



SAFETY DATA SHEET LEGEND 250 SC

Revision Date: 17/06/2022
Revision Number: 01

1. PRODUCT AND COMPANY IDENTIFICATION

Identification of the product/preparation

Product Name: **LEGEND 250 SC**
Registration Number: L6840
Product use: Fungicide

Active Ingredient

Quinoxifen
CAS Number: 124495-18-7

Supplier

Company Name: PHILAGRO SOUTH AFRICA (PTY) LTD
Address: 1st Floor, The Corner Office
410 Lynnwood Road
LYNNWOOD RIDGE 0040
Telephone: +27(0) 12 348 8808
Fax: +27(0) 12 348 3500
E-mail Address: info@philagro.co.za

Manufacturer

Company Name: NISSAN CHEMICAL CORPORATION
Address: 5-1, Nihonbashi 2-chome,
Chuo-ku, Tokyo 103-6119,
Japan
Telephone: +81-(0)-3-4463-8310
Fax: +81-(0)-3-4463-8331

Emergency Telephone Numbers:

Medical information in case of poisoning

Griffon Poison Information Centre: +27(0) 82 446 8946
Tygerberg Hospital Poison Centre: +27(0) 86 155 5777

Relevant identified uses of the product and uses advised against

A suspension concentrate surface mobile contact fungicide for the control of powdery mildew (*Oidium tuckeri*) in table and wine grapes, (*Oidium erysiphoides*) in cucurbit crops and (*Oidium mangiferae*) on mangoes.

2. HAZARD IDENTIFICATION

Classification of the substance or mixture

This product is classified as hazardous according to the criteria in South Africa - GHS classification and labelling of chemicals – SANS10234 and the Regulations for Hazardous Chemical Agents - 2021.

Classification

HAZARD CLASS	CATEGORY	HAZARD STATEMENT NUMBER
Skin sensitization	1	H317
Hazardous to the aquatic environment – Acute	1	H400
Hazardous to the aquatic environment - Chronic	1	H410

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Label Elements

South Africa. GHS classification and labelling of chemicals – SANS10234, and the Regulations for Hazardous Chemical Agents - 2021.

Pictogram/s:



Signal Word:

Warning

Hazard Statements:

Statement Number	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 Statements:

Prevention

Statement Number	Statement
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection

Response

Statement Number	Statement
P321	Specific treatment (see Section 4).
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

Disposal

Statement Number	Statement
P501	Dispose of contents/container in accordance with national regulations

Other Hazards

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



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3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Trade Name:	LEGEND 250 SC
IUPAC/Chemical Name (active ingredient):	5,7-dichloro-4-(4-fluoro-phenoxy)-quinoline
Molecular Formula:	C ₁₅ H ₈ Cl ₂ FNO
Chemical Family:	Quinoline
Formulation:	Suspension concentrate

Ingredients with Hazard Concerns (GHS):

According to UN GHS criteria.

Hazardous Component	CAS Number	Weight - %	GHS Classification
Quinoxifen	124495-18-7	22.58	Skin Sensitization, Category 1 Acute Toxicity Oral, Category 4 Aquatic Toxicity – Chronic, Category 1

NOTE 1: The other ingredients not included above, do not cause or contribute towards the correct GHS classification of LEGEND 250 SC and is therefore, in terms of the South African Regulations for Hazardous Chemical Agents - 2021; Regulation 14(b), not listed.

4. FIRST AID MEASURES

Description of First-Aid Measures

Eye Contact	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.
Skin Contact	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
Inhalation	Move person to fresh air. If person is not breathing, call poison control centre or doctor, 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.
Ingestion	Wash out mouth with water. Do not give anything by mouth if person is unconscious. Seek medical advice immediately.

Medical Advice

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

Most important symptoms/effects, acute and delayed

No symptoms have been identified in humans to date.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Water, foam, dry chemicals or carbon dioxide (CO ₂). Extinguishing media which shall not be used for safety reasons: High volume water jet.
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Specific hazards arising from the chemical

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

Special protective equipment and precautions for fire-fighters

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

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.

Environmental precautions

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

Methods for 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.

Reference to other sections

See section 8 for personnel protective equipment.
See section 13 for waste disposal.

7. HANDLING AND STORAGE

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.

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.

Specific end uses(s)

Use this product only for plant protection under outdoor conditions.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

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

Appropriate 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.

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Personal Protective Equipment

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.
Skin and Hand 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.
Eye/Face Protection	Use safety glasses (with side shields).
General Safety and Hygiene Measures	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. Handle the product in accordance with good industrial hygiene and safety practice. An eye wash fountain and safety showers should be available and easily accessible. Avoid contact with the skin, eyes and clothing and immediately remove all contaminated clothing. Wash the hands and/or face before breaks and at the end of the shift.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/physical state	Off-white liquid.
Odour characteristics	Faint
Colour	Off-white.
Bulk Density (g/ml)	No available.
Solubility in water (g/100mL) @ 20°C	Not applicable: 0.116 mg/L(quinoxifen)
Flammability	Not applicable.
Flash point (°C)	>93.3°C
Flammable limits-LEL	No available.
Vapour pressure (Pa) at 25°C	Not available: 1.5 x10 ⁻⁷ Pa at 20°C (quinoxifen)
Decomposition temperature (°C)	>290°C
Boiling point range(°C)	Not available.
Melting point (°C)	Not applicable since the product is liquid at ambient temperature.
pH	6.83 (1% aqueous suspension)
Auto-ignition temperature (°C)	Not available.
Density:	1.097 g/ml at 20°C (relative density)
Partition coefficient	Not applicable: 4.66 (quinoxifen) (n-octanol/water)
Viscosity	130 mPa.s (Dynamic) 117 mm ² /s (Kinematic)
Explosive properties	Not explosive
Oxidising properties	Not oxidizing
Evaporation rate	Not available
Vapour density	Not available

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10. STABILITY AND REACTIVITY

Reactivity

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

Chemical Stability

Stable under normal ambient storage conditions.

Possibility of Hazardous Reactions

Hazardous reactions will not occur.

Conditions to Avoid

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

Incompatible Materials

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

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. TOXOLOGICAL INFORMATION

Product (similar product)

Acute oral toxicity:	LD50 (rats)	> 2,000 mg/kg
Acute dermal toxicity:	LD50 (rats)	> 2,000 mg/kg
Acute inhalation toxicity:	LC50 (rats)	Not available
Eye irritation:	(rabbits)	Not irritant
Skin irritation:	(rabbits)	Not irritant
Sensitization:	(guinea pigs)	Sensitizer

Quinoxifen active ingredient

Acute oral toxicity:	LD50 (rats)	> 5,000 mg/kg
Acute dermal toxicity:	LD50 (rabbit)	> 2,000 mg/kg
Acute inhalation toxicity:	LC50 (rats)	>3.38 mg/L
Eye irritation:	(rabbits)	Not irritant
Skin irritation:	(rabbits)	Not irritant
Sensitization:	(guinea pigs)	Sensitizer

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product (similar product)

Toxicity to fish:	LC50 (96 h, Rainbow trout)	>100 mg formulation/L
Toxicity to <i>Daphnia</i> :	EC50 (48 h, <i>Daphnia magna</i>)	>0.2 mg formulation/L
Toxicity to algae:	ErC50 (72 h, <i>P. subcapitata</i>)	0.28 mg formulation/L
Toxicity to bees:	LC50 (oral/contact, <i>Apis mellifera</i>)	> 100 µg/bee (oral/contact)



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Quinoxyfen active ingredient

Toxicity to fish:	LC50 (96 h, Rainbow trout)	0.27 mg/L
Toxicity to <i>Daphnia</i> :	EC50 (48 h, <i>Daphnia magna</i>)	0.08 mg/L
Toxicity to algae:	ErC50 (72 h, <i>Lemna gibba</i>)	>0.035 mg /L
Toxicity to bees:	LC50 (oral/contact, <i>Apis mellifera</i>)	>100 µg/bee (oral/contact)

Persistence and degradability

Product

No information is available for the product.

Quinoxyfen active ingredient

Hydrolysis:	DT50: 75 days (pH4 at 25°C)
Aqueous photolysis at 25°C:	DT50: 1.7 / 22.8 hours (mid-summer / mid-winter)
Degradation in soils at 20°C:	DT50: 110 - 560 days (aerobic)
Degradation in water/sediment at 20°C:	DT50: 16 - 136 days (whole system)
Ready biodegradability (activated sludge):	Not available
Terrestrial Field Dissipation	DT50: 94 days (sandy loam CA USA): DT50: 65 days (loam, Ontario Canada)

Bioaccumulative potential

Product

No information is available for the product.

Quinoxyfen active ingredient

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

Mobility in soil

Product

No information is available for the product.

Quinoxyfen active ingredient

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

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

Do not contaminate water sources, food, or feed by storage of the - waste. Waste should not be disposed of by release to sewers.

General container handling: Non-refillable container. Do not reuse for any purposes or refill the container. The recommended means of safe disposal is via controlled incineration at an approved chemical waste facility according to applicable regulations.

Empty containers: Completely empty container by shaking and tapping sides and bottom to loosen clinging particles.





Triple rinse container (or equivalent) promptly after emptying. Offer for recycling, if available.

Contaminated packaging: Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the product.

Product disposal: Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in accordance with all applicable regulations.

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14. TRANSPORT INFORMATION

	Land Transport (ADR/RID)	Inland Waterways (AND/ADNR)	See Transport (IMDG)	Air Transport (ICAO- TI/IATA-DGR)
UN Number	3082	3082	3082	3082
UN Proper Shipping Name	Environmental Hazardous Substance, Liquid n.o.s. (Quinoxifen)	Environmental Hazardous Substance, Liquid n.o.s. (Quinoxifen)	Environmental Hazardous Substance, Liquid n.o.s. (Quinoxifen)	Environmental Hazardous Substance, Liquid n.o.s. (Quinoxifen)
Transport Hazard Class	9	9	9	9
Transport Hazard Class Pictogram				
Transport Subsidiary Class	None	None	None	None
Packaging Group	III	III	III	III
Environmental Hazard	Yes	Yes	Marine pollutant	Yes

IMDG

UN no.: 3082

Class : 9

Packing group : III

EmS: F-A, S-F

Further information:

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA special provision A197, and ADR/RID special provision 375

15. REGULATORY INFORMATION

Relevant regulatory information regarding authorization, Safety Data Sheets, Occupational Exposure Limits, Hazardous Substances, Dangerous Goods Transport and Waste:

South Africa: Occupational Health and Safety Act 1993. Regulations for Hazardous Chemical Agents - 2021. Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act 36 of 1947). Hazardous Substances Act, 1973 (Act No.15 of 1973). Regulations for Hazardous Chemical Agents – 2021. SANS11014:2010. Safety Data Sheet for Chemical Products – Content and Order of Sections. SANS10206: 2020. The Handling, Storage and Disposal of Pesticides. National Road Traffic Act, 1996 (Act No. 93 of 1996). SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes. National Environmental Management: waste Act 59 of 2008.

Zambia: The Pesticides and Toxic Substances Regulations. Statutory Instrument 20 of 1994 (Act No. 13 of 1994). Environmental Management (Licensing) Regulations, Statutory Instrument No. 112 of 2013 (“S.I 112 of 2013”). ZS 708 – Globally Harmonized System of Classification and Labelling of Chemicals. Environmental Management Act (EMA) of 2011.

Kenya: The Occupational Safety and Health Act, 2007 (Act No. 15 of 2007). The Factories and Other places of Work Act (CAP.514).

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Angola: Executive Decree No.128/06 of November 23, general regulations of safety and health signals at work. 20041123.

Namibia: Labour Act 11 of 2007. Regulations relating to the Health and Safety of Employees at Work. Regulations relating to the Health and Safety of Employees at Work Government Notice 156 of 1997.

Botswana: Pesticides and Toxic Substances Regulations. 1994 (2006). Agrochemicals Regulations (under Section 31) (8th August, 2003). Environmental and Pollution Control Act. 1990. Environmental Management (Licensing) Regulations. (S.I. No 112 of 2013). Statutory Instrument 20 of 1994 Act No. 13 of 1994.

16. OTHER INFORMATION

LEGEND is a registered trademark of Nissan Chemical Corporation, Tokyo, Japan

This Safety Data Sheet is prepared in accordance with Globally Harmonized System of Classification and Labeling of Chemicals (GHS), 9th revised edition. The information above is believed to be accurate and represents the best information currently available. However, Nissan Chemical Corporation and Philagro South Africa (Pty) Ltd make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and Nissan Chemical Corporation and Philagro South Africa (Pty) Ltd assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

Key to Abbreviations

AND	European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	The European Agreement concerning the International Carriage of Dangerous Goods by Road
GHS	Globally Harmonised System of Classification and Labelling of Chemicals
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
Log _{Pow}	Logarithm of the octanol/water partition coefficient
LD ₅₀	Lethal Dose 50
LC ₅₀	Lethal Concentration 50
RID	The Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
UN	United Nations

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