



EMESTO SILVER FS118

Version 6 / ZA
102000022709

1/11
Revision Date: 09.03.2023
Print Date: 09.03.2023

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

1.1 Product identifier

Trade name EMESTO SILVER FS118
Product code (UVP) 79521642

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 (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 AG, Crop Science Division)

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.

Carcinogenicity: Category 2
H351 Suspected of causing cancer.

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

Chronic aquatic toxicity: Category 2
H411 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:

- Penflufen

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- Prothioconazole

**Signal word:** Warning**Hazard statements**

- H351 Suspected of causing cancer.
 H410 Very toxic to aquatic life with long lasting effects.
 EUH208 Contains 1,2-benzisothiazolin-3-one, reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1). May produce an allergic reaction.
 EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

- P201 Obtain special instructions before use.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor/ physician.
 P391 Collect spillage.
 P410 Protect from sunlight.
 P501 Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No additional hazards known beside those mentioned.

Penflufen: 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).

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.2 Mixtures****Chemical nature**

Flowable concentrate for seed treatment (FS)
 Penflufen 100 g/l, Prothioconazole 18 g/l

Hazardous components

Hazard statements according to Regulation (EC) No. 1272/2008

Name	CAS-No. /	Classification	Conc. [%]
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	EC-No. / REACH Reg. No.	REGULATION (EC) No 1272/2008	
Penflufen	494793-67-8 619-823-7		9,30
Prothioconazole	178928-70-6	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	1,68
1,2-Benzisothiazol-3(2H)-one	2634-33-5 01-2120761540-60-xxxx	Acute Tox. 4, H302 Acute Tox. 2, H330 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 2, H411	> 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	Acute Tox. 3, H301 Acute Tox. 2, H310 Acute Tox. 2, H330 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	>= 0,0002 – < 0,0015
1,2-Propanediol	57-55-6 01-2119456809-23-XXXX	Not classified	>= 1,0
Synthetic amorphous silica	112926-00-8 01-2119379499-16-xxxx	Not classified	>= 1,0

Further information

1,2-Benzisothiazol-3(2H)-one	2634-33-5	M-Factor: 1 (acute)
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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**

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	To date no symptoms are known.
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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.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Water spray, Carbon dioxide (CO₂), Foam, Sand

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_x), Hydrogen fluoride, Sulphur oxides, Hydrogen chloride (HCl)

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.

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). Collect and transfer the product into a properly labelled and tightly closed container. 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.

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. Remove soiled clothing immediately and clean thoroughly before using again. Wash hands before breaks and immediately after

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handling the product. 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. Keep away from direct sunlight. Protect from frost.

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

Suitable materials HDPE - steel case

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
Prothioconazole	178928-70-6	1,4 mg/m ³ (SK-ABS)		OES BCS*
Synthetic amorphous silica	112926-00-8	10 mg/m ³ (TWA)	03 2021	ZA REL
Synthetic amorphous silica (Respirable fraction.)	112926-00-8	5 mg/m ³ (TWA)	03 2021	ZA REL

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

8.2 Exposure controls

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.
If there is a risk of significant exposure, consider a higher protective

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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**

Form	suspension
Colour	red
Odour	weak, characteristic
Odour Threshold	No data available
pH	5,0 - 6,5 (100 %) (23 °C)
Melting point/range	No data available
Boiling Point	No data available
Flash point	> 100 °C No flash point - Determination conducted up to the boiling point.
Flammability	No data available
Auto-ignition temperature	510 °C
Thermal decomposition	No data available
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. 1,07 g/cm ³ (20 °C)
Water solubility	dispersible
Partition coefficient: n-octanol/water	Penflufen: log Pow: 3,3 (25 °C) Prothioconazole: log Pow: 3,82 (20 °C) (pH 7)
Viscosity, dynamic	150 - 250 mPa.s (20 °C) Velocity gradient 20 /s 65 - 85 mPa.s (20 °C) Velocity gradient 100 /s

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Viscosity, kinematic	No data available
Impact sensitivity	Not impact sensitive.
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

10.1 Reactivity	Stable under normal conditions.
10.2 Chemical stability	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
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 hazard classes as defined in regulation (EC) No 1272/2008**

Acute oral toxicity	LD50 (Rat) > 2.000 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 3,875 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration.
Acute dermal toxicity	LD50 (Rat) > 2.000 mg/kg
Skin corrosion/irritation	No skin irritation (Rabbit)
Serious eye damage/eye irritation	No eye irritation (Rabbit)
Respiratory or skin sensitisation	Skin: Non-sensitizing. (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment STOT Specific target organ toxicity – single exposure

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

Prothioconazole: 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.

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

Assessment mutagenicity

Penflufen 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

Penflufen caused at high dose levels an increased incidence of tumours in rats in the following organ(s): ovaries, Brain, hematopoietic system. The mechanism that triggers these tumours is not relevant to humans.

Prothioconazole was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Penflufen 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.

Assessment developmental toxicity

Penflufen 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.

Aspiration hazard

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

11.2 Information on other hazards**Endocrine disrupting properties****Assessment**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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

LC50 (Cyprinus carpio (Carp)) 1,41 mg/l
static test; Exposure time: 96 h

Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 40,7 mg/l
Exposure time: 48 h

Toxicity to aquatic plants

EC50 (Raphidocelis subcapitata (freshwater green alga)) 71,3 mg/l
Growth rate; Exposure time: 72 h

ErC50 (Skeletonema costatum) 0,03278 mg/l
Exposure time: 72 h

The value mentioned relates to the active ingredient prothioconazole.

EC10 (Skeletonema costatum) 0,01427 mg/l
Growth rate; Exposure time: 72 h

The value mentioned relates to the active ingredient prothioconazole.



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12.2 Persistence and degradability

Biodegradability Penflufen:
Not rapidly biodegradable
Prothioconazole:
Not rapidly biodegradable

Koc Penflufen: Koc: 280
Prothioconazole: Koc: 1765

12.3 Bioaccumulative potential

Bioaccumulation Penflufen: Bioconcentration factor (BCF) 142
Does not bioaccumulate.
Prothioconazole: Bioconcentration factor (BCF) 19
Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil Penflufen: Moderately mobile in soils
Prothioconazole: Slightly mobile in soils

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment Penflufen: 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).

12.6 Endocrine disrupting properties

Assessment The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 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

14.2 Proper shipping name

3082

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(PENFLUFEN SOLUTION)



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14.3 Transport hazard class(es) 9
14.4 Packaging Group III
14.5 Environm. Hazardous Mark YES

IMDG

14.1 UN number **3082**
14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PENFLUFEN SOLUTION)
14.3 Transport hazard class(es) 9
14.4 Packaging 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. (PENFLUFEN SOLUTION)
14.3 Transport hazard class(es) 9
14.4 Packaging 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 IMO instruments

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

H301 Toxic if swallowed.
H302 Harmful if swallowed.
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
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.

Abbreviations and acronyms

ADN European Agreement concerning the International Carriage of Dangerous Goods by

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ADR	Inland Waterways 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
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) 2020/878 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.