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

1.1 Product identifier

Trade name: LUNA PRIVILEGE SC 500

Product code (UVP): 79373821, 84446521

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.

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:

- Fluopyram

Hazard statements

H411 Toxic to aquatic life with long lasting effects.

EUH208 Contains 1,2-benzisothiazolin-3-one. May produce an allergic reaction.

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.
Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
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
Suspension concentrate (=flowable concentrate)(SC)
Fluopyram 500 g/l

Hazardous components

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

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS-No. / EC-No. / REACH Reg. No.</th>
<th>Classification</th>
<th>Conc. [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluopyram</td>
<td>658066-35-4 619-797-7</td>
<td>Aquatic Chronic 2, H411</td>
<td>41,7</td>
</tr>
<tr>
<td>1,2-Benzisothiazol-3(2H)-one</td>
<td>2634-33-5</td>
<td>Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400</td>
<td>&gt; 0,005 – &lt; 0,05</td>
</tr>
</tbody>
</table>

Further information

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. 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. 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.

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

5.3 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). 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. Wash hands immediately after work, if necessary take a
shower. 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
- Keep containers tightly closed in a dry, cool and well-ventilated place.
- Store in original container. Store in a place accessible by authorized persons only. Keep away from direct sunlight. Protect from frost.

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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluopyram</td>
<td>658066-35-4</td>
<td>0,34 mg/m3 (TWA)</td>
<td></td>
<td>OES BCS*</td>
</tr>
</tbody>
</table>

*OES BCS: Internal Bayer CropScience "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
- Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). 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.
- 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form    suspension
Colour  white to beige
Odour   characteristic
pH      5,0 - 8,0 at 100 % (23 °C)
SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

LUNA PRIVILEGE SC 500
Version 2 / ZA
Revision Date: 18.04.2016
Print Date: 18.05.2016

Flash point > 100 °C
Auto-ignition temperature 460 °C
Density ca. 1,20 g/cm³ at 20 °C
Partition coefficient: Flupyrma: log Pow: 3,3
Surface tension 31 mN/m at 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
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 LC50 (Rat) > 1,911 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 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 repeated dose toxicity
Flupyrma did not cause specific target organ toxicity in experimental animal studies.
Assessment mutagenicity
Flupyrma 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.

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.

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.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
Toxicity to fish
LC50 (Cyprinus carpio (Carp)) > 200 mg/l
Exposure time: 96 h

Toxicity to aquatic invertebrates
EC50 (Daphnia magna (Water flea)) 141 mg/l
Exposure time: 48 h

Toxicity to aquatic plants
EC50 (Raphidocelis subcapitata (freshwater green alga)) 14.6 mg/l
Growth rate; Exposure time: 72 h
EC50 (Lemna gibba (gibbous duckweed)) 8.1 mg/l
Growth rate; Exposure time: 7 d
Test conducted with a similar formulation.

12.2 Persistence and degradability
Biodegradability
Fluopyram: Not rapidly biodegradable

Koc
Fluopyram: Koc: 279

12.3 Bioaccumulative potential
Bioaccumulation
Fluopyram: Bioconcentration factor (BCF) 18
Does not bioaccumulate.

12.4 Mobility in soil
Mobility in soil
Fluopyram: Moderately 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).

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 3082
14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUOPYRAM SOLUTION)
14.3 Transport hazard class(es) 9
14.4 Packing 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. (FLUOPYRAM 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. (FLUOPYRAM 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

H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H411 Toxic 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 (ATE)
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) 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.