

Safety Data Sheet



Aviator® Xpro® Foliar Fungicide

Version 1 / AUS
102000059342

Revision Date: 25.10.2023
Print Date: 25.10.2023

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Trade name Aviator® Xpro® Foliar Fungicide
Product code (UVP) 88725999

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 Cropscience Pty Ltd
ABN 87 000 226 022
Level 4, 109 Burwood Rd
Hawthorn 3122
Victoria
Australia

Telephone (03) 9248 6888

Telefax (03) 9248 6800

Responsible Department 1800 804 479 Technical Information Service

Website www.crop.bayer.com.au

1.4 Emergency telephone no.

Emergency telephone no. 1800 033 111 IXOM Operations Pty Ltd

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Australian GHS Regulation

Eye irritation: Category 2A

H319 Causes serious eye irritation.

Specific target organ toxicity - single exposure: Category 3

H335 May cause respiratory irritation.

Specific target organ toxicity - repeated exposure: Category 2

H373 May cause damage to organs through prolonged or repeated exposure.

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

Safety Data Sheet



Aviator® Xpro® Foliar Fungicide

Version 1 / AUS
102000059342

Revision Date: 25.10.2023
Print Date: 25.10.2023

Labelling according to specific Australian legislation

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

Prothioconazole
Bixafen

Signal word: Warning

Hazard statements

H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor/physician if you feel unwell.
P305 + P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
+ P338
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No additional hazards known beside those mentioned.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Bixafen 75 g/l, Prothioconazole 150 g/l
Emulsifiable concentrate (EC)

Chemical name	CAS-No.	Concentration [%]
Prothioconazole	178928-70-6	14.90
Bixafen	581809-46-3	7.45
N,N-Dimethyl decanamide	14433-76-2	>= 25.00
Other ingredients (non-hazardous) to 100%		

SECTION 4. FIRST AID MEASURES

Safety Data Sheet



Aviator® Xpro® Foliar Fungicide

Version 1 / AUS
102000059342

Revision Date: 25.10.2023
Print Date: 25.10.2023

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Safety Data Sheet to the doctor.

4.1 Description of first aid measures

General advice	Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.
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. Get medical attention if irritation develops and persists.
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. Call a physician or poison control center immediately.
Ingestion	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. FIRE FIGHTING 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 chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Hydrogen fluoride, Carbon monoxide (CO), Nitrogen oxides (NOx), Sulphur oxides

5.3 Advice for firefighters

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

Further information Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

Hazchem Code •3Z



Aviator® Xpro® Foliar Fungicide

Version 1 / AUS
102000059342

Revision Date: 25.10.2023
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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. 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.

Advice on protection against fire and explosion Keep away from heat and sources of ignition.

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.

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

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Bixafen	581809-46-3	0.6 mg/m3 (TWA)		OES BCS*
Prothioconazole	178928-70-6	1.4 mg/m3 (SK-ABS)		OES BCS*

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



Aviator® Xpro® Foliar Fungicide

Version 1 / AUS
102000059342

Revision Date: 25.10.2023
Print Date: 25.10.2023

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.

General protective measures

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

Engineering Controls

Advice on safe handling

Use only in area provided with appropriate exhaust ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	Liquid, clear to slightly turbid
Colour	brown
Odour	characteristic
Odour Threshold	No data available

Safety Data Sheet



Aviator® Xpro® Foliar Fungicide

Version 1 / AUS
102000059342

Revision Date: 25.10.2023
Print Date: 25.10.2023

pH	4.0 - 6.0 (1 %) (23 °C) (deionized water)
Melting point/range	No data available
Boiling Point	No data available
Flash point	> 100 °C
Flammability	No data available
Auto-ignition temperature	No data available
Thermal decomposition	No data available
Ignition temperature	375 °C
Minimum ignition energy	No data available
Self-accelarating decomposition temperature (SADT)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapour pressure	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Relative density	No data available
Density	ca. 1.01 g/cm ³ (20 °C)
Water solubility	miscible
Partition coefficient: n-octanol/water	Prothioconazole: log Pow: 3.82 (20 °C) (pH 7) Bixafen: log Pow: 3.3 (40 °C) N,N-Dimethyldecanamide: log Pow: 2.46
Viscosity, dynamic	No data available
Viscosity, kinematic	33.7 mm ² /s (40 °C) Shear rate of 20/sec
Surface tension	32 mN/m (25 °C) Determined in the undiluted form.
Oxidizing properties	No oxidizing properties
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
9.2 Other information	Further safety related physical-chemical data are not known.

SECTION 10. STABILITY AND REACTIVITY



Aviator® Xpro® Foliar Fungicide

Version 1 / AUS
102000059342

Revision Date: 25.10.2023
Print Date: 25.10.2023

10.1 Reactivity	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 Test conducted with a similar formulation.
Acute inhalation toxicity	ATE (Mix) > 5 mg/l Calculation method During intended and foreseen applications, no respirable aerosol is formed. Test conducted with a similar formulation.
Acute dermal toxicity	Irritating to respiratory system. The data refer to N,N-Dimethyldecanamid. LD50 (Rat) > 2,000 mg/kg
Skin corrosion/irritation	No skin irritation (Rabbit) Test conducted with a similar formulation.
Serious eye damage/eye irritation	Irritating to eyes (Rabbit) Test conducted with a similar formulation.
Respiratory or skin sensitisation	Non-sensitizing (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA) Test conducted with a similar formulation.

Assessment mutagenicity

Prothioconazole was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.
Bixafen was not mutagenic or genotoxic 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

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

Assessment toxicity to reproduction

Safety Data Sheet



Aviator® Xpro® Foliar Fungicide

Version 1 / AUS
102000059342

Revision Date: 25.10.2023
Print Date: 25.10.2023

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.

Bixafen did not cause reproductive toxicity in a two-generation study in rats.

N,N-Dimethyldecanamide is not considered a reproductive toxicant at non-maternally toxic dose levels.

Assessment developmental toxicity

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

Bixafen did not cause developmental toxicity in rats and rabbits.

N,N-Dimethyldecanamide did not cause developmental toxicity in rats and rabbits.

Assessment STOT Specific target organ toxicity – single exposure

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

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

N,N-Dimethyldecan-1-amide: May cause respiratory irritation.

Assessment STOT Specific target organ toxicity – repeated exposure

Prothioconazole did not cause specific target organ toxicity in experimental animal studies.

Bixafen did not cause human relevant specific target organ toxicity in experimental animal studies.

N,N-Dimethyldecanamide did not cause specific target organ toxicity in experimental animal studies.

Aspiration hazard

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

Information on likely routes of exposure

May be harmful if inhaled. May cause respiratory tract irritation.

May cause skin irritation.

Causes eye irritation.

Harmful if swallowed.

Early onset symptoms related to exposure

Refer to Section 4

Delayed health effects from exposure

Refer to Section 11

Exposure levels and health effects

Refer to Section 4

Interactive effects

Not known

When specific chemical data is not available

Not applicable

Mixture of chemicals

Refer to Section 2.1

Further information

No further toxicological information is available.



Aviator® Xpro® Foliar Fungicide

Version 1 / AUS
102000059342

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SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 1.55 mg/l Exposure time: 96 h Test conducted with a similar formulation.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 3.0 mg/l Exposure time: 48 h Test conducted with a similar formulation.
Toxicity to aquatic plants	EC50 (Raphidocelis subcapitata (freshwater green alga)) 1.52 mg/l Growth rate; Exposure time: 72 h Test conducted with a similar formulation. EC10 (Skeletonema costatum) 0.01427 mg/l Growth rate; 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.
Toxicity to other organisms	LD50 (Colinus virginianus (Bobwhite quail)) > 2,000 mg/kg The value mentioned relates to the active ingredient bixafen. LD50 (Colinus virginianus (Bobwhite quail)) > 2,000 mg/kg The value mentioned relates to the active ingredient prothioconazole.

12.2 Persistence and degradability

Biodegradability	Prothioconazole: Not rapidly biodegradable Bixafen: Not rapidly biodegradable N,N-Dimethyldecanamide: rapidly biodegradable
Koc	Prothioconazole: Koc: 1765 Bixafen: Koc: 3869

12.3 Bioaccumulative potential

Bioaccumulation	Prothioconazole: Bioconcentration factor (BCF) 19 Does not bioaccumulate. Bixafen: Bioconcentration factor (BCF) 695 Does not bioaccumulate. N,N-Dimethyldecanamide: Does not bioaccumulate.
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12.4 Mobility in soil

Mobility in soil	Prothioconazole: Slightly mobile in soils Bixafen: Slightly mobile in soils N,N-Dimethyldecanamide: Slightly mobile in soils
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12.5 Other adverse effects

Additional ecological information	No other effects to be mentioned.
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Safety Data Sheet



Aviator® Xpro® Foliar Fungicide

Version 1 / AUS
102000059342

Revision Date: 25.10.2023
Print Date: 25.10.2023

SECTION 13. DISPOSAL CONSIDERATIONS

Triple-rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. Do not burn empty containers or product.
Do not reuse container for any other purpose.

SECTION 14. TRANSPORT INFORMATION

ADG

UN number	3082
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BIXAFEN SOLUTION)
Hazchem Code	•3Z

AU01: Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to this Code when transported by road or rail in;

- a) packagings that do not incorporate a receptacle exceeding 500 kg(L); or
- b) IBCs

IMDG

UN number	3082
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Marine pollutant	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BIXAFEN SOLUTION)

IATA

UN number	3082
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Environm. Hazardous Mark	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BIXAFEN SOLUTION)



Aviator® Xpro® Foliar Fungicide

Version 1 / AUS
102000059342

Revision Date: 25.10.2023
Print Date: 25.10.2023

SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994
Australian Pesticides and Veterinary Medicines Authority approval number: 69361

SUSMP classification (Poison Schedule)

Schedule 6 (Standard for the Uniform Scheduling of Medicines and Poisons)

SECTION 16. OTHER INFORMATION

Trademark information Aviator® and Xpro® are Registered Trademarks of the Bayer Group.

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
AU OEL	Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)
CAS-Nr.	Chemical Abstracts Service number
CEILING	Ceiling Limit Value
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
OES BCS	OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"
PEAK	PEAK: Exposure Standard - Peak means a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SK-SEN	Skin sensitiser
SKIN_DES	SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.

Safety Data Sheet



Aviator® Xpro® Foliar Fungicide

Version 1 / AUS
102000059342

Revision Date: 25.10.2023
Print Date: 25.10.2023

STEL	STEL: Exposure standard - short term exposure limit (STEL): A 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL.
TWA	TWA: Exposure standard - time-weighted average (TWA): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

This SDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

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