SAFETY DATA SHEET

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

Tyllanex 500 SC

Revision date 19-Jan-2023 **Version** 4 **Supersedes Date:** 08-May-2022 **Product Code(s)** HRB01106-27

Print Date 19-Jan-2023 ADM.7550.H.1.C 9511279

1. Identification

Product identifier

Tyllanex 500 SC

Other means of identification

Synonyms	Terbuthylazine 500 SC
Formula	SC
Registration Number(s)	L6295
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)
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 Warning

Hazard pictograms

Hazard statements

H302 - Harmful if swallowed
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
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P301+317 - IF SWALLOWED: Get medical help
P319 - Get medical help if you feel unwell
P330 - Rinse mouth
P391 - Collect spillage
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 Terbuthylazine 500 SC

Chemical name	CAS No	Weight-%	EC No	INTERNATIONAL GHS CLASSIFICATION	M-Factor
Terbuthylazine	5915-41-3	43-49	227-637-9	Acute Tox. 4 (H302) STOT RE 2 (H373) Aquatic Acute 1 (H400)Chronic 1 (H410)	M=10 M =10
ethane-1,2-diol	107-21-1	4-7	203-473-3	Acute Tox. 4 (H302) STOT RE 2 (H373)	
Poly(oxy-1,2-ethanediyl), .alpha.-[tris(1-phenylethyl)phenyl]-.omega.-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 Tyllanex 500 SC 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	No information available.
Explosive properties	Not an explosive.

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. Use personal protective equipment as required. Evacuate personnel to safe areas.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

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. Ensure adequate ventilation.

Precautions for safe handling

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

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.

8. Exposure controls/personal protection

Control parameters

Exposure guidelines

Chemical name	ACGIH TLV
ethane-1,2-diol 107-21-1	STEL: 50 ppm vapor fraction STEL: 10 mg/m³ inhalable particulate matter, aerosol only TWA: 25 ppm vapor fraction

Appropriate engineering controls

Engineering controls Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Hand protection	Suitable chemical resistant gloves (EN 374) also with prolonged, direct contact (recommendation: protection index 6, corresponding > 480 minutes Permeability time (permeation) according to EN 374): e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm).
Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Use suitable protective clothing and equipment if required, such as safety goggles certified to EN 166, gloves certified to EN 374, protective boots certified to EN 13832, and/or a water repellent woven coverall with 65% polyester and 35 % cotton.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
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

Property		Values	Method	Remarks
Appearance				
Physical state	:	Liquid		
Color	:	white		
Odor	:	characteristic		
Odor threshold	:	No data available		
pH	:	7 - 8	CIPAC MT 75	
Melting point / freezing point °C	:	----		Not applicable
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	:	----		Not applicable
Vapor density	:	No data available		
Relative density	:	1.052 - 1.152	CIPAC MT 3.3	
Solubility(ies) mg/l	:	----		Not applicable
Partition coefficient Log Pow	:			See Section 12 for additional Ecological Information
Autoignition temperature °C	:	----		No data available
Decomposition temperature °C	:	----		No data available
Kinematic viscosity mm2/s 40 °C	:	1070		
Explosive properties	:	Not an explosive		
Oxidizing properties	:	Not oxidizing		
Surface tension	:	No data available		
Particle Size	:	Not applicable		

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 None known based on information supplied.

Incompatible materials

Incompatible materials None known based on information supplied.

Hazardous decomposition products

Hazardous decomposition products Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. Toxicological information

Information on toxicological effects

Acute toxicity

		Values	Species	Method	Remarks
Oral LD50 mg/kg	:	300 - 2000	Rat	OECD 423	
Dermal LD50 mg/kg	:	> 2000	Rat	OECD 402	
Inhalation LC50 LC50	:	> 5.76	Rat	OECD 403	
Skin corrosion/irritation	:	Non-irritating to the skin	Rabbit	OECD 404	
Serious eye damage/eye irritation	:	Not irritating to eyes	Rabbit	OECD 405	
Sensitization	:	Not a skin sensitizer	Guinea pig	OECD 406	

Chronic toxicity

Germ cell mutagenicity
Chemical name
Terbuthylazine : Not classified

Carcinogenicity .
Chemical name
Terbuthylazine : Not Carcinogenic

Reproductive toxicity .
Chemical name
Terbuthylazine : Not toxic for the reproductive system

STOT - Single Exposure
Chemical name
Terbuthylazine : Not classified

STOT - Repeated Exposure
Chemical name

Terbuthylazine	:	H373 - May cause damage to organs through prolonged or repeated exposure

Aspiration hazard
Chemical name

Terbuthylazine	:	Not classified

12. Ecological information

Ecotoxicity

Aquatic toxicity

Acute toxicity		**Values**	**Species**	**Method**	**Remarks**
Fish 96-hour LC50 mg/l	:	16.14	Zebra Fish		
Crustacea 48-hour EC50 mg/l	:	190.17	Daphnia similis		
Algae 72-hour EC50 mg/l	:	0.0314	Selenastrum capricornutum		
Other plants EC50 mg/l	:	0.412	Lemna gibba		

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

Terbuthylazine	:	1236	Bobwhite quail

Bees Oral LD50 µg/bee
Chemical name

Terbuthylazine	:	> 22.6

Abiotic Degradation
Water DT50 days
Chemical name

Terbuthylazine	:	33 - 118	201 °C

Soil DT50 days
Chemical name

Terbuthylazine	:	65 - 167	201 °C

Biodegradation
Chemical name

Terbuthylazine	:	Not readily biodegradable

Log Pow		**Values**	**Method**	**Remarks**
Chemical name				
Terbuthylazine	:	3.4		

Bioconcentration factor (BCF)
Chemical name

Terbuthylazine	:	34

Adsorption/Desorption		**Values**	**Method**	**Remarks**
Chemical name				
Terbuthylazine	:	191 - 318		KOC
ethane-1,2-diol	:	No information available		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	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Terbuthylazine)
14.3 Transport hazard class(es)	9
Labels	9
14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Terbuthylazine), 9, III
14.5 Environmental hazard	Yes
14.6 Special Precautions for Users	
Special Provisions	274, 335, 601, 375
Classification code	M6

RID

14.1 UN number	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Terbuthylazine)
14.3 Transport hazard class(es)	9
Labels	9
14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Terbuthylazine), 9, III
14.5 Environmental hazard	Yes
14.6 Special Precautions for Users	
Special Provisions	274, 335, 375, 601
Classification code	M6

IMDG

14.1 UN number	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Terbuthylazine)
14.3 Hazard Class	9
14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Terbuthylazine), 9, III, Marine pollutant
14.5 Marine pollutant	P
Environmental hazard	Yes
14.6 Special Precautions for Users	
Special Provisions	274, 335, 969
EmS-No	F-A, S-F
IMDG Stowage and segregation	Category A
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available

IATA

14.1 UN number	UN3082

14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Terbuthylazine)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Terbuthylazine), 9, III
14.5 Environmental hazard	Yes
14.6 Special Precautions for Users	
Special Provisions	A97, A158, A197
ERG Code	9L

* 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
H302 - Harmful if swallowed
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 19-Jan-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	**Classification procedure**
H302 - Harmful if swallowed	Classification based on test data
H373 - May cause damage to organs through prolonged or repeated exposure	Classification based on Calculation method
H400 - Very toxic to aquatic life	Classification based on test data
H410 - Very toxic to aquatic life with long lasting effects	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