

# SAFETY DATA SHEET



## RAXIL STAR

Version 1 / NZ  
102000021528

1/11  
Revision Date: 20.11.2017  
Print Date: 20.11.2017

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

#### 1.1 Product identifier

Trade name RAXIL STAR  
Product code (UVP) 79463537

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

Use Seed treatment, Fungicide  
EPA-Nr. HSR101132

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

Supplier Bayer New Zealand Limited  
3 Argus Place, Hillcrest  
Auckland 0627  
New Zealand  
Telephone 0800 428 246  
Telefax (09) 441 8645

#### 1.4 Emergency telephone no.

Emergency Number 0800 734 607 (24hr)  
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

Classified as hazardous according to the criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

6.9B  
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.

9.1B  
H411 Toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

Labelling in accordance with Hazardous Substances Identification Regulations 2001

Hazard label for supply/use required.



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**Signal word:** Warning

### Hazard statements

H373 May cause damage to organs through prolonged or repeated exposure if swallowed.  
H411 Toxic to aquatic life with long lasting effects.

### Precautionary statements

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P314 Get medical advice/ attention if you feel unwell.  
P391 Collect spillage.  
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

Flowable concentrate for seed treatment (FS)  
Fluopyram/Prothioconazole/Tebuconazole 20:100:60 g/l

#### Hazardous components

Name	CAS-No.	Conc. [%]
Fluopyram	658066-35-4	1.72
Prothioconazole	178928-70-6	8.62
Tebuconazole	107534-96-3	5.17
Sulfonic acids, C14-17-sec-alkane, sodium salts	97489-15-1	> 1.00 – < 3.00
Polyarylphenylether sulfate, ammonium salt	119432-41-6	> 1.00 – < 25.00
1,2-Benzisothiazol-3(2H)-one	2634-33-5	> 0.005 – < 0.05
Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one	55965-84-9	> 0.0002 – < 0.0015
Glycerine	56-81-5	> 1.00

#### Further information

Prothioconazole	178928-70-6	M-Factor: 10 (acute)
		M-Factor: 10 (chronic)
Tebuconazole	107534-96-3	M-Factor: 1 (acute), 10 (chronic)

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

**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.

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**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.

Contact the National Poisons and Hazardous Chemicals Information center in Dunedin, PO Box 913, Dunedin. Phone 0800 POISON (0800 764 766).

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## 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 (NO<sub>x</sub>)

### 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.

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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.

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### 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** Use only in area provided with appropriate exhaust 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** Store in a place accessible by authorized persons only. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

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

**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
Fluopyram	658066-35-4	0.34 mg/m <sup>3</sup> (TWA)		OES BCS*
Prothioconazole	178928-70-6	1.4 mg/m <sup>3</sup> (SK-ABS)		OES BCS*
Tebuconazole	107534-96-3	0.2 mg/m <sup>3</sup> (SK-ABS)		OES BCS*
Glycerine (Mist.)	56-81-5	10 mg/m <sup>3</sup> (TWA)	06 2016	NZ OEL

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

### 8.2 Exposure controls

#### Personal protective equipment

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

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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

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.

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	weak, characteristic
pH	4.0 - 7.0 at 100 % (23 °C)
Flash point	>100 °C Not relevant; aqueous solution
Auto-ignition temperature	475 °C
Density	ca. 1.16 g/cm <sup>3</sup> at 20 °C
Partition coefficient: n-octanol/water	Fluopyram: log Pow: 3.3 Tebuconazole: log Pow: 3.7 Prothioconazole: log Pow: 3.82 at 20 °C
Impact sensitivity	Not impact sensitive.
Oxidizing properties	No oxidizing properties

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<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. 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** LC50 (Rat) > 2.998 mg/l  
Exposure time: 4 h  
Highest attainable concentration.

**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 STOT Specific target organ toxicity – single exposure

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

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

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

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

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

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

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

### Assessment mutagenicity

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Fluopyram 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.  
Tebuconazole was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

### Assessment carcinogenicity

Fluopyram caused at high dose levels an increased incidence of tumours in rats in the following organ(s): Liver.  
Fluopyram caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Thyroid.  
The tumours seen with Fluopyram were caused through a non-genotoxic mechanism, which is not relevant at low doses. The mechanism that triggers these tumours is not relevant to humans.  
Prothioconazole was not carcinogenic in lifetime feeding studies in rats and mice.  
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.

### Assessment toxicity to reproduction

Fluopyram 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 Fluopyram 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.  
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.

### Assessment developmental toxicity

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

### Aspiration hazard

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

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## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 Toxicity

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) 1.82 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient fluopyram.
	LC50 (Oncorhynchus mykiss (rainbow trout)) 1.83 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient prothioconazole.
	LC50 (Oncorhynchus mykiss (rainbow trout)) 4.4 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient tebuconazole.
<b>Toxicity to aquatic</b>	EC50 (Daphnia magna (Water flea)) > 17 mg/l

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<b>invertebrates</b>	Exposure time: 48 h The value mentioned relates to the active ingredient fluopyram. No acute toxicity was observed at its limit of water solubility.  EC50 (Daphnia magna (Water flea)) 1.3 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient prothioconazole.  EC50 (Daphnia magna (Water flea)) 2.79 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient tebuconazole.
<b>Chronic toxicity to aquatic invertebrates</b>	NOEC (Daphnia (water flea)): 0.01 mg/l Exposure time: 21 d The value mentioned relates to the active ingredient tebuconazole.
<b>Toxicity to aquatic plants</b>	EC50 (Raphidocelis subcapitata (freshwater green alga)) 8.9 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient fluopyram.  EC50 (Raphidocelis subcapitata (freshwater green alga)) 2.18 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient prothioconazole.  EC50 (Raphidocelis subcapitata (freshwater green alga)) 3.8 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient tebuconazole.  EC50 (Skeletonema costatum) 0.046 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient prothioconazole.  EC50 (Lemna gibba (gibbous duckweed)) 0.237 mg/l Growth rate; Exposure time: 7 d The value mentioned relates to the active ingredient tebuconazole.

### 12.2 Persistence and degradability

<b>Biodegradability</b>	Fluopyram: Not rapidly biodegradable Tebuconazole: Not rapidly biodegradable Prothioconazole: Not rapidly biodegradable
<b>Koc</b>	Fluopyram: Koc: 279 Tebuconazole: Koc: 769 Prothioconazole: Koc: 1765; log Koc: < 3

### 12.3 Bioaccumulative potential

<b>Bioaccumulation</b>	Fluopyram: Bioconcentration factor (BCF) 18 Does not bioaccumulate. Tebuconazole: Bioconcentration factor (BCF) 35 - 59 Does not bioaccumulate. Prothioconazole: Bioconcentration factor (BCF) 19 Does not bioaccumulate.
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### 12.4 Mobility in soil



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**Mobility in soil** Fluopyram: Moderately mobile in soils  
Tebuconazole: Slightly mobile in soils  
Prothioconazole: Slightly mobile in soils

### 12.5 Results of PBT and vPvB assessment

**PBT and vPvB assessment** Fluopyram: 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).  
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** Dispose of this product only by using according to the label, or at an approved landfill or other approved facility.

**Contaminated packaging** Triple rinse containers. Recycle if possible. If allowed under local authority, burn if circumstances, especially wind direction permit, otherwise crush and bury in an approved local authority facility. Do not use container for any other purpose.

## SECTION 14: TRANSPORT INFORMATION

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

### ADR/RID/ADN

14.1 UN number	<b>3082</b>
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
Hazchem Code	3Z

### IMDG

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

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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

### 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.

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## SECTION 15: REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Further information

HSNO approval-Nr. HSR101132  
HSNO Controls See [www.epa.govt.nz](http://www.epa.govt.nz)  
ACVM Reg. P9246  
ACVM Condition See [www.foodsafety.govt.nz](http://www.foodsafety.govt.nz)

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## SECTION 16: OTHER INFORMATION

### 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<sub>x</sub> 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)  
IC<sub>x</sub> Inhibition concentration to x %  
IMDG International Maritime Dangerous Goods

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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 data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance of the product.

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