



ALION TOTAL SC600

Version 4 / ZA
102000021483

1/11
Revision Date: 29.07.2025
Print Date: 29.07.2025

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

1.1 Product identifier

Trade name ALION TOTAL SC600
Product code (UVP) 80210329

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.
1st Floor, Waterfall Circle
9 Country Estate Drive
Waterfall City
2090 Midrand, Johannesburg
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.

Reproductive toxicity: Category 2
H361d Suspected of damaging the unborn child.

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.

Short-term (acute) aquatic hazard: Category 1



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H400 Very toxic to aquatic life.

Long-term (chronic) aquatic hazard: 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:

- Isoxaflutole
- Indaziflam



Signal word: Warning

Hazard statements

H302 Harmful if swallowed.
H332 Harmful if inhaled.
H361d Suspected of damaging the unborn child.
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

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.

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). Isoxaflutole: 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



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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 150 g/l + Isoxaflutole 450 g/l

Hazardous components

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

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification	Conc. [%]
		REGULATION (EC) No 1272/2008	
Isoxaflutole	141112-29-0		36,6
Indaziflam	950782-86-2	STOT SE 2, H371 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	12,2
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. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	> 0,005 – < 0,05
Polyethylene-polypropylene copolymer	9003-11-6	Not classified	> 1
Glycerine	56-81-5 01-2119471987-18-XXXX	Not classified	> 1

Further information

Indaziflam	950782-86-2	M-Factor: 10.000 (acute), 1.000 (chronic)
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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. Call a physician or poison control center immediately.



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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. 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

5.2 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), Sulphur dioxide (SO₂), Nitrogen oxides (NO_x)

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.



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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 a place accessible by authorized persons only. Store in original container. Protect from frost. 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
Isoxaflutole	141112-29-0	0,6 mg/m ³ (TWA)		OES BCS*
Indaziflam	950782-86-2	0,56 mg/m ³ (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



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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.
acid-resistant protective clothing

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	suspension
Colour	white to pink
Odour	mild
Odour Threshold	No data available
pH	3,0 - 5,0 (10 %) (23 °C) (deionized water)
Melting point/ range	No data available
Boiling Point	No data available
Flash point	No flash point up to decomposition.
Flammability	No data available
Auto-ignition temperature	385 °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. 1,23 g/cm ³ (20 °C)
Water solubility	No data available
Partition coefficient:	Indaziflam: log Pow: 3,7 (20 °C) (pH 7)



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n-octanol/water

Isoxaflutole: log Pow: 2,32 (20 °C)

Viscosity, dynamic

No data available

Viscosity, kinematic

No data available

Surface tension

36 mN/m (25 °C)
Determined in the undiluted form.

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 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) > 300 - < 2.000 mg/kg

Acute inhalation toxicity

LC50 (Rat) 2,9 mg/l
Exposure time: 4 h
Determined in the form of a respirable aerosol.

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



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

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

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.

Isoxaflutole caused specific target organ toxicity in experimental animal studies in the following organ(s): Liver, Thyroid. The observed effects do not appear to be relevant for humans.

Assessment mutagenicity

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

Isoxaflutole 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.

Isoxaflutole caused at high dose levels an increased incidence of tumours in the following organ(s): Liver. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.

Assessment toxicity to reproduction

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

Isoxaflutole did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Indaziflam did not cause developmental toxicity in rats and rabbits.

Isoxaflutole caused developmental toxicity only at dose levels toxic to the dams. Isoxaflutole caused a delayed ossification of foetuses. The developmental effects seen with Isoxaflutole are related to maternal toxicity.

Aspiration hazard

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

Further information

No further toxicological information is available.

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)) 2,58 mg/l
Exposure time: 96 h

Chronic toxicity to fish

Oncorhynchus mykiss (rainbow trout)
NOEC: 0,342 mg/l
Exposure time: 96 h



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Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 227 mg/l
Exposure time: 48 h

Toxicity to aquatic plants

EC50 (Raphidocelis subcapitata (freshwater green alga)) 0,923 mg/l
Growth rate; Exposure time: 72 h

12.2 Persistence and degradability

Biodegradability

Indaziflam:
Not rapidly biodegradable
Isoxaflutole:
Not rapidly biodegradable

Koc

Indaziflam: Koc: 496
Isoxaflutole: Koc: 112

12.3 Bioaccumulative potential

Bioaccumulation

Indaziflam: Bioconcentration factor (BCF) 66
Does not bioaccumulate.
Isoxaflutole: Bioconcentration factor (BCF) 11
Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil

Indaziflam: mobile in soil
Isoxaflutole: very mobile in soil

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).
Isoxaflutole: 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.



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Contaminated packaging

Triple rinse containers.
Do not re-use empty packagings.
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: II (Moderately hazardous)

SECTION 16: OTHER INFORMATION

Text of the hazard statements mentioned in Section 3



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H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
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.

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 5: Fire Fighting Measures. Section 7: Handling and Storage. Section 8: Exposure Controls / Personal Protection. Section 13. Disposal considerations.

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