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

1.1 Product identifier

Trade name	GUARDIAN EC882
Product code (UVP)	62293363

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

Use	Herbicide
Restrictions on use	See product label for restrictions.

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.

Acute toxicity: Category 4
H302 Harmful if swallowed.

Acute toxicity: Category 4
H332 Harmful if inhaled.

Skin sensitisation: Category 1A
H317 May cause an allergic skin reaction.

Eye irritation: Category 2
H319 Causes serious eye irritation.

Specific target organ toxicity - single exposure: Category 3
H335 May cause respiratory irritation.

Carcinogenicity: Category 2

H351 Suspected of causing cancer.

Specific target organ toxicity - repeated exposure: Category 2
H373 May cause damage to organs through prolonged or repeated exposure.

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

Chronic aquatic toxicity: Category 1
H410 Very 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:

- Acetochlor
- Furilazole

Signal word: Warning

Hazard statements

H302	Harmful if swallowed.
H332	Harmful if inhaled.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H373	May cause damage to organs (Kidney, Liver) through prolonged or repeated exposure.
H351	Suspected of causing cancer.
H410	Very toxic to aquatic life with long lasting effects.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

P201	Obtain special instructions before use.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
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.
P501	Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

No additional hazards known beside those mentioned.

Acetochlor: 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). Furilazole: 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

Emulsifiable concentrate (EC)
Acetochlor 840g/l, Furilazole 42g/l

Hazardous components

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

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification REGULATION (EC) No 1272/2008	Conc. [%]
Acetochlor	34256-82-1		75,8
Furilazole	121776-33-8	Acute Tox. 4, H302 Skin Sens. 1A, H317 Carc. 2, H351 STOT RE 2, H373 Aquatic Chronic 2, H411	3,8
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5 01-2119451151-53-xxxx	Carc. 2, H351 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	8,6
Calcium dodecylbenzenesulphonate	26264-06-2 01-2119560592-37-XXXX	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 3, H412	2,9

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 Immediately wash with plenty of soap and water for at least 15 minutes. Take off contaminated clothing and shoes immediately. 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. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	May cause allergic skin reaction.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

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:, Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx), 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	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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions	Use personal protective equipment. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces.
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. Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice	Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.
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	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.
Hygiene measures	Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing. Keep working clothes separately. 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 original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Keep away from direct sunlight. Protect from freezing.
Advice on common storage	Keep away from food, drink and animal feedingstuffs.
7.3 Specific end use(s)	Refer to the label and/or leaflet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

No known occupational limit values.

8.2 Exposure controls

Respiratory protection	If product is handled while not enclosed, and if contact may occur: Wear respirator with an organic vapours and gas filter mask (protection factor 10) conforming to EN140 type A or equivalent. 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 outside cannot be removed.

	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 4 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. 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.	
General protective measures	If product is handled while not enclosed, and if contact may occur: Complete suit protecting against chemicals	

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	Liquid
Colour	amber to brown
Odour	characteristic
Odour Threshold	No data available
pH	5,5 (10 g/l)
Melting point/range	No data available
Boiling Point	No data available
Flash point	95 °C
Flammability	Not applicable
Auto-ignition temperature	445 °C
Thermal decomposition	No data available
Minimum ignition energy	Not applicable
Self-accelarating decomposition temperature (SADT)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapour pressure	No significant volatility.
Evaporation rate	No data available
Relative vapour density	No data available
Relative density	1,107 (20 °C)

	Water at 4 °C
Density	1,11 g/cm³ (20 °C)
Water solubility	emulsifiable
Partition coefficient: n-octanol/water	Acetochlor: log Pow: 4,14 (20 °C) Furilazole: log Pow: 2,12 (23 °C)
Viscosity, dynamic	No data available
Viscosity, kinematic	No data available
Oxidizing properties	No data available
Explosivity	Not explosive
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 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	No incompatible materials known.
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) 1.304 mg/kg Test conducted with a similar formulation.
Acute inhalation toxicity	ATE (Mix) > 1 - < 5 mg/l calculated
Acute dermal toxicity	LD50 (Rat) > 2.000 mg/kg Test conducted with a similar formulation.
Skin corrosion/irritation	Slight irritant effect - does not require labelling. (Rabbit) Test conducted with a similar formulation.
Serious eye damage/eye irritation	Irritating to eyes. (Rabbit) Test conducted with a similar formulation.

Respiratory or skin sensitisation	Skin: Sensitising (Guinea pig)

Assessment STOT Specific target organ toxicity – single exposure

Acetochlor: May cause respiratory irritation.
Furilazole: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Acetochlor caused specific target organ toxicity in experimental animal studies in the following organ(s): Kidney.
Furilazole caused specific target organ toxicity in experimental animal studies in the following organ(s): Liver.

Assessment mutagenicity

Acetochlor was not genotoxic based on weight of evidence analysis.
Furilazole was not genotoxic based on weight of evidence analysis.

Assessment carcinogenicity

Acetochlor caused an increased incidence of tumours in rats in the following organ(s): Nasal, Thyroid. Mode(s) of action not relevant to humans.
Acetochlor caused an increased incidence of tumours in rats, mice in the following organ(s): Liver. Only above the MTD (maximum tolerated dose). The observed effects do not appear to be relevant for humans.
Acetochlor caused lung tumours and histocytic sarcomas in mice, probably not treatment related.
Furilazole caused an increased incidence of tumours in rats, mice in the following organ(s): Liver. Only at doses that caused significant hepatotoxicity. Questionable relevance to humans.
Furilazole caused an increased incidence of tumours in mice in the following organ(s): Lungs. Only at doses that caused chronic inflammation. Questionable relevance to humans.
Furilazole caused an increased incidence of tumours in rats in the following organ(s): forestomach. Only at doses that caused substantial irritation. The observed effects do not appear to be relevant for humans.

Assessment toxicity to reproduction

Reproductive effects in rats seen with Acetochlor are only in the presence of significant maternal toxicity.
Furilazole did not cause reproductive toxicity in laboratory animals.

Assessment developmental toxicity

Developmental effects in rats seen with Acetochlor are only in the presence of significant maternal toxicity.
Acetochlor did not cause developmental toxicity in rabbits. Testicular damage in dogs only in the presence of substantial systemic toxicity.
Furilazole did not cause developmental toxicity in rabbits. The developmental effects seen with Furilazole 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 (Oncorhynchus mykiss (rainbow trout)) 0,709 mg/l flow-through test; Exposure time: 96 h Test conducted with a similar formulation.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 12 mg/l flow-through test; Exposure time: 48 h Test conducted with a similar formulation.
Toxicity to aquatic plants	ErC50 (Raphidocelis subcapitata (freshwater green alga)) 2,01 µg/l Growth rate; Exposure time: 72 h Test conducted with a similar formulation.
	NOEC (Raphidocelis subcapitata (freshwater green alga)) 0,65 µg/l Growth rate; Exposure time: 72 h Test conducted with a similar formulation.
	ErC50 (Lemna minor (common duckweed)) 6,96 µg/l static test; Exposure time: 7 d Test conducted with a similar formulation.

12.2 Persistence and degradability

Biodegradability	Acetochlor: Not rapidly biodegradable Furilazole: 1 %, Exposure time: 28 d Not readily biodegradable.
Koc	Acetochlor: Koc: 204 Furilazole: Koc: 56 - 341

12.3 Bioaccumulative potential

Bioaccumulation	Acetochlor: Bioconcentration factor (BCF) 20 Furilazole: No significant accumulation in organisms.

12.4 Mobility in soil

Mobility in soil	Acetochlor: Moderately persistent Furilazole: Moderately persistent

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment	Acetochlor: 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). Furilazole: 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 further ecological information is available.

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. (ACETOCHLOR SOLUTION)
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. (ACETOCHLOR 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. (ACETOCHLOR 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: II (Moderately hazardous)

SECTION 16: OTHER INFORMATION

Text of the hazard statements mentioned in Section 3

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful 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
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.

Reason for Revision: The following sections have been revised: Section 11: Toxicological Information. Safety Data Sheet according to Regulation (EU) No. 2020/878.

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