



## AVIATOR XPRO EC225

Version 2 / ZA  
102000013869

1/10  
Revision Date: 29.08.2016  
Print Date: 29.08.2016

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

#### 1.1 Product identifier

**Trade name** AVIATOR XPRO EC225  
**Product code (UVP)** 06000044

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

**Use** Fungicide

#### 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 CropScience)

### 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.**

Eye irritation: Category 2

H319 Causes serious eye irritation.

Specific target organ toxicity - single exposure: Category 3

H335 May cause respiratory irritation.

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.

#### 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:**

- Bixafen
- Prothioconazole
- N,N-Dimethyl decanamide



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**Signal word:** Warning

**Hazard statements**

- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- 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.
- EUH208 Contains 2-[2-(1-chlorocyclopropyl)-2-hydroxy-3-phenylpropyl]-2,4-dihydro-3H-1,2,4-triazole-3-thione. May produce an allergic reaction.

**Precautionary statements**

- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor/ physician.
- P501 Dispose of contents/container in accordance with local regulation.

**2.3 Other hazards**

No other hazards known.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**3.2 Mixtures**

**Chemical nature**

Emulsifiable concentrate (EC)  
Bixafen/Prothioconazole 75:150 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	
Bixafen	581809-46-3	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	7,45
Prothioconazole	178928-70-6	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	14,90
2-[2-(1-chlorocyclopropyl)- 2-hydroxy-3-phenylpropyl] -2,4-dihydro-1,2,4-triazole -3-thione		Skin Sens. 1, H317	> 0,1 – < 1
2-Ethylhexanol propylene ethyleneglycol ether	64366-70-7	Aquatic Chronic 3, H412	> 1 – < 25
N,N-Dimethyl decanamide	14433-76-2	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412	>= 25

**Further information**

Bixafen	581809-46-3	M-Factor: 10 (acute)
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Prothioconazole	178928-70-6	M-Factor: 10 (acute)
		M-Factor: 10 (chronic)

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.
<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. If eye irritation or redness persists, see an ophthalmologist.
<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.

**SECTION 5: FIREFIGHTING MEASURES**

**5.1 Extinguishing media**

<b>Suitable</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unsuitable</b>	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), Hydrogen fluoride, Carbon monoxide (CO), Nitrogen oxides (NOx), Sulphur oxides

**5.3 Advice for firefighters**

<b>Special protective equipment for firefighters</b>	In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.
<b>Further information</b>	Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

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**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. 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** Use only in area provided with appropriate exhaust ventilation. For personal protection see section 8.

**Advice on protection against fire and explosion** No special precautions required.

**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** 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. Protect from frost. Keep away from direct sunlight.

**Suitable materials** HDPE (high density polyethylene)  
Coextruded containers with an internal barrier layer made of ethylene vinyl alcohol copolymer (EVOH)

**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
Bixafen	581809-46-3	0,6 mg/m <sup>3</sup> (TWA)		OES BCS*
Prothioconazole	178928-70-6	1,4 mg/m <sup>3</sup> (SK-ABS)		OES BCS*

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

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

Wear respirator with an organic vapours and gas filter mask (protection factor 10) conforming to EN140 type A or equivalent. 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	> 480 min
Glove thickness	> 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 6 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.

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

<b>Form</b>	Liquid, clear to slightly turbid
<b>Colour</b>	brown
<b>Odour</b>	characteristic
<b>pH</b>	4,0 - 6,0 at 1 % (23 °C) (deionized water)
<b>Flash point</b>	> 100 °C
<b>Auto-ignition temperature</b>	375 °C
<b>Density</b>	ca. 1,01 g/cm <sup>3</sup> at 20 °C
<b>Water solubility</b>	miscible

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<b>Partition coefficient: n-octanol/water</b>	Bixafen: log Pow: 3,3 at 40 °C Prothioconazole: log Pow: 3,82 at 20 °C at pH 7 N,N-Dimethyldecanamide: log Pow: 2,46
<b>Viscosity, kinematic</b>	33,7 mm <sup>2</sup> /s at 40 °C Shear rate of 20/sec
<b>Surface tension</b>	32 mN/m at 25 °C Determined in the undiluted form.
<b>Oxidizing properties</b>	No oxidizing properties
<b>Explosivity</b>	Not explosive 92/69/EEC, A.14 / OECD 113
<b>9.2 Other information</b>	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.**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** ATE (Mix) > 5 mg/l  
Irritating to respiratory system.  
Calculation method  
Acute toxicity estimate  
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** Irritating to eyes. (Rabbit)**Sensitisation** Non-sensitizing. (Mouse)  
OECD Test Guideline 429, local lymph node assay (LLNA)**Assessment repeated dose toxicity**Bixafen did not cause human relevant specific target organ toxicity in experimental animal studies.  
Prothioconazole did not cause specific target organ toxicity in experimental animal studies.  
N,N-Dimethyldecanamide did not cause specific target organ toxicity in experimental animal studies.

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Bixafen 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.  
N,N-Dimethyldecanamide was not genotoxic in a battery of in vitro tests.

**Assessment carcinogenicity**

Bixafen was not carcinogenic in lifetime feeding studies in rats and mice.  
Prothioconazole was not carcinogenic in lifetime feeding studies in rats and mice.  
N,N-Dimethyldecanamide is not considered carcinogenic.

**Assessment toxicity to reproduction**

Bixafen did not cause reproductive toxicity in a two-generation study in rats.  
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.  
N,N-Dimethyldecanamide is not considered a reproductive toxicant at non-maternally toxic dose levels.

**Assessment developmental toxicity**

Bixafen did not cause developmental toxicity in rats and rabbits.  
Prothioconazole caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Prothioconazole are related to maternal toxicity.  
N,N-Dimethyldecanamide did not cause developmental toxicity in rats and rabbits.

**Further information**

Irritating to respiratory system.

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

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) 1,55 mg/l Exposure time: 96 h
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) 3,0 mg/l Exposure time: 48 h
<b>Toxicity to aquatic plants</b>	EC50 (Raphidocelis subcapitata (freshwater green alga)) 1,52 mg/l Growth rate; Exposure time: 72 h EC50 (Skeletonema costatum) 0,046 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient prothioconazole. NOEC (Skeletonema costatum) 0,0073 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient prothioconazole.

**12.2 Persistence and degradability**

<b>Biodegradability</b>	Bixafen: Not rapidly biodegradable Prothioconazole: Not rapidly biodegradable N,N-Dimethyldecanamide: rapidly biodegradable
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**Koc** Bixafen: Koc: 3869  
Prothioconazole: Koc: 1765

**12.3 Bioaccumulative potential**

**Bioaccumulation** Bixafen: Bioconcentration factor (BCF) 695  
Does not bioaccumulate.  
Prothioconazole: Bioconcentration factor (BCF) 19  
Does not bioaccumulate.  
N,N-Dimethyldecanamide:  
Does not bioaccumulate.

**12.4 Mobility in soil**

**Mobility in soil** Bixafen: Slightly mobile in soils  
Prothioconazole: Slightly mobile in soils  
N,N-Dimethyldecanamide: Slightly mobile in soils

**12.5 Results of PBT and vPvB assessment**

**PBT and vPvB assessment** Bixafen: 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).  
N,N-Dimethyldecanamide: 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 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.

**Contaminated packaging** 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. (BIXAFEN SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES

**IMDG**

14.1 UN number	<b>3082</b>
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14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(BIXAFEN 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.  
(BIXAFEN SOLUTION )

14.3 Transport hazard class(es) 9

14.4 Packing 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**

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

H410 Very 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



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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) 2015/830 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.

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