



# SAFETY DATA SHEET

## Tyllanex 500 SC

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### Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### Product identifier

## Tyllanex 500 SC

Synonyms	Terbutylazine 500 SC
Pure substance/mixture	Mixture
Formula	SC

#### Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Herbicide
Uses advised against	No information available

#### Details of the supplier of the safety data sheet

Supplier Address	ADAMA SOUTH AFRICA (PTY) LTD Ground Floor, Simeka House The Vineyards Office Estate 99 Jip de Jager Drive Bellville 7530
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For further information, please contact

Email address	SDS@ADAMA.COM
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#### Emergency Telephone

Emergency Telephone	+ 27 82 446 8946 + 27 86 155 5777 + 27 21 982 1460
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### Section 2: HAZARDS 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

#### Hazard pictograms



**Signal word**

Warning

**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**

P102 - Keep out of reach of children  
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
 P270 - Do not eat, drink or smoke when using this product  
 P501 - Dispose of contents/ container to an approved waste disposal plant

**Other Hazards**

No information available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

Chemical Name	Weight-%	CAS No	EC No	GHS Classification	M-Factor
Terbutylazine	43-49	5915-41-3	227-637-9	Acute Tox. 4 (H302) STOT RE 2 (H373) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	M=10 M =10
Poly(oxy-1,2-ethanediyl), .alpha.-[tris(1-phenylethyl)ph enyl]-.omega.-hydroxy- ethane-1,2-diol	1-3	99734-09-5		Aquatic Chronic 3 (H412)	
	4-7	107-21-1	203-473-3	Acute Tox. 4 (H302) STOT RE 2 (H373)	

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

### Section 4: FIRST AID MEASURES

**First aid measures**

**General advice**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if 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. Immediate medical attention is required.

**Self-protection of the first aider**

Use personal protective equipment as required.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** None known.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

**Section 5: FIRE-FIGHTING MEASURES**

**Extinguishing media**

**Suitable Extinguishing Media**

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

**Unsuitable Extinguishing Media**

No information available.

**Special hazards arising from the substance or mixture**

No specific hazard known.

**Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus  
In the event of fire and/or explosion do not breathe fumes.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**For emergency responders**

Use personal protection recommended in Section 8.

**Environmental precautions**

Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

**Methods and material for containment and cleaning up**

**Methods for cleaning up**

Take up mechanically, placing in appropriate containers for disposal.

**Reference to other sections**

**Other Information**

See also section 8,13

**Section 7: HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Use only with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

**General Hygiene Considerations**

When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep in properly labeled containers.

**Specific end use(s)**

**Risk Management Methods (RMM)**

The information required is contained in this Material Safety Data Sheet.

**Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**National occupational exposure limits**

Chemical Name	European Union	United Kingdom	France	Spain	Germany
ethane-1,2-diol 107-21-1	S* TWA 20 ppm TWA 52 mg/m <sup>3</sup> STEL 40 ppm STEL 104 mg/m <sup>3</sup>	STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup> TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> Skin	TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup>	S* STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> TWA: 20 ppm TWA: 52 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 26 mg/m <sup>3</sup> Ceiling / Peak: 20 ppm Ceiling / Peak: 52 mg/m <sup>3</sup> Skin
Chemical Name	Italy	Portugal	Netherlands	Finland	Denmark
ethane-1,2-diol 107-21-1	TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> Skin	Ceiling: 100 mg/m <sup>3</sup>	Skin STEL: 104 mg/m <sup>3</sup> TWA: 52 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>	TWA: 20 ppm TWA: 50 mg/m <sup>3</sup> STEL: 40 ppm STEL: 100 mg/m <sup>3</sup> Skin	TWA: 10 ppm TWA: 26 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> Skin
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
ethane-1,2-diol 107-21-1	Skin STEL 20 ppm STEL 52 mg/m <sup>3</sup> TWA: 10 ppm TWA: 26 mg/m <sup>3</sup>	Skin STEL: 20 ppm STEL: 52 mg/m <sup>3</sup> TWA: 10 ppm TWA: 26 mg/m <sup>3</sup>	STEL: 50 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> Skin Ceiling: 25 ppm STEL: 104 mg/m <sup>3</sup> STEL: 40 ppm	TWA: 10 mg/m <sup>3</sup> TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> Skin

**Exposure controls**

**Engineering Controls** Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**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).

**Body Protection** Suitable protective clothing, Gloves made of plastic or rubber, Rubber boots.

**Respiratory protection** Use only with adequate ventilation.

**General Hygiene Considerations** When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water. Prevent product from entering drains.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

<u>Property</u>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
<b>Appearance</b>			
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	: Not Applicable		
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 (n-octanol/water) Log Pow	:		See Section 12 for more information
Autoignition temperature °C	: ----		No data available
Decomposition temperature °C	: ----		No data available
Kinematic viscosity mm <sup>2</sup> /s 40 °C	: 1070		
Explosive properties	: Not an explosive		
Oxidizing properties	: Not oxidizing		
<b>Other Information</b>			
Bulk density g/ml	:		
Surface tension mN/m	: Not Applicable		

## Section 10: STABILITY AND REACTIVITY

### Reactivity

Not available.

### Chemical stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Conditions to avoid

Exposure to air or moisture over prolonged periods.

### Incompatible Materials

No information available

**Hazardous Decomposition Products**

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

**Section 11: TOXICOLOGY INFORMATION**

**Information on toxicological effects**

**Acute toxicity**

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Oral LD50 mg/kg	: 300 - 2000	Rat	OECD 423	
Dermal LD50 mg/kg	: > 2000	Rat	OECD 402	
Inhalation LC50 mg/l/4h	: > 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	
Respiratory/skin sensitization	: Not a skin sensitizer	Guinea pig	OECD 406	

**Chronic toxicity**

**Germ cell mutagenicity**

Chemical Name  
Terbutylazine : Not classified

**Carcinogenicity**

Chemical Name  
Terbutylazine : Not Carcinogenic

**Reproductive toxicity**

Chemical Name  
Terbutylazine : Not toxic for the reproductive system

**STOT - single exposure**

Chemical Name  
Terbutylazine : No data available

**STOT - repeated exposure**

Chemical Name  
Terbutylazine : H373 - May cause damage to organs through prolonged or repeated exposure

**Aspiration hazard**

Chemical Name  
Terbutylazine : No data available

**Section 12: ECOLOGICAL INFORMATION**

**Toxicity**

**Aquatic toxicity**

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Acute toxicity				
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				
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

**Persistence and degradability**

**Abiotic Degradation**

**Water DT50 days**

**Chemical Name**

	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Terbuthylazine	: 33 - 118		20 °C

**Soil DT50 days**

**Chemical Name**

Terbuthylazine	: 65 - 167		20 °C
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**Biodegradation**

**Chemical Name**

Terbuthylazine : Not readily biodegradable

**Bioaccumulative potential**

**Partition Coefficient**

**(n-octanol/water) Partition Coefficient (n-octanol/water) Log Pow**

**Chemical Name**

	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Terbuthylazine	: 3.4		20-25 °C

**Bioconcentration factor (BCF)**

**Chemical Name**

Terbuthylazine : 34

**Mobility in soil**

**Adsorption/Desorption**

**Chemical Name**

	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Terbuthylazine	: 191 - 318		KOC
ethane-1,2-diol	: No information available		KOC

**Results of PBT and vPvB assessment**

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

**Other adverse effects**

No information available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Waste from residues/unused**

Disposal should be in accordance with applicable regional, national and local laws and

products	regulations.
Contaminated packaging	Do not reuse container.
Other Information	Waste codes should be assigned by the user based on the application for which the product was used.

**Section 14: TRANSPORTATION INFORMATION**

**IMDG/IMO**  
**UN/ID No \*** 3082  
**Proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Terbutylazine )  
**Hazard Class** 9  
**Packing Group** III  
**Marine pollutant** Yes  
**Special precautions for user**

**RID/ADR**  
**UN/ID No \*** 3082  
**Proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Terbutylazine )  
**Hazard Class** 9  
**Packing Group** III  
**Environmental hazard** Yes  
**Special precautions for user**

**ICAO/IATA**  
**UN/ID No \*** 3082  
**Proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Terbutylazine )  
**Hazard Class** 9  
**Packing Group** III  
**Environmental hazard** Yes  
**Special precautions for user**  
**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not Applicable



\* 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.

**Section 15: REGULATORY INFORMATION**

Safety, health and environmental regulations/legislation specific for the substance or mixture

**Section 16: OTHER INFORMATION**

**Full text of H-Statements referred to under sections 2 and 3**  
H302 - Harmful if swallowed  
H373 - May cause damage to organs through prolonged or repeated exposure if inhaled



H315 - Causes skin irritation  
H318 - Causes serious eye damage  
H317 - May cause an allergic skin reaction  
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

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

**List of 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

**Disclaimer**

**The information provided in this Material 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**