

# Safety Data Sheet



## Emesto® Prime In-Furrow Fungicide

Version 1 / AUS  
102000025750

Revision Date: 24.02.2021  
Print Date: 25.02.2021

### SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

#### 1.1 Product identifier

**Trade name** Emesto® Prime In-Furrow Fungicide  
**Product code (UVP)** 80210922

#### 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 Cropscience Pty Ltd  
ABN 87 000 226 022  
Level 1, 8 Redfern Road  
3123 Hawthorn East  
Victoria  
Australia

**Telephone** (03) 9248 6888  
**Telefax** (03) 9248 6800  
**Responsible Department** 1800 804 479 Technical Information Service  
**Website** [www.crop.bayer.com.au](http://www.crop.bayer.com.au)

#### 1.4 Emergency telephone number

**Emergency telephone number** 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

Carcinogenicity: Category 2  
H351 Suspected of causing cancer.

Long-term (chronic) aquatic hazard: Category 2  
H411 Toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

Hazard label for supply/use required.

##### Hazardous components which must be listed on the label:

Penflufen

**Signal word:** Warning

##### Hazard statements

H351 Suspected of causing cancer.



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### Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.  
 P280 Wear protective gloves/ protective clothing.  
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local regulation.

### 2.3 Other hazards

No other hazards known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Chemical nature

Penflufen: 240 g/L active ingredient  
Flowable concentrate for seed treatment (FS)

Chemical name	CAS-No.	Concentration [%]
Penflufen	494793-67-8	22.40
1,2-Propanediol	57-55-6	<= 10.00
1,2-Benzisothiazol-3(2H)-one	2634-33-5	>= 0.005 - <= 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	>= 0.0002 - <= 0.0015
Other ingredients (non-hazardous) to 100%		

## SECTION 4. FIRST AID MEASURES

**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

**Inhalation** Move the victim to fresh air and keep at rest. Call a physician or poison control center immediately. Oxygen or artificial respiration if needed.

**Skin contact** Take off contaminated clothing and shoes immediately. Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. Call a physician or poison control center immediately.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician or poison control center immediately.

**Ingestion** Rinse out mouth and give water in small sips to drink. Do NOT induce vomiting. Call a physician or poison control center immediately.

### 4.2 Most important symptoms and effects, both acute and delayed

**Symptoms** To date no symptoms are known.

### 4.3 Indication of any immediate medical attention and special treatment needed



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**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.

**5.2 Special hazards arising from the substance or mixture** Dangerous gases are evolved in the event of a fire.

#### 5.3 Advice for firefighters

**Special protective equipment for firefighters** Wear self-contained breathing apparatus and protective suit.

**Further information** Evacuate personnel to safe areas. Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Whenever possible, contain fire-fighting water by diking area with sand or earth.

**Hazchem Code** •3Z

### 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. Keep unauthorized people away. When dealing with a spillage do not eat, drink or smoke.

**6.2 Environmental precautions** Do not allow to get into surface water, drains and ground water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. If the product contaminates rivers and lakes or drains inform respective authorities.

#### 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). Collect and transfer the product into a properly labelled and tightly closed container. Contaminated soil may have to be removed and disposed. Clean contaminated floors and objects thoroughly, observing environmental regulations.

**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.



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**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** Remove Personal Protective Equipment (PPE) immediately after handling this product. After each day's use, wash gloves, face shield or goggles and contaminated clothing. Before removing gloves clean them with soap and water. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

**7.2 Conditions for safe storage, including any incompatibilities**

**Requirements for storage areas and containers** Store in original container. Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Keep away from direct sunlight.

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**8.1 Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Penflufen	494793-67-8	1.1 mg/m3 (TWA)		OES BCS*
1,2-Propanediol (Total vapour and particulates.)	57-55-6	474 mg/m3/150 ppm (TWA)	12 2011	AU NOEL
1,2-Propanediol (Particulate.)	57-55-6	10 mg/m3 (TWA)	12 2011	AU NOEL

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

**8.2 Exposure controls**

**Respiratory protection** 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, minimum rate of permeability 480 min). 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.



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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.

**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

<b>Form</b>	suspension
<b>Colour</b>	red
<b>Odour</b>	characteristic
<b>Odour Threshold</b>	No data available
<b>pH</b>	6.5 - 8.0 (100 %) (23 °C)
<b>Melting point/range</b>	No data available
<b>Boiling Point</b>	No data available
<b>Flash point</b>	No flash point - Determination conducted up to the boiling point.
<b>Flammability</b>	No data available
<b>Auto-ignition temperature</b>	No data available
<b>Minimum ignition energy</b>	No data available
<b>Self-accelerating 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. 1.13 g/cm <sup>3</sup> (20 °C)
<b>Water solubility</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	log Pow: 3.5(pH 6.3) The value mentioned relates to the active ingredient.
<b>Partition coefficient: n-</b>	Penflufen: log Pow: 3.3 (25 °C)

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octanol/water

<b>Viscosity, dynamic</b>	No data available
<b>Viscosity, kinematic</b>	No data available
<b>Oxidizing properties</b>	No data available
<b>Explosivity</b>	No data available
<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 normal conditions.

**10.4 Conditions to avoid** Extremes of temperature and direct sunlight.

**10.5 Incompatible materials** Strong oxidizing agents, Strong acids, Strong bases

**10.6 Hazardous decomposition products** Thermal decomposition can lead to release of:  
Toxic gases/vapours

### SECTION 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

<b>Acute oral toxicity</b>	LD50 (Rat) > 2,000 mg/kg
<b>Acute inhalation toxicity</b>	LC50 (Rat) > 1.877 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration.
<b>Acute dermal toxicity</b>	LD50 (Rat) > 2,000 mg/kg
<b>Skin corrosion/irritation</b>	No skin irritation (Rabbit)
<b>Serious eye damage/eye irritation</b>	No eye irritation (Rabbit)
<b>Respiratory or skin sensitisation</b>	Non-sensitizing (Mouse)

#### Assessment mutagenicity

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

#### Assessment carcinogenicity

Penflufen caused at high dose levels an increased incidence of tumours in in the following organ(s): ovaries, brain, hematopoietic system.



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### Assessment toxicity to reproduction

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

### Assessment developmental toxicity

Penflufen did not cause developmental toxicity in rats and rabbits.

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

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

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

Penflufen 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 irritation.  
May cause eye irritation.  
May be 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.

## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

#### Toxicity to fish

LC50 (Cyprinus carpio (Carp)) 0.103 mg/l  
Exposure time: 96 h  
The value mentioned relates to the active ingredient penflufen.  
LC50 (Cyprinus carpio (Carp)) 0.062 mg/l  
Exposure time: 96 h



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<b>Toxicity to aquatic invertebrates</b>	EC50 ( <i>Daphnia magna</i> (Water flea)) > 4.7 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient penflufen. No acute toxicity was observed at its limit of water solubility. EC50 ( <i>Daphnia magna</i> (Water flea)) > 4.9 mg/l Exposure time: 48 h
<b>Toxicity to aquatic plants</b>	EC50 ( <i>Raphidocelis subcapitata</i> (freshwater green alga)) > 5.1 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient penflufen. No acute toxicity was observed at its limit of water solubility. EC50 ( <i>Raphidocelis subcapitata</i> (freshwater green alga)) > 24.8 mg/l Exposure time: 72 h
<b>Toxicity to other organisms</b>	LC50 ( <i>Colinus virginianus</i> (Bobwhite quail)) > 456 mg/kg LC50 ( <i>Colinus virginianus</i> (Bobwhite quail)) > 4,000 mg/kg The value mentioned relates to the active ingredient penflufen. LD50 ( <i>Apis mellifera</i> (bees)) > 108.2 µg/bee The value mentioned relates to the active ingredient penflufen. LC50 ( <i>Eisenia fetida</i> (earthworms)) > 1,000 mg/kg Exposure time: 14 d The value mentioned relates to the active ingredient penflufen.

**12.2 Persistence and degradability**

**Biodegradability** Penflufen:  
Not rapidly biodegradable

**Koc** Penflufen: Koc: 280

**12.3 Bioaccumulative potential**

**Bioaccumulation** Penflufen: Bioconcentration factor (BCF) 142  
Does not bioaccumulate.

**12.4 Mobility in soil**

**Mobility in soil** Penflufen: Moderately mobile in soils

**12.5 Other adverse effects**

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

**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.



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### SECTION 14. TRANSPORT INFORMATION

#### ADG

UN number	<b>3082</b>
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PENFLUFEN 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	<b>3082</b>
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. (PENFLUFEN SOLUTION)

#### IATA

UN number	<b>3082</b>
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. (PENFLUFEN SOLUTION )

### SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994  
Australian Pesticides and Veterinary Medicines Authority approval number: 80325

#### SUSMP classification (Poison Schedule)

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

### SECTION 16. OTHER INFORMATION

**Trademark information** Emesto® is a Registered Trademark of the Bayer Group.

#### Abbreviations and acronyms



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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 sensitizer
SKIN_DES	SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.
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.

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If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.  
Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

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