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SAFETY DATA SHEET

This Safety Data Sheet was created pursuant to the requirements of:
The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

BROMOTRIL®

Revision date: 14 November-2022 **Version:** 4 **Supersedes Date:** 04 December-2020 **Product Code(s):** NA

Print date: 14-November-2022

1. Product and Company Identification

Identification of the product/preparation

Product Name	BROMOTRIL®
Trade Name/Synonyms	Bromoxynil
Registration Number	L4657
Product Description and Formulation Type	Suspension conentrate herbicide

Active Ingredient

Bromoxynil

Formula	$C_{15}H_{17}Br_2NO_2$
CAS Number	1689-99-2

Supplier, Manufacturer, and/or Importer

Supplier

Company Name	ADAMA SOUTH AFRICA (PTY) LTD
Address	Ground Floor, Simeka House The Vineyards Office Estate 99 Jip de Jager Drive Belville 7530
Phone Number	+27 21 982 1460
Web-Address	www.adama.com

Emergency Phone Numbers

Nature of Emergency	Emergency Operator	Telephone Number
24 Hour Poisoning Emergency Helplines – National Advisory Bodies	Griffon Poison Information Centre	+27(0)82 446 8946
	Tygerberg Poison Information Centre:	+27 (0)861 155 5777
Spill Response and Transport Incidents		+27(0)86 100 0366; +27 (0)83 253 6618
Product Properties and Hazards	ADAMA South Africa (Pty) Ltd	+27(0)21 982 1460

Relevant identified uses of the product and uses advised against

BROMOTRIL 225 SC is a selective emulsifiable concentrate herbicide for the post-emergent control of certain broad-leafed weeds in crops.
The product must only be used as indicated on the label.

2. Hazard(s) Identification

Classification of the substance or mixture

This product is classified as hazardous according to the criteria in South Africa - GHS classification and labelling of chemicals – SANS10234 and the Regulations for Hazardous Chemical Agents - 2021.

GHS Classification:

Hazard Class	Category	Hazard Statement Number
Flammable Liquids	3	H226
Acute Toxicity Oral	4	H302
Aspiration Hazard	1	H304
Skin Sensitization	1	H317
Serious Eye Damage/Irritation	2	H319
Acute Toxicity Inhalation	4	H332
STOT SE	3	H336
Reproductive Toxicity	2	H361d
Acute Aquatic Toxicity	1	H400
Chronic Aquatic Toxicity	1	H410

Label Elements

Pictograms:

Signal Word:

Danger

Hazard Statements:

Statement Number	Hazard Statement
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways (aspiration hazard).

H317	May cause allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

General -

Statement Number	Precautionary Statement
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Prevention -

Statement Number	Precautionary Statement
P203	Obtain, read, and follow all safety instructions before use.
P210	Keep away form heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical, ventilation and other equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharge.
P261	Avoid breathing mist/vapours/spray.
P270	Do not eat, drink, or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment – if this is not the intended use.
P280	Wear protective gloves, eye, respiratory, and face protection.
P264 + P265	Wash hands and face thoroughly after handling. Do not touch eyes.

Response –

Statement Number	Precautionary Statement
P317	Get medical help.
P318	IF exposed or concerned, get medical advice.
P330	Rinse mouth.
P331	Do NOT induce vomiting.
P391	Collect spillage.
P301 + P316	IF SWALLOWED: Get emergency medical help immediately.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P333 + P317	If skin irritation or rash occurs: Get medical help.
P337 + P317	If eye irritation persists: Get medical help.
P362 + P364	Take off contaminated clothing and wash it before re-use.
P370 + P378	In case of fire, use the equipment included in Section 5 of the SDS to extinguish.

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with plenty of 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.

Storage -

Statement Number	Precautionary Statement
P405	Store locked up.
P403 + P235 + P233	Store in a well-ventilated place. Keep cool and keep container tightly closed.

Disposal -

Statement Number	Precautionary Statement
P501	Dispose of contents/container to a licensed waste facility and in accordance with local and national regulatory requirements.

Other Hazards

None under normal conditions.

3. Composition/Information on Ingredients

Mixture

IUPAC/Chemical Name-Active Ingredient:	(2,6-dibromo-4-cyanophenyl) octanoate
Chemical Family:	Hydroxybenzonitrile
Formulation:	Bromoxynil; present as the n-octanoyl ester 225 g/L – Suspension concentrate

Ingredients with Hazard Concerns (GHS)

According to UN GHS criteria.

Hazardous Component – Chemical Name	CAS Number	Weight - %	International GHS Classification
Bromoxynil	1689-99-2	<30%	Acute Toxicity Oral, Category 4. Skin Sensitization, Category 1. Acute Toxicity Inhalation, Category 3. Reproductive Toxicity, Category 2. Aquatic Toxicity Acute, Category 1. Aquatic Toxicity Chronic, Category 1.
Calcium docecylbenzenesulphonate	26264-06-2	<10%	Acute Toxicity Oral, Category 4. Skin Corrosion/Irritation, Category 2. Serious Eye Damage/Irritation, Category 1.

FLUIDAR 100 - Light Aromatic Petroleum Solvent	64742-95-6	>60%	Skin Corrosion/Irritation, Category 3. Aspiration Hazard, Category 1. STOT SE, Category 3. Aquatic Toxicity Acute, Category 2. Aquatic Toxicity Chronic, Category 2. Flammable Liquids, Category 3.

NOTE: The other ingredients do not cause or contrinute toward the correct GHS classification of BROMOTRIL® and are therefore, in terms of the South African Regulations for Hazardous Chemical Agents - 2021; Regulation 14(b), not listed in the table above.

4. First-Aid Measures

Description of First-aid Measures

General Advice

Provide this SDS to medical personnel for treatment in case of excessive exposure. Emergency personnel should wear protective clothing appropriate to the type and degree of contamination.
Immediately remove contaminated clothing and move the affected person from the contamination area. Keep the person warm, calm and covered up. First Aid personnel should pay attention to their own safety.

Eye Contact

Immediately rinse/flush the eyes gently with water from the eye wash fountain for several minutes (at least 15 minutes), while holding the eyelids apart. Check for and remove contact lenses if easy to do so. Continue rinsing. Do not rub the eyes. Obtain medical attention if irritation occurs and persists.

Skin Contact

Immediately remove all contaminated clothing and shoes. Rinse the skin with plenty of water for 15 to 20 minutes under the safety shower. Contact a poison control centre or medical practitioner if irritation occurs or persists. Wash contaminated clothing before re-use.

Inhalation

Remove the affected victim from exposure to an area with fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the product; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Obtain medical attention.

Ingestion

Obtain medical attention/advice - call a poison control centre or medical practitioner for treatment advice. If conscious, rinse mouth thoroughly with water. Never give anything by mouth to an unconscious or convulsing person. DO NOT induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomits. Rinse mouth.

Emergency Responders

Use Personal Protective equipment as required.

Most important symptoms/effects, acute and delayed

Serious eye irritation. Harmful if swallowed or inhaled.
The formulation contains liquid hydrocarbons that can cause severe pneumonitis or fatal pulmonary oedema if aspirated.

Indication of any immediate medical attention and special treatment needed

Notes to physician:

No specific antidote. Treat symptomatically and supportively.

5. Fire-Fighting Measures

Suitable (and unsuitable) extinguishing media	For small fires - se dry chemical, carbon dioxide, water spray, or foam. For large fires – use foam, water fog or water spray. Contain fire control water for later disposal. Do not use high volume water jets due to potential contamination.
Specific hazards arising from the chemical including thermal decomposition products	Flammable. Could form explosive mixtures with air and vapours may travel to source of ignition and flash back. Fires involving the product may produce irritating or hazardous compounds of bromine, nitrogen oxides (NO, NO_2), carbon oxides (CO, CO_2), and cyanides.
Special protective equipment and precautions for fire-fighters	Firefighters must wear emergency equipment including positive pressure self-contained breathing apparatus with a full-face mask. Remove unaffected containers from fire area if possible.
Additional provisions	Stay at maximum distance. Act in accordance with the site's Internal Emergency Plan and the Workplace Specific Procedures for actions to be taken after an accident or other emergencies. Keep container cool by spraying with water.

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures	Ventilate the area of the spill or leak, especially when in confined areas. Eliminate all ignition sources. Do not breathe in fumes/vapour and avoid contact with eyes, skin and clothes. Evacuate personnel to a safe area when necessary. Do not touch or walk through spilled material. Contain spills if it can be done without risk and clean-up immediately. Wear appropriate protective clothing recommended in Section 8 of the SDS.
Environmental precautions	Prevent spillage or further leakage if safe to do so. Do not allow the spilt product to enter water courses and drains and avoid contact with soil. Do not allow the spilt product to spread to other areas - keep the spilt material contained and isolated. Report spills and releases as required to appropriate authorities if the spilt product has caused environmental pollution (sewers, water ways, soil or air).
Methods for cleaning up	***For small spills***, soak up the spilt product with a suitable inert absorbent material. Apply enough absorbent material to completely cover the spilt

liquid. Sweep and shovel up the spilt material using non-sparking tools. Place into a labelled waste container and cover for subsequent disposal. Dispose of collected spilt material as hazardous waste. Clean the contaminated surface with water to remove any residues of the spilt product. Keep the wash water out of drains, sewers and waterways.

For large spills, do not wash away into sewers – contain/dyke or cover to prevent dispersal using absorbent socks, pillows or pads supplied in a spill kit. Collect the spilt product and place it into a suitable labelled containers for proper disposal.
If spill is in water, contain contaminated water for disposal as hazardous waste.

Reference to other SDS sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

7. Handling and Storage

Precautions for safe handling

Wear protective clothing and equipment during handling as described in Section 8 of the SDS.
Always provide good ventilation in the work area. Prevent contact with eyes and prolonged contact with skin and clothing. Do not breathe in fumes/spray mist. Do not permit smoking in use or storage areas. Do not eat or drink during use.
Wash the hands and face thoroughly with soap after handling.
Keep containers closed when not in use.
Locate emergency showers and eye-rinsing facility near the work/handling area. Maintain good normal industrial hygiene and housekeeping practices in areas where the product is used/handled.
Remove contaminated clothing immediately if the product gets inside. Contaminated work clothing should not be allowed out of the workplace.
Regular cleaning of work area and work clothing is recommended.
Keep unprotected persons away from the area where the product is being applied.

Conditions for safe storage, including any incompatibilities

The entrance to storage facilities should be granted only to appropriately trained personnel. Always store locked up and keep containers tightly closed when not in use. Store only in properly labelled containers. Check storage containers regularly for leaks.
The formulation is stable if stored well ventilated, out of direct sunlight, cool and free of moisture and high humidity. Keep out of reach of children, uninformed persons and animals. Protect containers from physical damage. Do not contaminate water, food, or feed by storage or disposal.
Avoid cross contamination with other agricultural products.
Store away from incompatible materials like strong acids.
It is recommended to have appropriate spill control kits equipped with clean-up tools near storage areas (see Section 6).
Store in accordance with national and local regulations.

8. Exposure Controls and Personal Protection

Components with workplace control parameters – National Occupational Exposure Limits

The product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the South African Department of Labour and Employment.

Appropriate engineering controls

Use with general or adequate local exhaust ventilation to maintain airborne concentrations and exposure as low as possible. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal Protective Equipment

Respiratory protection:

Respiratory protection selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respiratory equipment.
In operations where the risk assessment indicates that there could be a high level of exposure (e.g., when exposure to fumes, mist or spray is expected), an approved respirator (half/full face mask) with an organic vapour cartridge/canister or a supplied air respirator should be used (must be suitable for the protection from pesticide mists). Respirator selection and use should be based on contaminant type, form, and concentration.
For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

Skin and hand protection:

Select skin and hand protection based on the task being performed and the risks involved with the task.
Impervious chemical resistant gloves recommended for hand protection (e.g., butyl rubber, nitrile rubber, etc.). Consider the glove penetration time - information on glove penetration time is available from the manufacturer of the glove. The gloves should be replaced immediately in case of damage or signs of wear. It is recommended to use preventative skin protection (skin cream).
Impervious overalls, apron, shoes, and socks as required to prevent skin contact and contamination of personal clothing. Overalls must be buttoned to the neck and sleeves worn over the gloves.

Eye/face protection:

Safety eyewear compliant with an approved standard should be used when a risk assessment indicates this is necessary to avoid eye exposure to liquid splashes. Safety goggles together with a face shield are recommended.

General safety and hygiene measures:

The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained.
Handle the product in accordance with good industrial hygiene and safety practice.
An eye wash fountain and safety showers should be available and easily accessible.
Keep the product away from food, drink and animal feeding stuffs.
Wash the hands and/or face before breaks, eating, smoking or using the lavatory and at the end of the shift/working period.

Environmental exposure controls	In accordance with the local legislation for the protection of the environment it is recommended to avoid environmental spillage or releases of both the product and its container. Avoid spray drift onto susceptible crops, rivers, dams, and areas not under treatment. Do not empty containers with the product into drains.

9. Physical and Chemical Properties

Unless otherwise stated, the data is applicable to the formulation.

Physical or Chemical Property		Value	Test Method or Remarks
Appearance	Appearance/physical state	Liquid	
	Odour characteristics	Aromatic	
	Colour	Brownish	
	Boiling point (°C)	> 154	Light Aromatic Petroleum Solvent
Volatility	Vapour pressure (mPa) at 25°C	Not determined	
	Evaporation Rate at 20 ºC	Not determined	
Product Descriptors	Solubility in water (ppm at 25 °C)	Emulsifiable concentrate	
	Decomposition temperature (°C)	Not determined	
	Melting point (°C)	Not applicable	
	pH	3-5	
	Relative density (g/mL)	1.02-1.05 (20°C)	
	Particle characteristics	Not determined	
	Log P octanol/water at 25°C	Not determined	
	Kinematic viscosity	0.8 mm^2/s @ 40 °C (ASTM D-445)	Light Aromatic Petroleum Solvent
Flammability	Flammable (Y/N)	Yes- Flammable	
	Flash point (°C)	> 40 °C (ASTM D-56)	Light Aromatic Petroleum Solvent
	Flammable limits-LEL	1 %(V)	Light Aromatic Petroleum Solvent
	Flammability limits -UEL	7.0 %(V)	Light Aromatic Petroleum Solvent

Auto-ignition Temperature (°C)	Not determined

Other Hazard Information
None known.

10. Stability and Reactivity

Reactivity	The product is not reactive under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Chemical Stability	Hazardous polymerization will not occur. Stable under normal ambient conditions of use, storage and transport.
Possibility of Hazardous Reactions	None known under conditions of normal use.
Hazardous Decomposition Products	Does not decompose when used for intended uses. Can decompose under fire or during burning and at high temperatures releasing irritating or hazardous compounds of bromine, nitrogen oxides (NO, NO_2), carbon oxides (CO, CO_2), and cyanides.

Conditions to Avoid

Shock and Friction	Contact with Air	Heat and Ignition Sources	Sunlight	Humidity or Moisture Conditions
Not applicable	Avoid storage without ventilation.	Avoid exposing to excessive heat and ignition sources.	Do not store in direct sunlight.	Avoid moisture conditions during storage.

Incompatible Materials
Incompatable with:

Strong Acids	Water	Combustive Materials	Strong Alkalis	Other Incompatible Substances
Yes	Not applicable	Not applicable	Yes	Avoiding strong oxidising agents is recommended.

11. Toxicological Information

Information on likely routes of exposure
The product may be absorbed into the body by inhalation and by dermal or eye contact.

Information on toxicological effects
Acute toxicity:

Specific test data for the product is not available. Assessment of toxicological effects is based on the ingredients.

Product Information	Fatal	Toxic	Harmful	May be Harmful	Not classified
Ingestion - Oral			√		
Dermal/Skin Contact					√
Inhalation			√		

Assessment of acute toxicity:

Product/ingredient Name	Dose Acute -	Species	Test Result
BROMOTRIL®	>1 719 mg/kg	Rat	LD_{50} Oral
Bromoxynil	2 000 mg/kg	Rat	LD_{50} Dermal – no adverse effects
BROMOTRIL®	3.2 mg/L	Rat (4h)	LC_{50} Inhalation (Dust/mist)

Irritation – Dermal/Skin and Eyes:
Assessment of irritation effects (skin/eyes):
Based on available data, the classification criteria are met for serious eye irritation.
Calcium docecylbenzenesulphonate: Acute eye irritation study (Rhodia,1998) - caused irritation.
Result: Irritating at 0.1 ml.

Respiratory/Skin Sensitization:
Assessment of sensitization:
Based on available data, the classification criteria are met.
Bromoxynil: Potential contact skin sensitizer and may cause an allergic skin reaction.

Germ cell mutagenicity:
Assessment of mutagenicity:
Based on available data, the classification criteria are not met.

Carcinogenicity:
Assessment of carcinogenicity:
Based on available data, the classification criteria are not met.

Reproductive and developmental toxicity:
Assessment of reproduction and developmental toxicity:
Based on available data, the classification criteria are met for developmental toxicity.
Bromoxynil: Developmental toxicity were evaluated in Sprague–Dawley rats and Swiss–Webster mice. Highest doses increased the incidence of supernumerary ribs (SNR) in foetuses of treated

rats, but did not induce other anomalies (Rogers *et al.*, 1991). In the developmental toxicity studies in rats and rabbits, there was evidence of teratogenicity in both species.

Specific target organ toxicity (single exposure):
Assessment of STOT (single):
Based on available data, the classification criteria are met.
Fluidar 100 - Light Aromatic Petroleum Solvent: Narcotic effects and causes respiratory irritation.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure):
Assessment of repeated dose toxicity:
Based on available data, the classification criteria are not met.

Aspiration hazard:
Assessment of repeated dose toxicity:
Based on available data, the classification criteria are met.
Fluidar 100 – Light Aromatic Petroleum Solvent: May be fatal if swallowed and enters airways through inhalation. Could cause asphyxiation, chemical pneumonia, injury, or other negative health effects.

Symptoms related to the physical, chemical, and toxicological characteristics	None known for the product.
Delayed and immediate effects as well as chronic effects from short and long-term exposure	None know for the product.

12. Ecological Information

Ecotoxicity
BROMOTRIL® is very toxic to aquatic life with long lasting effects.

No eco-toxicological data is available for the formulated product. The information below refers to the active ingredient Bromoxynil.

Species and Genus	Exposure (hours/days)	Result in fresh water
Crustacea (Daphnia magna)	48h	Acute EC_{50} 0.044 mg/L (PPDB*)
Fish (Oncorhynchus mykiss)	96h	Acute LC_{50} 0.041 mg/L (PPDB*)
Algae and aquatic plants (Pseudokirchneriella subcapitata)	72h	Acute EC_{50} > 28.0. mg/L. Growth inhibition. (PPDB*)

PPDB*: Pesticide Properties Database (http://sitem.herts.ac.uk/aeru/ppdb/en/Reports/746.htm).

Toxicity to Other Species

No information available for the product.

Other Environmental and Adverse Effects:

	Environmental Effect Applicable to Ingredient	Description
Persistence and degradability:	Bromoxynil	Bromoxynil has a low persistence in soil. Hydrolysis, photolytic degradation, and microbially mediated degradation are important environmental processes. In sandy soil, the half-life is about 10 days. Degradation in clay was slower, with half of the Bromoxynil degraded to its metabolites in about a 2-week period at 25°C. The persistence of the compound is also slightly longer in peat field soils than in the sandy soils.
Bioaccumulative potential:	Bromoxynil	A BCF of 230 (whole fish) was reported in bluegill sunfish when continuously exposed to 14C radio-labelled bromoxynil octanoate at 1.3-4.6 ug/L. This BCF suggests the potential for bioconcentration in aquatic organisms is high, provided the compound is not metabolized by the organism.
Mobility in soil & water:	Bromoxynil	If released to soil, bromoxynil octanoate is expected to have no mobility based upon an estimated K_{oc} of 21000. Volatilization from moist soil surfaces is expected. It is not expected to volatilize from dry soil surfaces based upon its vapour pressure. If released into water, bromoxynil octanoate is expected to adsorb to suspended solids and sediment based upon the estimated and reported K_{oc} values.
Other adverse effects:	Bromoxynil	None known.

13. Disposal Considerations

Waste handling and disposal

Avoid and minimize the generation of waste.
Dispose product related waste in accordance with all local regulations and prevent the contamination of water, food, or feed by storage or disposal of the waste. Do not use empty containers for any other purpose. The product or empty containers must not be disposed of as part of general waste.
Special help is available for the disposal of Agricultural Chemicals. The product label will supply general advice regarding disposal of small quantities, and how to cleanse containers.

General container handling	Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Empty containers and offer for recycling if an available option. Recondition if appropriate, or puncture and dispose of in a hazardous waste landfill, or by other procedures approved by the local authorities. Contaminated packaging: Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the product.
Additional special precautions	The product and its container must always be disposed of in a safe manner. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14. Transport Information

	Land Transport (ADR/RID)	Inland Waterways (AND/ADNR)	See Transport (IMDG)	Air Transport (ICAO-TI/IATA-DGR)
UN Number	1268	1268	1268	1268
UN Proper Shipping Name	Flammable Liquids, (N.O.S. Contains Petroleum Distillates & Bromoxynil)	Flammable Liquids, (N.O.S. Contains Petroleum Distillates & Bromoxynil)	Flammable Liquids, (N.O.S. Contains Petroleum Distillates & Bromoxynil)	Flammable Liquids, (N.O.S. Contains Petroleum Distillates & Bromoxynil)
Transport Hazard Class	3	3	3	3
Transport Hazard Class Pictogram				
Transport Subsidary Class	9	9	9	9
Packaging Group	III	III	III	III
Environmental Hazard	Yes	Yes	Yes	Yes
Special Precautions for User	-	-	Marine pollutant	-

15. Regulatory Information

Safety, health, and environmental regulations specific for the product in question

Symbol

N: Dangerous for the environment. Xn: Harmful. Xi: Sensitizing by skin contact. T: Toxic for reproduction.

R- Phrase Number	R Phrase
R10	Flammable.
R20	Harmful by inhalation.
R21	Harmful in contact with skin.
R36	Irritating to eyes.
R43	May cause sensitization by skin contact.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R61	May cause harm to the unborn child.

No known specific country national and/or local regulations applicable to the product (including its ingredients). A summary of country specific general laws/regulations are supplied below.

Country Specific Registration Requirements

COUNTRY	LEGAL REFERENCE	ASPECTS COVERED
South Africa	Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act 36 of 1947)	Registration to manufacture or sell an agricultural remedy.

Country Specific Pesticide Handling and Storage Safety

COUNTRY	LEGAL REFERENCE	ASPECTS COVERED
South Africa	SANS10206: 2020.	The Handling, Storage and Disposal of Pesticides.

Specific Safety Data Sheet and Occupational Exposure Limit Requirements

COUNTRY	LEGAL REFERENCE	ASPECTS COVERED
South Africa	Regulations for Hazardous Chemical Agents – 2021 – SA Occupational Health and Safety Act.	Handling, labelling and Safety Data Sheets for hazardous and GHS classified substances and mixtures. Occupational Exposure Limits.
	SANS11014:2010.	Safety Data Sheet for Chemical Products – Content and Order of Sections.

Country Specific control of handling of poisonous/hazardous and non-poisonous/non-hazardous substances/chemicals in industry and the workplace

COUNTRY	LEGAL REFERENCE	ASPECTS COVERED

South Africa	**Hazardous Substances Act,** 1973 (Act No.15 of 1973).	Requirements on the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of **hazardous substances.**
	Occupational Health and Safety Act No. 85 of 1993.	Occupational Health and Safety Standards for employers and users working with and around hazardous chemical substances.

16. Other Information

Key to Abbreviations

AND	European Provisions concerning the International Carraige od Dangerous Goods by inland Waterways
ADR	The European Agreement concerning the International Carraige of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
CAS Number	Chemical Abstracts Service Number
COD	Chemical Oxygen Demand
GHS	Globally Harmonised System of Classification and Labelling of Chemicals
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
IMDG	International Maritime Dangerous Goods
Log_{Pow}	Logarithm of the octanol/water partition coefficient
LD_{50}	Lethal Dose 50
LC_{50}	Lethal Concentration 50
RID	The Regulations concerning the International Carraige of Dangerous Goods by Rail
SDS	Safety Data Sheet
STOT	SpecificTarget Organ Toxicity
TWA	Time Weighted Average
UN	United Nations

Document Control

Date of preparation of the SDS	04 December 2020
Revision date	14 November 2022
Revision Note	Changes made to the last version are labelled with the sign ***. NOTE: This revision incorporates the GHS requirements for BROMOTRIL® and therefore the total content of the SDS has been revised.

The Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Classification of the Mixture - Classification Procedure

H Statement Number	**H Statement**	**Classification Basis: Test Data/Calculation Method**
H226	Flammable liquid and vapour.	Data for co-formulant ingredient.

H302	Harmful if swallowed.	Data for active ingredient and co-formulant - calculation.
H304	May be fatal if swallowed and enters airways (aspiration hazard).	Data for co-formulant ingredient.
H317	May cause allergic skin reaction	Data for active ingredient.
H319	Causes serious eye irritation.	Data for co-formulant ingredient.
H332	Harmful if inhaled.	Data for active ingredient – calculation.
H336	May cause drowsiness or dizziness.	Data for co-formulant.
H361d	Suspected of damaging the unborn child.	Data for active ingredient.
H400	Very toxic to aquatic life.	Data for active ingredient.
H410	Very toxic to aquatic life with long lasting effects.	Data for active ingredient.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet