



REDIGO PRO

Version 2 / GB
102000016050

1/11

Revision Date: 28.07.2014
Print Date: 28.07.2014

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

1.1 Product identifier

Trade name REDIGO PRO
Product code (UVP) 79301081

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

Use Seed treatment, Fungicide

1.3 Details of the supplier of the safety data sheet

Supplier Bayer CropScience Limited
230 Cambridge Science Park
Milton Road
Cambridge
Cambridgeshire CB4 0WB
United Kingdom

Telephone +44(0)1223 226500
Telefax +44(0)1223 426240
Responsible Department Email: ukinfo@bayercropscience.com

1.4 Emergency telephone no.

Emergency telephone no. 0800-220876 (UK 24 hr)
+44(0)1635-563000 (Overseas 24 hr)

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.

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

Chronic aquatic toxicity: Category 1
H410 Very toxic to aquatic life with long lasting effects.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

R52/53

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:

- Tebuconazole
- Prothioconazole



**REDIGO PRO**Version 2 / GB
102000016050

2/11

Revision Date: 28.07.2014
Print Date: 28.07.2014**Signal word:** Warning**Hazard statements**

H410 Very toxic to aquatic life with long lasting effects.
 EUH208 Contains 2-[2-(1-chlorocyclopropyl)-2-hydroxy-3-phenylpropyl]-2,4-dihydro-3H-1,2,4-triazole-3-thione, 1,2-Benzisothiazolin-3-one, 5-chloro-2-methyl-isothiazol-3-one/2-methyl-isothiazol-3-one. May produce an allergic reaction.
 EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

P501 Dispose of contents/container to returnable container supplier.

2.3 Other hazards

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.2 Mixtures****Chemical nature**Flowable concentrate for seed treatment (FS)
Prothioconazole/Tebuconazole 150:20 g/l**Hazardous components**R-phrase(s) according to EC directive 67/548/EEC
Hazard statements according to Regulation (EC) No. 1907/2006

Name	CAS-No. / EC-No.	Classification		Conc. [%]
		EC Directive 67/548/EEC	Regulation (EC) No 1272/2008	
Tebuconazole	107534-96-3 403-640-2	Repr.Cat.3 R63 Xn; R22 N; R51/53	Repr. 2, H361d Acute Tox. 4, H302 Aquatic Chronic 2, H411	1.71
Prothioconazole	178928-70-6 605-841-2	N; R51/53	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	12.80
Sulfonic acids, C13-17-sec-alkane, sodium salts	85711-69-9 288-330-3	Xn; R22 Xi; R38, R41	Acute Tox. 4, H302 Eye Dam. 1, H318 Skin Irrit. 2, H315	> 1.00 – < 25.00
Polyarylphenylether sulfate, ammonium salt	119432-41-6 601-612-6	R52/53	Aquatic Chronic 3, H412	> 1.00 – < 20.00
Glycerine	56-81-5 200-289-5	Not classified	Not classified	> 1.00
1,2-Benzisothiazol-3(2H)-one	2634-33-5 220-120-9	Xn; R22 Xi; R38, R41 R43 N; R50	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400	> 0.005 – < 0.05
Mixture of 5-Chlor-2-methyl-3(2H)-isothiazolon and 2-	55965-84-9 611-341-5	T; R23/24/25 C; R34 R43	Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301	> 0.0002 – < 0.0015

**REDIGO PRO**Version 2 / GB
102000016050

3/11

Revision Date: 28.07.2014

Print Date: 28.07.2014

Methyl-2H- isothiazol-3-on		N; R50/53	Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	
-------------------------------	--	-----------	---	--

Further information

Prothioconazole	178928-70-6	M-Factor: 10 (acute)
-----------------	-------------	----------------------

For the full text of the R-phrases/ Hazard statements mentioned in this Section, see Section 16.

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

General advice	Move out of dangerous area. Remove contaminated clothing immediately and dispose of safely. Place and transport victim in stable position (lying sideways).
Inhalation	Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
Skin contact	Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.
Eye contact	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.
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately. Rinse mouth.

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. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. There is no specific antidote.
------------------	--

SECTION 5: FIREFIGHTING MEASURES**5.1 Extinguishing media**

Suitable	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
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 cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx)
--	--

5.3 Advice for firefighters

Special protective equipment for fire-fighters	In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.
---	--

**REDIGO PRO**Version 2 / GB
102000016050

4/11

Revision Date: 28.07.2014

Print Date: 28.07.2014

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. If spillage enters drains leading to sewage works inform local water company immediately. If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Clean contaminated floors and objects thoroughly, observing environmental regulations. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

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 No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation.

Hygiene measures Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. 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 Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Store in a place accessible by authorized persons only.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

Suitable materials HDPE (high density polyethylene)

7.3 Specific end uses Refer to the label and/or leaflet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Tebuconazole	107534-96-3	0.2 mg/m ³		OES BCS*

**REDIGO PRO**Version 2 / GB
102000016050

5/11

Revision Date: 28.07.2014
Print Date: 28.07.2014

		(TWA)		
Prothioconazole	178928-70-6	1.4 mg/m ³ (TWA)		OES BCS*
Glycerine (Mist.)	56-81-5	10 mg/m ³ (TWA)	12 2011	EH40 WEL

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

8.2 Exposure controls

Refer to COSHH assessment (Control of Substances Hazardous to Health (Amendment) Regulations 2004). Engineering controls should be used in preference to personal protective equipment wherever practicable. Refer also to COSHH Essentials.

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

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

Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and 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.

Eye protection

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

Skin and body protection

Wear standard coveralls and Category 3 Type 6 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.

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

Form	suspension
Colour	red
Odour	characteristic
pH	5.0 - 7.0 at 100 % (23 °C)
Flash point	>93 °C Not relevant; aqueous solution
Autoignition temperature	490 °C
Density	ca. 1.17 g/cm ³ at 20 °C
Partition coefficient: n-	Tebuconazole: log Pow: 3.7

**REDIGO PRO**Version 2 / GB
102000016050

6/11

Revision Date: 28.07.2014
Print Date: 28.07.2014

octanol/water	Prothioconazole: log Pow: 3.82 at 20 °C
Oxidizing properties	Oxidising properties (liquids) No oxidizing properties
Explosivity	Not explosive
9.2 Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY**10.1 Reactivity****Thermal decomposition** Stable under normal conditions.**10.2 Chemical stability** Stable under recommended storage conditions.**10.3 Possibility of hazardous reactions** No hazardous reactions when stored and handled according to prescribed instructions. Stable under recommended storage conditions.**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 toxicological effects****Acute oral toxicity** LD50 (rat) > 2,000 mg/kg**Acute inhalation toxicity** During intended and foreseen applications, no respirable aerosol is formed.**Acute dermal toxicity** LD50 (rat) > 2,000 mg/kg**Skin irritation** No skin irritation (rabbit)**Eye irritation** No eye irritation (rabbit)**Sensitisation** Non-sensitizing. (mouse)
OECD Test Guideline 429, local lymph node assay (LLNA)**Assessment repeated dose toxicity**Tebuconazole did not cause specific target organ toxicity in experimental animal studies.
Prothioconazole did not cause specific target organ toxicity in experimental animal studies.**Assessment Mutagenicity**Tebuconazole was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Prothioconazole was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.**Assessment Carcinogenicity**Tebuconazole caused at high dose levels an increased incidence of tumours in mice in the following organ(s): liver. The mechanism of tumour formation is not considered to be relevant to man.
Prothioconazole was not carcinogenic in lifetime feeding studies in rats and mice.

**REDIGO PRO**Version 2 / GB
102000016050

7/11

Revision Date: 28.07.2014
Print Date: 28.07.2014**Assessment toxicity to reproduction**

Tebuconazole 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 Tebuconazole is related to parental toxicity.

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

Tebuconazole caused developmental toxicity only at dose levels toxic to the dams. Tebuconazole caused an increased incidence of post implantation losses, an increased incidence of non-specific malformations.

Prothioconazole caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Prothioconazole are related to maternal toxicity.

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

LC50 (Rainbow trout (*Oncorhynchus mykiss*)) 4.4 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient tebuconazole.

LC50 (Rainbow trout (*Oncorhynchus mykiss*)) 1.83 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient prothioconazole.

Toxicity to aquatic invertebrates

EC50 (Water flea (*Daphnia magna*)) 2.79 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient tebuconazole.

EC50 (Water flea (*Daphnia magna*)) 1.3 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient prothioconazole.

Chronic toxicity to aquatic invertebrates

NOEC (*Daphnia*): 0.01 mg/l
Exposure time: 21 d
The value mentioned relates to the active ingredient tebuconazole.

Toxicity to aquatic plants

EC50 (*Pseudokirchneriella subcapitata*) 3.8 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient tebuconazole.

EC50 (*Pseudokirchneriella subcapitata*) 2.18 mg/l
Growth rate; Exposure time: 96 h
The value mentioned relates to the active ingredient prothioconazole.

EC50 (*Skeletonema costatum*) 0.046 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient prothioconazole.

12.2 Persistence and degradability**Biodegradability**

Tebuconazole:
not rapidly biodegradable
Prothioconazole:

**REDIGO PRO**Version 2 / GB
102000016050

8/11

Revision Date: 28.07.2014
Print Date: 28.07.2014

not rapidly biodegradable

Koc Tebuconazole: Koc: 769
Prothioconazole: Koc: 1765; log Koc: < 3

12.3 Bioaccumulative potential

Bioaccumulation Tebuconazole: Bioconcentration factor (BCF) 35 - 59
Does not bioaccumulate.
Prothioconazole: Bioconcentration factor (BCF) 19
Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil Tebuconazole: Slightly mobile in soils
Prothioconazole: Slightly mobile in soils

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment Tebuconazole: 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 very persistent and very bioaccumulative (vPvB). This substance is not considered to be persistent, bioaccumulative and toxic (PBT).

12.6 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. Advice may be obtained from the local waste regulation authority (part of the Environment Agency in the UK).

Contaminated packaging Small containers (< 10 l or < 10 kg) should be rinsed thoroughly using an integrated pressure rinsing device, or, by manually rinsing three times.
Add washings to sprayer at time of filling.
Dispose of empty and cleaned packaging safely.
Large containers (> 25 l or > 25 kg) should not be rinsed or re-used for any other purpose.
Return large containers to supplier.
Follow advice on product label and/or leaflet.

Waste key for the unused product **020108** agrochemical waste containing dangerous substances

SECTION 14: TRANSPORT INFORMATION**ADR/RID/ADN**

14.1 UN number

3082

14.2 Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.

**REDIGO PRO**Version 2 / GB
102000016050

9/11

Revision Date: 28.07.2014
Print Date: 28.07.2014

	(TEBUCONAZOLE, PROTHIOCONAZOLE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Hazard no.	90
Tunnel Code	E

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

IMDG

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TEBUCONAZOLE, PROTHIOCONAZOLE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Marine pollutant	YES

IATA

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TEBUCONAZOLE, PROTHIOCONAZOLE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES

UK 'Carriage' Regulations

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TEBUCONAZOLE, PROTHIOCONAZOLE SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Emergency action code	3Z

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 73/78 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****UK and Northern Ireland Regulatory References**

This material may be subject to some or all of the following regulations (and any subsequent amendments). Users must ensure that any uses and restrictions as indicated on the label and/or leaflet are followed.

Transport



REDIGO PRO

Version 2 / GB
102000016050

10/11

Revision Date: 28.07.2014
Print Date: 28.07.2014

Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No 1348)
Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997 (SI 1997 No 2367)
Air Navigation Dangerous Goods Regulations 2002 (SI 2002 No 2786)

Supply and Use

Chemical (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No 716)
Chemical (Hazard Information and Packaging for Supply) (Northern Ireland) Regulations 2009
Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No 2677)
EH40 Occupational Exposure Limits - Table 1 List of approved workplace exposure limits
Control of Pesticide Regulations 1986
Dangerous Substances and Explosive Atmospheres Regulations 2002

Waste Treatment

Environmental Protection Act 1990, Part II
Environmental Protection (Duty of Care) Regulations 1991
The Waste Management Licensing Regulations 1994 (as amended)
Hazardous Waste Regulations 2005 (Replacing Special Waste Regulations 1996 as amended)
Landfill Directive
Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94)
Water Resources Act 1991
Anti-Pollution Works Regulations 1999

Further information

WHO-classification: III (Slightly hazardous)

15.2 Chemical Safety Assessment

A chemical safety assessment is not required.

SECTION 16: OTHER INFORMATION

Text of R-phrases mentioned in Section 3

R22	Harmful if swallowed.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R34	Causes burns.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R50	Very toxic to aquatic organisms.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R63	Possible risk of harm to the unborn child.

Text of the hazard statements mentioned in Section 3

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.



REDIGO PRO

Version 2 / GB
102000016050

11/11
Revision Date: 28.07.2014
Print Date: 28.07.2014

H318	Causes serious eye damage.
H331	Toxic if inhaled.
H361d	Suspected of damaging the unborn child.
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.

The above information is intended to give general health and safety guidance on the storage and transport of the product.

It is not intended to apply to the use of the product for which purposes the product label and any appropriate technical usage literature available should be consulted and any relevant licenses, consents or approvals complied with.

The requirements or recommendations of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given.

The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate.

No liability will be accepted for any injury, loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet.

Reason for Revision: Section 12. Ecological information. Safety Data Sheet according to Regulation (EU) No. 453/2010.

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