

SECTION 1: Identification

1.1. Product identifier

Product form	: Mixture
Trade name	: Badger 700 EC (loxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l)
Type of product	: Herbicide
CAS-No.	: [25168-26-7] [3861-47-0]
Product group	: End product

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

Use of the substance/mixture	: An emulsifiable concentrate of a selective herbicide for the control of certain broadleaf weeds in sugarcane.
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1.3. Supplier's details

Supplier

Farm-Ag International (Pty) Ltd
Old Mill Industrial Park
61, Marshall Drive
P.O. Box 1523
4300 Mount Edgecombe – Durban KwaZulu Natal
South Africa
T 031 003 3486

1.4. Emergency telephone number

Emergency number	: 24 Hr Emergency Number: In case of Poisoning: Poison Information Helpline : 0861 555 777
	In case of Spillage: HAZMAT:0800 147 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Flammable liquids, Category 4	H227
Acute toxicity (oral), Category 4	H302
Acute toxicity (dermal), Category 5	H313
Skin corrosion/irritation, Category 3	H316
Serious eye damage/eye irritation, Category 2A	H319
Skin sensitisation, Category 1	H317
Reproductive toxicity, Category 2	H361
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 1	H410

Full text of H-statements: see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS ZA)



Badger 700 EC (Ioxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l)

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

Signal word (GHS-ZA)	: Warning
Hazardous ingredients	: 2,4-D iso-octyl ester 95% TC, Ioxynil octanoate 97% TC, Calcium dodecylbenzenesulfonate
Hazard statements (GHS ZA)	: H227 - Combustible liquid H302 - Harmful if swallowed. H313 - May be harmful in contact with skin H316 - Causes mild skin irritation H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. H361 - Suspected of damaging fertility or the unborn child. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (GHS ZA)	: P101 - If medical advice is needed, have product container or label at hand. P102 - Keep out of reach of children. P103 - Read label before use. P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 - Avoid breathing vapours, spray. P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P272 - Contaminated work clothing should not be allowed out of the workplace. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. P302+P352 - IF ON SKIN: Wash with plenty of soap and water. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - IF exposed or concerned: Get medical advice/attention. P312 - Call a POISON CENTER or doctor if you feel unwell. P330 - Rinse mouth. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse. P370+P378 - In case of fire: Use carbon dioxide (CO ₂), D-powder, foam to extinguish. P391 - Collect spillage. P403 - Store in a well-ventilated place. P405 - Store locked up. P501 - Dispose of container to an approved waste disposal plant.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects	: Suspected of damaging fertility or the unborn child, Harmful if swallowed, Harmful in contact with skin, Causes mild skin irritation, May cause an allergic skin reaction, Causes serious eye irritation, Very toxic to aquatic life with long lasting effects.
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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

Badger 700 EC (Ioxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l)

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
2,4-D iso-octyl ester 95% TC	CAS-No.: 25168-26-7	≥ 80 – < 85	Flam. Liq. Not classified Acute Tox. 4 (Oral), H302 Acute Tox. 5 (Dermal), H313 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Ioxynil octanoate 97% TC	CAS-No.: 3861-47-0	≥ 10 – < 15	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:dust,mist), H332 Eye Irrit. 2A, H319 Skin Sens. 1, H317 Repr. 2, H361 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)
Poly(oxy-1,2-ethanediyl), .alpha.-(2,4,6-tris(1-phenylethyl)phenyl)-.omega.-hydroxy-	CAS-No.: 70559-25-0	≥ 1 – < 5	Aquatic Chronic 3, H412
Calcium dodecylbenzenesulfonate	CAS-No.: 26264-06-2	≥ 1 – < 5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 4, H413

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: If water diluted mixture has been swallowed, give copious quantities of either beaten egg white, starch solution or Milk of Magnesia before inducing vomiting. Repeat until vomit fluid is clear and free from smell of poison. Never give anything by mouth to a semi-conscious or unconscious person. If breathing stops, start artificial respiration. Seek medical help.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Water spray as a fog can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Do not use direct jet of water. Contain water used for fire-fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Badger 700 EC (Ioxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l)

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Combustible liquid.
- Explosion hazard : Violent rupture of containers may occur under fire conditions. Keep fire exposed containers cool by spraying with water.
- Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
- Personal protection (Emergency response) : Wear respiratory protection, Wear protective gloves, Wear protective clothing, Wear eye protection, Face-shield



SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin, eyes and clothing. Avoid breathing vapours, spray.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

6.3. Methods and material for containment and cleaning up

- For containment : Collect spillage.
- Methods for cleaning up : Ensure suitable personal protection during removal of spillage. This means wearing a face mask that gives protection against organic vapours, eye protection, chemically resistant gloves, boots and coveralls. Absorb spillage onto sand, earth or any suitable absorbent material. Transfer to a container for disposal. Wash the spillage area with water. Washing must be prevented from entering surface water drains. Spillage or uncontrolled discharges into water courses must be alerted to the Department of Water Affairs/Environment.
- Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Avoid breathing vapours, spray.
- Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Badger 700 EC (Ioxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l)

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store in a well-ventilated place. Keep cool. Store locked up.
Storage area	: Keep only in the original container. Store in a dry area. Store out of reach of unauthorised persons, children and animals.
Heat and ignition sources	: KEEP SUBSTANCE AWAY FROM: Sources of sparks, flame or heat.
Information on mixed storage	: KEEP SUBSTANCE AWAY FROM: Food supplies. Water supplies.
Maximum storage period	: 2 years

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

xylene (1330-20-7)

South Africa - Occupational Exposure Limits (Recommended Limits)

Local name	Xylene, o-, m-, p- or mixed isomers
OEL TWA [ppm]	200 ppm
OEL STEL [ppm]	300 ppm
Remark	SKIN (danger of cutaneous absorption)
Regulatory reference	Government Notice No. R. 280, 2021

South Africa - Occupational Exposure Limits (Airborne Pollutants)

Local name	Xylene, o-, m-, p- or mixed isomers
OEL TWA	218 mg/m ³
OEL TWA [ppm]	50 ppm
OEL STEL	435 mg/m ³
OEL STEL [ppm]	100 ppm
Remark	Sk (Danger of cutaneous absorption)
Regulatory reference	Government Notice No. R 904

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection	: Protective gloves
Eye protection	: Safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: In case of inadequate ventilation wear respiratory protection.

Personal protective equipment symbol(s):



8.4. Exposure limit values for the other components

No additional information available

Badger 700 EC (Ioxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l)

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: No data available
Colour	: Brown.
Odour	: Aromatic odour.
Odour threshold	: No data available
pH	: 7 – 8.5
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 66 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1.17
Relative density of saturated gas/air mixture	: No data available
Density	: No data available
Relative gas density	: No data available
Solubility	: Emulsifiable.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosion limit	: No data available
Upper explosion limit	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

Badger 700 EC (loxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l)

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: May be harmful in contact with skin.
Acute toxicity (inhalation)	: Not classified

Badger 700 EC (loxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l) ([25168-26-7] [3861-47-0])	
ATE ZA (oral)	494.249 mg/kg bodyweight
ATE ZA (Dermal)	2375.963 mg/kg bodyweight
Unknown acute toxicity (GHS ZA)Unknown acute toxicity (GHS ZA)	3.42% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 5.98% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 99.2% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))

2,4-D iso-octyl ester 95% TC (25168-26-7)	
LD50 oral rat	650 mg/kg (Rat, Oral)
LD50 dermal rabbit	> 3000 mg/kg (Rabbit, Dermal)

loxynil octanoate 97% TC (3861-47-0)	
LD50 oral rat	165 – 332 mg/kg Rats
LD50 oral	240 mg/kg Mice
LD50 dermal rat	> 2000 mg/kg
LD50 dermal	1240 mg/kg Mice
LC50 Inhalation - Rat	> 4.36 mg/l

Calcium dodecylbenzenesulfonate (26264-06-2)	
LD50 oral rat	465 mg/kg

Skin corrosion/irritation	: Causes mild skin irritation. pH: 7 – 8.5
Serious eye damage/irritation	: Causes serious eye irritation. pH: 7 – 8.5
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Very toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute)	: Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic)	: Very toxic to aquatic life with long lasting effects.

Badger 700 EC (Ioxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l)

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

2,4-D iso-octyl ester 95% TC (25168-26-7)

LC50 - Fish [1]	0.5 – 1.2 mg/l (96 h, <i>Salmo clarkii</i>)
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Ioxynil octanoate 97% TC (3861-47-0)

LC50 - Fish [1]	0.024 mg/l Bluegill Sunfish
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LC50 - Fish [2]	0.043 mg/l Rainbow Trout
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EC50 - Crustacea [1]	0.068 mg/l (<i>Daphnia</i> sp.)
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EC50 72h - Algae [1]	0.24 mg/l <i>Navicula Pelliculosa</i>
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EC50 72h - Algae [2]	> 4.6 mg/l <i>Scenedesmus subspicatus</i>
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Partition coefficient n-octanol/water (Log Kow)	6
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Additional ecotoxicological information	Birds: Acute oral LD50 for Japanese quail 677, pheasants 1000, mallard ducks 1200 mg/kg. Bees (LD50, µg/bee) >200 (contact); >3.27 (oral). Worms: LC50 for earthworms > 60 mg/kg soil.
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Calcium dodecylbenzenesulfonate (26264-06-2)

Partition coefficient n-octanol/water (Log Pow)	14.1
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12.2. Persistence and degradability

Badger 700 EC (Ioxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l) ([25168-26-7] [3861-47-0])

Persistence and degradability	No additional information available
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2,4-D iso-octyl ester 95% TC (25168-26-7)

Persistence and degradability	Not readily biodegradable in water.
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12.3. Bioaccumulative potential

Badger 700 EC (Ioxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l) ([25168-26-7] [3861-47-0])

Bioaccumulative potential	No additional information available
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2,4-D iso-octyl ester 95% TC (25168-26-7)

Bioaccumulative potential	Not bioaccumulative.
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Ioxynil octanoate 97% TC (3861-47-0)

Partition coefficient n-octanol/water (Log Kow)	6
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Calcium dodecylbenzenesulfonate (26264-06-2)

Partition coefficient n-octanol/water (Log Pow)	14.1
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12.4. Mobility in soil

Badger 700 EC (Ioxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l) ([25168-26-7] [3861-47-0])

Mobility in soil	No additional information available
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2,4-D iso-octyl ester 95% TC (25168-26-7)

Ecology - soil	Adsorbs into the soil.
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Ioxynil octanoate 97% TC (3861-47-0)

Partition coefficient n-octanol/water (Log Kow)	6
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Calcium dodecylbenzenesulfonate (26264-06-2)

Partition coefficient n-octanol/water (Log Pow)	14.1
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Badger 700 EC (loxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l)

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

12.5. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available




SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
3082	3082	3082
14.2. Proper Shipping Name		
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 2,4-D iso-octyl ester 600 g/l + loxynil octanoate 100 g/l)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 2,4-D iso-octyl ester 600 g/l + loxynil octanoate 100 g/l)	Environmentally hazardous substance, liquid, n.o.s. (contains 2,4-D iso-octyl ester 600 g/l + loxynil octanoate 100 g/l)
14.3. Transport hazard class(es)		
9	9	9
		
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
No supplementary information available		

14.6. Special precautions for user

SANS

Special provisions (SANS) : 179, 274, 331, 335
Limited quantities (SANS) : 5 L
Limited quantities (SANS) : 5 L
Packagings, large packagings and IBCs Packing instructions (SANS) : P001, IBC03, LP01
Packagings, large packagings and IBCs Special packing instructions (SANS) : PP1
Portable tank and bulk containers instructions (SANS) : T4
Portable tank and bulk container special provisions (SANS) : TP1, TP29

IMDG

Special provisions (IMDG) : 274, 335, 969
Limited quantities (IMDG) : 5 L

Badger 700 EC (Ioxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l)

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP01, P001
Special packing provisions (IMDG)	: PP1
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1, TP29
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG)	: A

IATA

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y964
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 964
PCA max net quantity (IATA)	: 450L
CAO packing instructions (IATA)	: 964
CAO max net quantity (IATA)	: 450L
Special provisions (IATA)	: A97, A158, A197, A215
ERG code (IATA)	: 9L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

No additional information available

SECTION 16: Other information

Issue date : 08/09/2022

Full text of H-statements

H226	Flammable liquid and vapour.
H227	Combustible liquid
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H313	May be harmful in contact with skin
H315	Causes skin irritation.
H316	Causes mild skin irritation
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Badger 700 EC (loxynil octanoate 100 g/l + 2,4-D iso-octyl ester 600 g/l)

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010

Full text of H-statements

H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Safety Data Sheet (SDS), South Africa

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.