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

1.1 Product identifier

Trade name	ALION SC500
Product code (UVP)	79899351, 84105899

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

Use	Herbicide

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.

Specific target organ toxicity - single exposure: Category 2
H371 May cause damage to organs (Nervous system) if swallowed.

Specific target organ toxicity - repeated exposure: Category 2
H373 May cause damage to organs (Nervous system) through prolonged or repeated exposure if swallowed.

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:

- Indaziflam

Signal word: Warning

Hazard statements

H371	May cause damage to organs (Nervous system) if swallowed.
H373	May cause damage to organs (Nervous system) through prolonged or repeated exposure if swallowed.
H410	Very 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

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.

Indaziflam: 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

Suspension concentrate (=flowable concentrate)(SC)
Indaziflam 500 g/l

Hazardous components

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

Name	CAS-No. /	Classification	Conc. [%]

	EC-No. / REACH Reg. No.	REGULATION (EC) No 1272/2008	
Indaziflam	950782-86-2	STOT SE 2, H371 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	45,5
Ethoxylated polyarylphenol	99734-09-5	Aquatic Chronic 3, H412	>= 0,1 – < 25
1,2-Propanediol	57-55-6 01-2119456809-23-XXXX	Not classified	>= 1
1,2-Benzisothiazol-3(2H)-one	2634-33-5 01-2120761540-60-0003		>= 0,005 – < 0,05

Further information

Indaziflam	950782-86-2	M-Factor: 10.000 (acute), 1.000 (chronic)
1,2-Benzisothiazol-3(2H)-one	2634-33-5	M-Factor: 10 (acute)

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. 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 Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.

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. 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: 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:, Hydrogen cyanide (hydrocyanic acid), Hydrogen fluoride, Carbon monoxide (CO), Nitrogen oxides (NOx)

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.
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. Wash hands before breaks and immediately after handling the product. 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. Protect from freezing. Keep away from direct sunlight.
Advice on common storage	Keep away from food, drink and animal feedingstuffs.
Suitable materials	HDPE (1000L IBC)

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
Indaziflam	950782-86-2	0,56 mg/m3 (TWA)		OES BCS*

*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 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	suspension
Colour	white to light beige
Odour	weak, characteristic
Odour Threshold	No data available

pH	7,0 - 8,5 (1 %) (23 °C) (deionized water) 7,5 - 9,5 (100 %) (23 °C)
Melting point/range	No data available
Boiling Point	No data available
Flash point	> 100 °C Not relevant; aqueous solution
Flammability	No data available
Auto-ignition temperature	555 °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 data available
Evaporation rate	No data available
Relative vapour density	No data available
Relative density	No data available
Density	ca. 1,10 g/cm³ (20 °C)
Water solubility	dispersible
Partition coefficient: n-octanol/water	No data available
Partition coefficient: n-octanol/water	Indaziflam: log Pow: 3,7 (20 °C) (pH 7)
Viscosity, dynamic	250 - 400 mPa.s (20 °C) Velocity gradient 20 /s 100 - 250 mPa.s (20 °C) Velocity gradient 100 /s
Viscosity, kinematic	No data available
Surface tension	30,9 mN/m (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	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 hazard classes as defined in regulation (EC) No 1272/2008

Acute oral toxicity	LD50 (Rat) > 2.000 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 2,53 mg/l Exposure time: 4 h Determined in the form of a respirable aerosol. No deaths 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

Indaziflam: May cause damage to organs in nervous system following oral route.

Assessment STOT Specific target organ toxicity – repeated exposure

Indaziflam caused neurobehavioral effects and/or neuropathological changes in subchronic studies in rats and dogs. Indaziflam: May cause damage to organs (Nervous system) through prolonged or repeated exposure.

Assessment mutagenicity

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

Assessment carcinogenicity

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

Assessment toxicity to reproduction

Indaziflam was not a primary reproductive toxicant in a two-generation study in rats.

Assessment developmental toxicity

Indaziflam did not cause developmental toxicity in rats and rabbits.

Aspiration hazard

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

Further information

Acute toxicity studies have not been performed on this product as formulated.
Acute toxicity studies have been bridged from a similar formulation(s).
The non-acute information pertains to the active ingredient(s).

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 (Lepomis macrochirus (Bluegill sunfish)) 0,85 mg/l Exposure time: 96 h
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) > 100 mg/l Exposure time: 48 h
Toxicity to aquatic plants	EC50 (Lemna gibba (gibbous duckweed)) 0,000151 mg/l Growth rate; Exposure time: 7 d Test conducted with a similar formulation. EC50 (Raphidocelis subcapitata (freshwater green alga)) 0,094 mg/l Growth rate; Exposure time: 72 h Test conducted with a similar formulation.

12.2 Persistence and degradability

Biodegradability	Indaziflam: Not rapidly biodegradable
Koc	Indaziflam: Koc: 496

12.3 Bioaccumulative potential

Bioaccumulation	Indaziflam: Bioconcentration factor (BCF) 66 Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil	Indaziflam: Moderately mobile in soils

12.5 Results of PBT and vPvB assessment

PBT and vPvB assessment	Indaziflam: 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	Triple rinse containers. Do not re-use empty containers. 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. (INDAZIFLAM 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. (INDAZIFLAM 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. (INDAZIFLAM 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

H371	May cause damage to organs.
H373	May cause damage to organs (Nervous system) through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very 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 3: Composition / Information on Ingredients. Section 10. Stability and reactivity. Section 13. Disposal considerations.

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