



SAFETY DATA SHEET

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Bromotril Terbu

Revision date 15-Mar-2023 Version 2.02 Supersedes Date: 15-Mar-2023

Product Code(s)

HRB05060-27

Print Date 15-Mar-2023

ADM.07553.H.1.A 7821

1. Identification

Product identifier

Bromotril Terbu

Other means of identification

Synonyms Bromoxynil 150 Terbutylazine 333 SC
Formulation type SC
Registration Number(s) L6653
Pure substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Recommended use Herbicide
Uses advised against No information available

Detailed information about the manufacturer, supplier, and/or importer

Supplier

ADAMA SOUTH AFRICA (PTY) LTD
Ground Floor, Simeka House
The Vineyards Office Estate
99 Jip de Jager Drive
Bellville 7530

Emergency telephone number

Emergency Telephone +27 82 446 8946 (Griffon Poison Centre)
+27 86 155 5777 (Tygerberg Poison Information Centre)
+27 86 100 6366 and +27 83 253 6618 (SPILL TECH)

E-mail address SDS@ADAMA.COM

2. Hazard(s) identification

Classification of the substance or mixture

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Inhalation (Dusts/Mists)	Category 2 - (H330)
Skin sensitization	Category 1 - (H317)
Reproductive toxicity	Category 2 - (H361)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)

Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)

Label elements**Signal word**

Danger

Hazard pictograms**Hazard statements**

H302 - Harmful if swallowed
 H317 - May cause an allergic skin reaction
 H330 - Fatal if inhaled
 H361 - Suspected of damaging fertility or the unborn child
 H373 - May cause damage to organs through prolonged or repeated exposure
 H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements

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
 P203 - Obtain, read and follow all safety instructions before use
 P260 - Do not breathe dust
 P264 - Wash hands and face thoroughly after handling
 P261 - Avoid breathing dust/fume/gas/mist/vapors/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
 P280 - Wear protective gloves and eye/face protection
 P284 - In case of inadequate ventilation wear respiratory protection
 P301+317 - IF SWALLOWED: Get medical help
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
 P316 - Get emergency medical help immediately
 P318 - If exposed or concerned get medical advice.
 P319 - Get medical help if you feel unwell
 P320 - Specific treatment is urgent (see supplemental first aid instructions on this label)
 P321 - Specific treatment (see supplemental first aid instructions on this label)
 P330 - Rinse mouth
 P333 + P317 - If skin irritation or rash occurs, get medical help
 P362 + P364 - Take off contaminated clothing and wash it before reuse
 P391 - Collect spillage
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
 P405 - Store locked up
 P501 - Dispose of contents/ container to an approved waste disposal plant

Additional information

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.

Other hazards

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

3. Composition/information on ingredients

Substance

Not applicable

Mixture

Synonyms

Bromoxynil 150 Terbutylazine 333 SC

Chemical name	CAS No	Weight-%	EC No	INTERNATIONAL GHS CLASSIFICATION	M-Factor
Terbutylazine	5915-41-3	27-31	227-637-9	Acute Tox. 4 (H302) STOT RE 2 (H373) Aquatic Acute 1 (H400)Chronic 1 (H410)	M=10 M =10
Bromoxynil	1689-84-5	11-15	216-882-7	Acute Tox. 3 (H301) Acute Tox. 2 (H330) Skin Sens. 1 (H317) Repr. 2 (H361) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	M=10M=10
Poly(oxy-1,2-ethanediyl), .alpha.-[tris(1-phenylethyl)phenyl]-.om ega.-hydroxy-	99734-09-5	1-3	-	Aquatic Chronic 3 (H412)	

Full text of H- and EUH-phrases: see section 16

Additional information

Note: The other ingredients do not cause or contribute towards the correct GHS classification of Bromotril Terbu 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 necessary first aid measures

General advice

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). First aider: Pay attention to self-protection.

Inhalation

Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.

Eye contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Ingestion

Rinse mouth. Drink plenty of water. Get medical attention immediately if symptoms occur.

For emergency responders

Self-protection of the first aider

Use personal protective equipment as required.

Most important symptoms/effects, acute and delayed

Symptoms

None known.

Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians Treat symptomatically.

5. Fire-fighting measures**Suitable Extinguishing Media**

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

Specific hazards arising from the chemical Product is or contains a sensitizer. May cause sensitization by skin contact.

Specific/special fire-fighting measures

Specific/special fire-fighting measures No information available.

Special protective equipment and precautions for fire-fighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Other information Refer to protective measures listed in Sections 7 and 8.

7. Handling and storage**Preventive measures for safe handling**

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

skin, eyes or clothing. Do not breathe vapor or mist. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes.

Precautions for safe handling

General hygiene considerations

Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

8. Exposure controls/personal protection

Control parameters

Exposure guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering controls

Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection

Wear suitable gloves.

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing.

General hygiene considerations

Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained.

9. Physical and chemical properties

Information on basic physical and chemical properties

<u>Property</u>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Appearance			

Physical state	: liquid
Color	: Off-white
Odor	: No information available
Odor threshold	: No data available
pH	: 4.5 - 5.5
Melting point / freezing point °C	: No data available
Boiling point / boiling range °C	: No data available
Flash point °C	: > 100
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Upper/lower flammability or explosive limits	: No data available
Vapor pressure kPa	: No data available
Vapor density	: No data available
Relative density	: 1.14 - 1.18
Solubility(ies) mg/l	: No data available
Partition coefficient Log Pow	:
Autoignition temperature °C	: No data available
Decomposition temperature °C	: No data available
Kinematic viscosity mm ² /s 40 °C	: Not applicable
Explosive properties	: Not an explosive
Oxidizing properties	: No data available
Surface tension	: No data available
Particle Size	: Not applicable

See Section 12 for additional Ecological Information

Other information

Bulk density g/ml : Not applicable

10. Stability and reactivity

Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid Excessive heat.

Incompatible materials

Incompatible materials None known based on information supplied.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on toxicological effects

Acute toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Oral LD50 mg/kg	: No data available			
Dermal LD50 mg/kg	: No data available			
Inhalation LC50 LC50	: No data available			
Skin corrosion/irritation	: No data available			
Serious eye damage/eye irritation	: No data available			
Sensitization	: No data available			

Chronic toxicity

Germ cell mutagenicity

Chemical name

Terbutylazine	: Not classified
Bromoxynil	: Not classified

Carcinogenicity

Chemical name

Terbutylazine	: Not Carcinogenic
Bromoxynil	: Not Carcinogenic

Reproductive toxicity

Chemical name

Terbutylazine	: Not toxic for the reproductive system
Bromoxynil	: H361d - Suspected of damaging the unborn child

STOT - Single Exposure

Chemical name

Terbutylazine	: Not classified
Bromoxynil	: No data available

STOT - Repeated Exposure

Chemical name

Terbutylazine	: H373 - May cause damage to organs through prolonged or repeated exposure
Bromoxynil	: No data available

Aspiration hazard

Chemical name

Terbutylazine	: Not classified
Bromoxynil	: No data available

12. Ecological information

Ecotoxicity

Aquatic toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Acute toxicity				
Fish 96-hour LC50 mg/l	: No data available			
Crustacea 48-hour EC50 mg/l	: No data available			
Algae 72-hour EC50 mg/l	: No data available			
Other plants EC50 mg/l	: No data available			

Chronic aquatic toxicity	Values	Species	Method	Remarks
Fish NOEC mg/l	: No data available			
Crustacea NOEC mg/l	: No data available			
Algae NOEC mg/l	: No data available			
Other plants NOEC mg/l	: No data available			
Terrestrial Toxicity				
Birds Oral LD50 mg/kg				
Chemical name				
Terbutylazine	: 1236	Bobwhite quail		
Bromoxynil	: 217	Bobwhite quail		
Bees Oral LD50 µg/bee				
Chemical name				
Terbutylazine	: > 22.6			
Bromoxynil	: 5			
Abiotic Degradation				
Water DT50 days				
Chemical name				
Terbutylazine	: 33 - 118			201 °C
Bromoxynil	: 9.6 - 16			
Soil DT50 days				
Chemical name				
Terbutylazine	: 65 - 167			201 °C
Bromoxynil	: < 1			pH 5.3-7.4, 22° C
Biodegradation				
Chemical name				
Terbutylazine	: Not readily biodegradable			
Bromoxynil	: Not readily biodegradable			
Log Pow				
Chemical name	Values		Method	Remarks
Terbutylazine	: 3.4			
Bromoxynil	: 1.04			
Bioconcentration factor (BCF)				
Chemical name				
Terbutylazine	: 34			
Bromoxynil	:			Not available
Adsorption/Desorption				
Chemical name	Values		Method	Remarks
Terbutylazine	: 191 - 318			KOC
Bromoxynil	: 108 - 239			KOC

13. Disposal considerations

Disposal methods

Waste from residues/unused products	Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.
Contaminated packaging	Improper disposal or reuse of this container may be dangerous and illegal.

14. Transport information**ADR**

14.1 UN number	UN2902
14.2 UN proper shipping name	PESTICIDE, LIQUID, TOXIC, N.O.S. (Bromoxynil)
14.3 Transport hazard class(es)	6.1
Labels	6.1
14.4 Packing group	II
Description	UN2902, PESTICIDE, LIQUID, TOXIC, N.O.S. (Bromoxynil), 6.1, II, (D/E), Environmentally Hazardous
14.5 Environmental hazard	Yes
14.6 Special Precautions for Users	
Special Provisions	61, 274, 648
Classification code	T6
Tunnel restriction code	(D/E)

RID

14.1 UN number	UN2902
14.2 UN proper shipping name	PESTICIDE, LIQUID, TOXIC, N.O.S. (Bromoxynil)
14.3 Transport hazard class(es)	6.1
Labels	6.1
14.4 Packing group	II
Description	UN2902, PESTICIDE, LIQUID, TOXIC, N.O.S. (Bromoxynil), 6.1, II, Environmentally Hazardous
14.5 Environmental hazard	Yes
14.6 Special Precautions for Users	
Special Provisions	61, 274, 648
Classification code	T6

IMDG

14.1 UN number	UN2902
14.2 UN proper shipping name	PESTICIDE, LIQUID, TOXIC, N.O.S. (Bromoxynil)
14.3 Hazard Class	6.1
14.4 Packing group	II
Description	UN2902, PESTICIDE, LIQUID, TOXIC, N.O.S. (Bromoxynil), 6.1, II, Marine pollutant
14.5 Marine pollutant	P
Environmental hazard	Yes
14.6 Special Precautions for Users	
Special Provisions	61, 274
EmS-No	F-A, S-A
IMDG Stowage and segregation	Category B SW2
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available

IATA

14.1 UN number	UN2902
14.2 UN proper shipping name	PESTICIDE, LIQUID, TOXIC, N.O.S. (Bromoxynil)
14.3 Transport hazard class(es)	6.1
14.4 Packing group	II
Description	UN2902, PESTICIDE, LIQUID, TOXIC, N.O.S. (Bromoxynil), 6.1, II
14.5 Environmental hazard	Yes
14.6 Special Precautions for Users	
Special Provisions	A3, A4
ERG Code	6L



* Note: UN3077 & UN3082 – These products may be transported as non-dangerous goods under the special provisions of IMDG Code 2.10.2.7; ADR SP375 and ICAO/IATA A197 when packed in single or inner packaging of up to 5L for liquids or 5 kg or less for solids

15. Regulatory information

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

Registration Requirements: Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act 36 of 1947). Pesticide Handling, Storage and Disposal Safety: SANS10206: 2020. Safety Data Sheet and Occupational Exposure Limit Requirements: Regulations for Hazardous Chemical Agents – 2021 – SA Occupational Health and Safety Act. SANS11014:2010. Control of and handling of poisonous/hazardous and non-poisonous/non-hazardous substances/chemicals in workplaces: Hazardous Substances Act, 1973 (Act No.15 of 1973). Occupational Health and Safety Act No. 85 of 1993.

16. Other information

Full text of H-Statements referred to under section 3

H301 - Toxic if swallowed
 H302 - Harmful if swallowed
 H317 - May cause an allergic skin reaction
 H330 - Fatal if inhaled
 H361 - Suspected of damaging fertility or the unborn child
 H373 - May cause damage to organs 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

Date of preparation of the SDS No data available

Revision date 15-Mar-2023

Revision Note Changes made to the last version are labeled with this sign ***.

Key or legend to abbreviations and acronyms used in the safety data sheet

IMDG	International Maritime Dangerous Goods (IMDG)
IATA	International Air Transport Association (IATA)
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Abbreviations and acronyms

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
 ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 CAS Number - Chemical Abstracts Service number
 EC Number - EINECS and ELINCS Number
 EINECS - European Inventory of Existing Commercial Substances
 ELINCS - European List of notified Chemical Substances
 IATA - International Air Transport Association

ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods
LC50 - Lethal Concentration to 50 % of a test population
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
OECD - Organization for Economic Co-operation and Development
PBT - Persistent, Bioaccumulative and Toxic substance
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
STOT - Specific Target Organ Toxicity
vPvB - Very Persistent and Very Bioaccumulative

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**Classification of the mixture**

H302 - Harmful if swallowed
H317 - May cause an allergic skin reaction
H330 - Fatal if inhaled
H361 - Suspected of damaging fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
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Classification procedure

Classification based on Calculation method
Classification based on Calculation method
Classification based on Calculation method
Classification based on Calculation method
Classification based on Calculation method
Classification based on Calculation method
Classification based on Calculation method

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