



## REDIGO FS100

Version 5 / ZA  
102000006421

1/11  
Revision Date: 21.09.2022  
Print Date: 21.09.2022

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

Trade name REDIGO FS100  
Product code (UVP) 06091563

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

Use Fungicide, Seed treatment

#### 1.3 Details of the supplier of the safety data sheet

Supplier Bayer (Pty) Ltd.  
27 Wrench Road, P.O. Box 143  
1600 Isando  
South Africa  
Telephone +27 (011) 921 5911  
Telefax +27 (011) 921 5766  
Responsible Department QHSE - Nigel, South Africa  
+27 (011) 365 8675 (during business hours only)

#### 1.4 Emergency telephone no.

Emergency telephone no. +27 (0861) 555 777 (Western Cape Poisons Helpline)  
Global Incident Response Hotline (24h) +1 (760) 476 3964 (Company 3E for Bayer AG, Crop Science Division)

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Skin sensitisation: Category 1  
H317 May cause an allergic skin reaction.

Acute aquatic toxicity: Category 1  
H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 2  
H411 Toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

- Prothioconazole

**RESTRICTED**

**REDIGO FS100**Version 5 / ZA  
102000006421

2/11

Revision Date: 21.09.2022  
Print Date: 21.09.2022**Signal word:** Warning**Hazard statements**

H317 May cause an allergic skin reaction.  
 H410 Very toxic to aquatic life with long lasting effects.  
 EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

**Precautionary statements**

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P391 Collect spillage.  
 P410 Protect from sunlight.  
 P501 Dispose of contents/container in accordance with local regulation.

**2.3 Other hazards**

No additional hazards known beside those mentioned.

Polyarylphenylether sulfate, ammonium salt: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Prothioconazole: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

**Ecological information:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Toxicological information:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.2 Mixtures****Chemical nature**

Flowable concentrate for seed treatment (FS)  
 Prothioconazole 100 g/l

**Hazardous components**

Hazard statements according to Regulation (EC) No. 1272/2008

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification	Conc. [%]
		REGULATION (EC) No 1272/2008	
Prothioconazole	178928-70-6	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	8,70
Polyarylphenylether	119432-41-6	Aquatic Chronic 3, H412	>= 1,0 – <

**RESTRICTED**

**REDIGO FS100**Version 5 / ZA  
102000006421

3/11

Revision Date: 21.09.2022  
Print Date: 21.09.2022

sulfate, ammonium salt			5,0
3-Hydroxy-2'-methyl-2-naphthylidene	135-61-5 01-2119473801-38-XXXX	Skin Sens. 1A, H317 Aquatic Chronic 2, H411	$\geq 0,1 - < 1,0$
1,2-Benzisothiazol-3(2H)-one	2634-33-5 01-2120761540-60-0003		$\geq 0,025 - < 0,05$
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	55965-84-9	Acute Tox. 3, H301 Acute Tox. 2, H310 Acute Tox. 2, H330 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	$\geq 0,0002 - < 0,0015$
Glycerine	56-81-5 01-2119471987-18-XXXX	Not classified	$\geq 1,0 - < 25$

**Further information**

1,2-Benzisothiazol-3(2H)-one	2634-33-5	M-Factor: 10 (acute)
------------------------------	-----------	----------------------

For the full text of the H-Statements mentioned in this Section, see Section 16.

**SECTION 4: FIRST AID MEASURES****4.1 Description of first aid measures**

<b>General advice</b>	Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.
<b>Inhalation</b>	Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
<b>Skin contact</b>	Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.

**4.2 Most important symptoms and effects, both acute and delayed****Symptoms** No symptoms known or expected.**4.3 Indication of any immediate medical attention and special treatment needed****Treatment** Treat symptomatically. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote.**RESTRICTED**

**REDIGO FS100**Version 5 / ZA  
102000006421

4/11

Revision Date: 21.09.2022  
Print Date: 21.09.2022

---

**SECTION 5: FIREFIGHTING MEASURES****5.1 Extinguishing media****Suitable** Water spray, Carbon dioxide (CO<sub>2</sub>), Foam, Sand**Unsuitable** High volume water jet**5.2 Special hazards arising from the substance or mixture** In the event of fire the following may be released: Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Sulphur oxides**5.3 Advice for firefighters****Special protective equipment for firefighters** In the event of fire and/or explosion do not breathe fumes. Wear self-contained breathing apparatus and protective suit.**Further information** Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

---

**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures****Precautions** Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.**6.2 Environmental precautions** Do not allow to get into surface water, drains and ground water.**6.3 Methods and materials for containment and cleaning up****Methods for cleaning up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Collect and transfer the product into a properly labelled and tightly closed container.**6.4 Reference to other sections** Information regarding safe handling, see section 7.  
Information regarding personal protective equipment, see section 8.  
Information regarding waste disposal, see section 13.

---

**SECTION 7: HANDLING AND STORAGE****7.1 Precautions for safe handling****Advice on safe handling** Use only in area provided with appropriate exhaust ventilation.**Hygiene measures** Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).**7.2 Conditions for safe storage, including any incompatibilities****Requirements for storage areas and containers** Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Keep away from direct sunlight.**Advice on common storage** Keep away from food, drink and animal feedingstuffs.**RESTRICTED**

**REDIGO FS100**Version 5 / ZA  
102000006421

5/11

Revision Date: 21.09.2022  
Print Date: 21.09.2022**Suitable materials** HDPE (high density polyethylene)**7.3 Specific end use(s)** Refer to the label and/or leaflet.**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Prothioconazole	178928-70-6	1,4 mg/m <sup>3</sup> (SK-ABS)		OES BCS*
Glycerine (Respirable fraction.)	56-81-5	5 mg/m <sup>3</sup> (TWA)	03 2021	ZA REL
Glycerine	56-81-5	10 mg/m <sup>3</sup> (TWA)	03 2021	ZA REL

\*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

**8.2 Exposure controls****Respiratory protection**

Respiratory protection is not required under anticipated circumstances of exposure.

Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

**Hand protection**

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Material Nitrile rubber

Rate of permeability &gt; 480 min

Glove thickness &gt; 0,4 mm

Protective index Class 6

Directive Protective gloves complying with EN 374.

**Eye protection**

Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

**Skin and body protection**

Wear standard coveralls and Category 3 Type 4 suit.

If there is a risk of significant exposure, consider a higher protective type suit.

Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.

If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

**General protective measures**

If product is handled while not enclosed, and if contact may occur:

**RESTRICTED**

**REDIGO FS100**Version 5 / ZA  
102000006421

6/11

Revision Date: 21.09.2022  
Print Date: 21.09.2022

Complete suit protecting against chemicals

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

<b>Form</b>	suspension
<b>Colour</b>	red
<b>Odour</b>	weak, characteristic
<b>Odour Threshold</b>	No data available
<b>pH</b>	5,0 - 6,0 (100 %) (23 °C)
<b>Melting point/range</b>	No data available
<b>Boiling Point</b>	No data available
<b>Flash point</b>	> 100 °C No flash point - Determination conducted up to the boiling point.
<b>Flammability</b>	No data available
<b>Auto-ignition temperature</b>	465 °C
<b>Thermal decomposition</b>	No data available
<b>Ignition temperature</b>	425 °C
<b>Minimum ignition energy</b>	No data available
<b>Self-accelarating decomposition temperature (SADT)</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Lower explosion limit</b>	No data available
<b>Vapour pressure</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Relative vapour density</b>	No data available
<b>Relative density</b>	No data available
<b>Density</b>	ca. 1,15 g/cm <sup>3</sup> (20 °C)
<b>Water solubility</b>	miscible
<b>Partition coefficient: n-octanol/water</b>	Polyarylphenylether sulfate, ammonium salt: No data available Prothioconazole: log Pow: 3,82 (20 °C) (pH 7)
<b>Viscosity, dynamic</b>	No data available
<b>Viscosity, kinematic</b>	No data available
<b>Impact sensitivity</b>	Not impact sensitive.
<b>Oxidizing properties</b>	No oxidizing properties
<b>Explosivity</b>	Not explosive 92/69/EEC, A.14 / OECD 113

**RESTRICTED**



**REDIGO FS100**

Version 5 / ZA  
102000006421

7/11

Revision Date: 21.09.2022  
Print Date: 21.09.2022

**9.2 Other information** Further safety related physical-chemical data are not known.

---

**SECTION 10: STABILITY AND REACTIVITY**

- 10.1 Reactivity** Stable under normal conditions.
- 10.2 Chemical stability** Stable under recommended storage conditions.
- 10.3 Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.
- 10.4 Conditions to avoid** Extremes of temperature and direct sunlight.
- 10.5 Incompatible materials** Store only in the original container.
- 10.6 Hazardous decomposition products** No decomposition products expected under normal conditions of use.

---

**SECTION 11: TOXICOLOGICAL INFORMATION**

**11.1 Information on hazard classes as defined in regulation (EC) No 1272/2008**

- Acute oral toxicity** LD50 (Rat) > 2.500 mg/kg
- Acute inhalation toxicity** LC50 (Rat) > 2,735 mg/l  
Determined in the form of a respirable aerosol.  
Highest attainable concentration.  
No deaths
- Acute dermal toxicity** LD50 (Rat) > 4.000 mg/kg
- Skin corrosion/irritation** No skin irritation (Rabbit)
- Serious eye damage/eye irritation** No eye irritation (Rabbit)
- Respiratory or skin sensitisation** Skin: Sensitising (Guinea pig)  
OECD Test Guideline 406, Magnusson & Kligman test

**Assessment STOT Specific target organ toxicity – single exposure**

Polyarylphenylether sulfate, ammonium salt: Based on available data, the classification criteria are not met.  
Prothioconazole: Based on available data, the classification criteria are not met.

**Assessment STOT Specific target organ toxicity – repeated exposure**

Polyarylphenylether sulfate, ammonium salt: Based on available data, the classification criteria are not met.  
Prothioconazole did not cause specific target organ toxicity in experimental animal studies.

**Assessment mutagenicity**

Polyarylphenylether sulfate, ammonium salt: This information is not available. Not mutagenic in Ames Test.  
Prothioconazole was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

**RESTRICTED**

**REDIGO FS100**Version 5 / ZA  
10200006421

8/11

Revision Date: 21.09.2022  
Print Date: 21.09.2022**Assessment carcinogenicity**

Polyarylphenylether sulfate, ammonium salt: This information is not available.  
Prothioconazole was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

Polyarylphenylether sulfate, ammonium salt: This information is not available.  
Prothioconazole caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Prothioconazole is related to parental toxicity.

**Assessment developmental toxicity**

Polyarylphenylether sulfate, ammonium salt is not considered a developmental toxicant.  
Prothioconazole caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Prothioconazole are related to maternal toxicity.

**Aspiration hazard**

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

**Further information**

No further toxicological information is available.

**11.2 Information on other hazards****Endocrine disrupting properties****Assessment**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**SECTION 12: ECOLOGICAL INFORMATION****12.1 Toxicity**

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) 16,4 mg/l Exposure time: 96 h
	NOEC (Oncorhynchus mykiss (rainbow trout)) 2,23 mg/l Exposure time: 96 h
	LC50 (Oncorhynchus mykiss (rainbow trout)) 1,83 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient prothioconazole.
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) 12,2 mg/l Exposure time: 48 h
	EC50 (Daphnia magna (Water flea)) 1,3 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient prothioconazole.
<b>Toxicity to aquatic plants</b>	ErC50 (Raphidocelis subcapitata (freshwater green alga)) 18,6 mg/l Exposure time: 72 h
	NOEC (Raphidocelis subcapitata (freshwater green alga)) 2,24 mg/l Exposure time: 72 h

**RESTRICTED**



**REDIGO FS100**Version 5 / ZA  
102000006421

9/11

Revision Date: 21.09.2022  
Print Date: 21.09.2022

EC50 (Raphidocelis subcapitata (freshwater green alga)) 2,18 mg/l  
Exposure time: 72 h  
The value mentioned relates to the active ingredient prothioconazole.

ErC50 (Skeletonema costatum) 0,03278 mg/l  
Exposure time: 72 h  
The value mentioned relates to the active ingredient prothioconazole.

EC10 (Skeletonema costatum) 0,01427 mg/l  
Growth rate; Exposure time: 72 h  
The value mentioned relates to the active ingredient prothioconazole.

**12.2 Persistence and degradability**

**Biodegradability** Polyarylphenylether sulfate, ammonium salt:  
Not readily biodegradable.  
Prothioconazole:  
Not rapidly biodegradable

**Koc** Polyarylphenylether sulfate, ammonium salt: No data available  
Prothioconazole: Koc: 1765

**12.3 Bioaccumulative potential**

**Bioaccumulation** Polyarylphenylether sulfate, ammonium salt:  
No data available  
Prothioconazole: Bioconcentration factor (BCF) 19  
Does not bioaccumulate.

**12.4 Mobility in soil**

**Mobility in soil** Polyarylphenylether sulfate, ammonium salt: No data available  
Prothioconazole: Slightly mobile in soils

**12.5 Results of PBT and vPvB assessment**

**PBT and vPvB assessment** Polyarylphenylether sulfate, ammonium salt: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).  
Prothioconazole: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

**12.6 Endocrine disrupting properties**

**Assessment** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**12.7 Other adverse effects**

**Additional ecological information** No other effects to be mentioned.

**SECTION 13: DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

**Product** In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.

**RESTRICTED**



**REDIGO FS100**

Version 5 / ZA  
102000006421

10/11

Revision Date: 21.09.2022  
Print Date: 21.09.2022

**Contaminated packaging** Triple rinse containers.  
Do not re-use empty containers.  
Not completely emptied packagings should be disposed of as hazardous waste.

**SECTION 14: TRANSPORT INFORMATION**

**SANS 10231**

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PROTHIOCONAZOLE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packaging Group	III
14.5 Environm. Hazardous Mark	YES

**IMDG**

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PROTHIOCONAZOLE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packaging Group	III
14.5 Marine pollutant	YES

**IATA**

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PROTHIOCONAZOLE SOLUTION )
14.3 Transport hazard class(es)	9
14.4 Packaging Group	III
14.5 Environm. Hazardous Mark	YES

**14.6 Special precautions for user**  
See sections 6 to 8 of this Safety Data Sheet.

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**  
No transport in bulk according to the IBC Code.

**SECTION 15: REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**Further information**  
WHO-classification: III (Slightly hazardous)

**SECTION 16: OTHER INFORMATION**

Text of the hazard statements mentioned in Section 3

**REDIGO FS100**Version 5 / ZA  
102000006421

11/11

Revision Date: 21.09.2022  
Print Date: 21.09.2022

H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

**Abbreviations and acronyms**

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 2020/878 amending Regulation (EU) No 1907/2006 and any subsequent amendments. This data sheet complements the user's instructions, but does not replace them. The information it contains is based on the knowledge available about the product concerned at the time it was compiled. Users are further reminded of the possible risks of using a product for purposes other than those for which it was intended. The required information complies with current EEC legislation. Addressees are requested to observe any additional national requirements.

<b>Reason for Revision:</b>	Reviewed and updated for general editorial purposes. The following sections have been revised: Section 3: Composition / Information on Ingredients. Section 13. Disposal considerations.
-----------------------------	--

Changes since the last version are highlighted in the margin. This version replaces all previous versions.
--

**RESTRICTED**