-4463-8310 (available only during office hours)

2. HAZARD IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with GHS and CLP

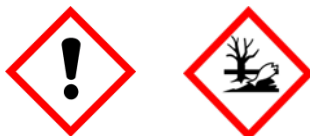
Skin Sensitization Category 1
Aquatic Toxicity Category Acute 1
Aquatic Toxicity Category Chronic 1

Signal Word: Warning

Hazard Statement: H317: May cause an allergic skin reaction
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statement: P261: Do not handle until all safety precautions have been read and understood
P273: Avoid release to the environment
P280: Wear eye protection/face protection
P362 + P364: Take off contaminated clothing and wash it before reuse
P391: Collect spillage
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

Hazard Pictogram:



2.2. Label elements

See Section 2.1.

2.3. Other hazards

The product meets PBT and vPvB criteria according to EU Regulation (EC) No 1907/2006, Annex XIII.

3. COMPOSITION/INFORMATION OF INGREDIENTS

Substance or mixture: Mixture

Chemical Composition:

Quinoxifen (CAS No. 124495-18-7)22.58 %
Propylene glycol (CAS No. 57-55-6)6.7 %
Balance (Not available)70.72 %

4. FIRST AID MEASURES

4.1. Description of first aid measures:

- If on skin or clothing** : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Suitable emergency safety shower facility should be available in work area
- If inhaled** : Move person 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 poison control center or doctor for further treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
- If swallowed** : Wash out mouth with water. Do not give anything by mouth if person is unconscious. Seek medical advice immediately.
- If in eyes** : Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

4.2. Most important symptoms and effects, both acute and delayed

No symptoms have been identified in humans to date.

4.3. Indication of any immediate medical attention and special treatment needed

Treat based on judgment by physician in response to symptoms of patient. No specific antidotes are known.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media : Water, foam, dry chemicals or carbon dioxide (CO₂).

Extinguishing media which shall not be used for safety reasons : High volume water jet.

5.2. Special hazards arising from the substance or mixture

Carbon dioxide, carbon monoxide, hydrogen chloride and oxides of nitrogen are potential thermal decomposed products.

5.3. Advice for firefighters

In the event of fire and/or explosion do not breathe fumes. Use self-contained breathing apparatus and protective clothing. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing, shoes, gloves and goggles. Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke.

6. ACCIDENTAL RELEASE MEASURES (continued)

6.2. Environmental precautions

Keep unauthorized persons, children and animals away from the affected area. Prevent spillage from entering the drainage systems or watercourses.

6.3. Methods and material for containment and cleaning up

Carefully sweep up and collect the spilled material using an inert absorbent material (sand, vermiculite, or sawdust) and place in a closed container (drum) for disposal. Remove (large quantities) with vacuum truck. Do not raise dust. Wash affected area with water containing detergent.

6.4. Reference to other sections

See section 8 for personnel protective equipment.

See section 13 for waste disposal.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Wash thoroughly with soap and water after handling and before eating or smoking. Avoid inhalation of dust and contamination of food and feed. Remove and wash contaminated clothing before reuse. No specific precautions required when handling unopened packs/containers. Protect containers against physical damage. Wear suitable protective clothing, shoes, gloves and goggle during handling. Avoid contact with skin or eyes. Do not eat, drink, or smoke during the work. Prevent spillage from entering the drainage systems or watercourses.

7.2. Conditions for safe storage, including any incompatibilities

Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool and dry place and protect from direct sunlight. Keep out of reach of children.

7.3. Specific end use(s)

Use this product only for plant protection under outdoor conditions.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits are listed below, if they exist:

Component	Regulations	Type of listing	Value/Notation
Quinoxifen	Dow IHG	TWA	5 mg/m ³
	Dow IHG	TWA	Skin Sensitizer
Propylene glycol	US WEEL	TWA	10 mg/m ³

Recommendations in this section are for manufacturing, commercial blending and packaging workers. Applicators and handlers should see the product label for proper personal protective equipment and clothing

8.2. Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirement or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection: Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Neoprene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Viton. Examples of acceptable glove barrier material included: Butyl rubber. Natural rubber ("Latex"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl") NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

8. EXPOSURE CONTROL/PERSONAL PROTECTION (continued)

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed. However if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirations: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	: Off-white liquid
Odour	: Faint
pH	: 6.83 (1% aqueous suspension)
Melting point/melting range	: Not applicable since the product is liquid at ambient temperature.
Boiling point/boiling range	: Not available
Flash point	: >93.3 °C
Evaporation rate	: Not available
Flammability	: Not applicable
Explosive properties	: Not explosive
Oxidising properties	: Not oxidizing
Vapor pressure	: Not available: 1.5×10^{-7} Pa at 20°C (quinoxifen)
Relative density	: 1.097 g/ml at 20°C
Water Solubility	: Not applicable: 0.116 mg/L(quinoxifen)
Partition coefficient (n-octanol/water)	: Not applicable: 4.66 (quinoxifen)
Viscosity	: 130 mPa.s (Dynamic) 117 mm ² /s (Kinematic)
Vapor density	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: >290 °C

9.2. Other information

No other information is available.

10. STABILITY AND REACTIVITY

10.1. Reactivity

May react with strong bases, acids or strong oxidizing agents, such as chlorates, nitrates, peroxides.

10.2. Chemical stability

Stable under normal ambient storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions will not occur.

10.4. Conditions to avoid

Avoid high temperatures. Protect from sunlight, open flame, sources of heat and humidity.

10.5. Incompatible materials

May react with strong bases, acids or strong oxidizing agents, such as chlorates, nitrates, peroxides.

10.6. Hazardous decomposition products

None hazardous decomposition products under normal conditions of storage and use. Thermal decomposition products include carbon monoxide, nitrogen oxides and halogenated compounds.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product (similar product)

Acute oral toxicity	:	LD ₅₀ (rats)	> 2,000 mg/kg
Acute dermal toxicity	:	LD ₅₀ (rats)	> 2,000 mg/kg
Acute inhalation toxicity	:	LC ₅₀ (rats)	Not available
Eye irritation	:	(rabbits)	Not irritant
Skin irritation	:	(rabbits)	Not irritant
Sensitization	:	(guinea pigs)	Sensitizer

Quinoxifen active ingredient

Acute oral toxicity	:	LD ₅₀ (rats)	> 5,000 mg/kg
Acute dermal toxicity	:	LD ₅₀ (rabbit)	> 2,000 mg/kg
Acute inhalation toxicity	:	LC ₅₀ (rats)	>3.38 mg/L
Eye irritation	:	(rabbits)	Not irritant
Skin irritation	:	(rabbits)	Not irritant
Sensitization	:	(guinea pigs)	Sensitizer

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Product (similar product)

Toxicity to fish	:	LC ₅₀ (96 h, Rainbow trout)	>100 mg formulation/L
Toxicity to <i>Daphnia</i>	:	EC ₅₀ (48 h, <i>Daphnia magna</i>)	>0.2 mg formulation/L
Toxicity to algae	:	ErC ₅₀ (72 h, <i>P. subcapitata</i>)	0.28 mg formulation/L
Toxicity to bees	:	LC ₅₀ (oral/contact, <i>Apis mellifera</i>)	> 100 µg/bee (oral/contact)

Quinoxifen active ingredient

Toxicity to fish	:	LC ₅₀ (96 h, Rainbow trout)	0.27 mg/L
Toxicity to <i>Daphnia</i>	:	EC ₅₀ (48 h, <i>Daphnia magna</i>)	0.08 mg/L
Toxicity to algae	:	ErC ₅₀ (72 h, <i>Lemna gibba</i>)	>0.035 mg /L
Toxicity to bees	:	LC ₅₀ (oral/contact, <i>Apis mellifera</i>)	> 100 µg/bee (oral/contact)

12.2. Persistence and degradability

Product

No information is available for the product.

Quinoxifen active ingredient

Hydrolysis	:	DT ₅₀ : 75 days (pH4 at 25 °C)
Aqueous photolysis at 25 °C	:	DT ₅₀ : 1.7 / 22.8 hours (mid-summer / mid-winter)
Degradation in soils at 20 °C	:	DT ₅₀ : 110 - 560 days (aerobic)
Degradation in water/sediment at 20 °C	:	DT ₅₀ : 16 - 136 days (whole system)
Ready biodegradability (activated sludge)	:	Not available
Terrestrial Field Dissipation	:	DT ₅₀ : 94 days (sandy loam CA USA) DT ₅₀ : 65 days (loam, Ontario Canada)

12.3. Bioaccumulative potential

Product

No information is available for the product.

Quinoxifen active ingredient

Partition coefficient (n-octanol/water)	Log Pow	:	4.66 at 20 °C
Bioconcentration	BCF	:	5040 (whole fish)

12.4. Mobility in soil

Product

No information is available for the product.

12. ECOLOGICAL INFORMATION (continued)**Quinoxyfen active ingredient**

Surface tension: Not applicable due to the water solubility (less than 1 mg/l)
Adsorption/desorption: $K_{f_{oc}}^{ads}$: 18339 – 28897 (Hardly mobile)

12.5. Results of PBT and vPvB assessment**Quinoxyfen active ingredient**

The product meets PBT and vPvB criteria according to EU Regulation (EC) No 1907/2006, Annex XIII.

13. DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods**

Do not contaminate water, foodstuffs, feed or seed by disposal. Dispose of contents/container in accordance with local regulation.

PRODUCT DISPOSAL

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or burned in incinerator in accordance with all applicable regulations.

CONTAINER DISPOSAL

Completely empty container by shaking and tapping sides and bottom to loosen clinging particles. Do not reuse container. Triple rinse container, then puncture and dispose of by incineration in accordance with all applicable regulations.

14. TRANSPORT INFORMATION**14.1. UN number**

3082

14.2. UN proper shipping name

Environmental Hazardous Substance, Liquid n.o.s. (Quinoxyfen)

14.3. Transport hazard class(es)

Class 9

14.4. Packing group

Packing Group III

14.5. Environmental hazards

Marine Pollutant Label: Marine Pollutant

14.6. Special precautions for user

No special precautions available.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No bulk transportation intended.

14.8. Supplemental information**IMDG**

UN No.	:	3082
Class	:	9
Packing Group	:	III
Ems	:	F-A, S-F
Marine Pollutant Label	:	Marine Pollutant
Proper Shipping Name	:	Environmental Hazardous Substance, Liquid n.o.s. (Quinoxyfen)

14. TRANSPORT INFORMATION (continued)**ICAO/IATA**

UN No. : 3082
 Class : 9
 Packing Group : III
 Proper Shipping Name : Environmental Hazardous Substance, Liquid n.o.s. (Quinoxifen)

ADR/RID

UN No. : 3082
 Class : 9
 Packing Group : III
 Proper Shipping Name : Environmental Hazardous Substance, Liquid n.o.s. (Quinoxifen)

ADN/ADNR

UN No. : 3082
 Class : 9
 Packing Group : III
 Proper Shipping Name : Environmental Hazardous Substance, Liquid n.o.s. (Quinoxifen)

15. REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

OSHA Hazard Communication Standard: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910. 1200.

15.2. Chemical safety assessment

The chemical safety assessment has not been carried out for this product yet.

16. OTHER INFORMATION**16.1 Relevant R-phrase and/or H-statements (see Sec 2 and 3)****Hazard Statement:**

H317: May cause an allergic skin reaction
 H400: Very toxic to aquatic life
 H410: Very toxic to aquatic life with long lasting effects

Precautionary Statement:

P261: Do not handle until all safety precautions have been read and understood
 P273: Avoid release to the environment
 P280: Wear eye protection/face protection
 P362 + P364: Take off contaminated clothing and wash it before reuse
 P391: Collect spillage
 P501: Dispose of contents/container in accordance with local/regional/national/international regulations

Version	Changes	Date
Version 1	First version	April 7, 2020

This Safety Data Sheet is prepared in accordance with **"Globally Harmonized System of Classification and Labeling of Chemicals (GHS), 7th revised edition"** and **Commission Regulation (EU) No 453/2010 amending Regulation (EC) No 1907/2006"**.

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