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

1.1 Product identifier
Trade name LUNA PRIVILEGE
Product code (UVP) 79373821

1.2 Relevant identified uses of the substance or mixture and uses advised against
Use Fungicide
EPA-Nr. HSR100746

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.
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

Suspension concentrate (=flowable concentrate)(SC) 500 g/l Fluopyram, the composition of 102000032923-01 is identical to 102000018148-01

Hazardous components

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS-No.</th>
<th>Conc. [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluopyram</td>
<td>658066-35-4</td>
<td>41.7</td>
</tr>
<tr>
<td>1,2-Benzisothiazol-3(2H)-one</td>
<td>2634-33-5</td>
<td>&gt; 0.005 – &lt; 0.05</td>
</tr>
</tbody>
</table>

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 polyethylene glycol 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.

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

5.3 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.

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 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/m^3 (TWA)</td>
<td></td>
<td>OES BCS*</td>
</tr>
</tbody>
</table>

*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 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
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)
Flash point: > 100 °C
Auto-ignition temperature: 460 °C
Density: ca. 1.20 g/cm³ at 20 °C
Partition coefficient: n-octanol/water
Fluopyram: 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 STOT Specific target organ toxicity – single exposure
Fluopyram: 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.

Assessment mutagenicity
Fluopyram 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.

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

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

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

Toxicity to aquatic
EC50 (Daphnia magna (Water flea)) 141 mg/l
invertebrates

Exposure time: 48 h

Toxicity to aquatic plants

<table>
<thead>
<tr>
<th>EC50 (Raphidocelis subcapitata (freshwater green alga))</th>
<th>14.6 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth rate; Exposure time: 72 h</td>
<td></td>
</tr>
<tr>
<td>EC50 (Lemna gibba (gibbous duckweed))</td>
<td>8.1 mg/l</td>
</tr>
<tr>
<td>Growth rate; Exposure time: 7 d</td>
<td></td>
</tr>
<tr>
<td>Test conducted with a similar formulation.</td>
<td></td>
</tr>
</tbody>
</table>

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

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

3082

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
14.3 Transport hazard class(es) 9
14.4 Packing group III
14.5 Envirn. Hazardous Mark YES
Hazchem Code 3Z

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 Envirn. 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
HSNO approval-Nr. HSR100746
HSNO Controls See www.epa.govt.nz
ACVM Reg. P8787
ACVM Condition See www.foodsafety.govt.nz

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  
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 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.