

# TERBUCLEAR 600 SC

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** TERBUCLEAR 600 SC  
**Other identifier:** S-metolachlor Terbutylazine 600 SC  
**Recommended use:** Herbicide  
**Restrictions on use:** Agriculture

**Supplier:** Villa Crop Protection (Pty) Ltd.  
 PO Box 10413  
 Aston Manor, 1630, South Africa  
**Telephone:** (011) 3962233  
**Fax:** (011) 3964666  
**Website:** [www.villacrop.co.za](http://www.villacrop.co.za)

**Emergency telephone numbers:**  
**24 Hr Transport / Spill emergency no:**  
 Bateleur: +27 86 199 9071  
 (Client: Villa Crop Protection)

**Poisoning:**  
 Griffon Poison Information Centre +27 82 446 8946  
 Western Cape Poisons +27 861 555 777  
 Tygerberg Hospital +27 21 931 6129

## 2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
<b>Health</b>		
Oral	Tox. 5	H303
Dermal	Tox. 5 Skin Irrit. 3	H313 H316
Skin sensitizer	Skin sensitizer 1	H317
Inhalation	Acute Tox. 4	H332
Carcinogenic	Carc. 1B	H350
<b>Environment</b>		
Aquatic chronic	Aquatic chronic 1	H410
Aquatic acute	Aquatic acute 1	H400

**The most important adverse effects:**  
**Physiochemical effects:** None known.  
**Human health effects:** May cause cancer. May cause an allergic skin reaction.  
**Label elements:**



**Signal word:** Danger.

**Hazard statements:**

H303: May be harmful if swallowed.  
 H313: May be harmful in contact with skin.  
 H316: Causes mild skin irritation.  
 H317: May cause an allergic skin reaction.  
 H332: Harmful if inhaled.  
 H350: May cause cancer.  
 H400: Very toxic to aquatic life.  
 H410: Very toxic to aquatic life with long lasting effects.

### Precautionary statements:

P202: Do not handle until all safety precautions have been read and understood.  
 P271: Use only outdoors or in a well-ventilated area.  
 P273: Avoid release into the environment.  
 P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.  
 P302/352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.  
 P308/313: If exposed or concerned: Get medical attention.  
 P333/313: If skin irritation or rash occurs: Get medical advice.  
 P391: Collect spillage.  
 P405: Store locked up.  
 P501: Dispose of contents/container in accordance with local regulations.

### Special labelling of certain mixtures:

None known.

### Other hazards:

None known.

### Toxicity:

Classification according to GHS: Category 4  
 Classification according to WHO: Category II  
 Classification according to GPIC: (Terbutylazine)  
 Unclassified  
 Classification according to GPIC: (S-metolachlor)  
 Category III

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Substance/Mixture:** Mixture

### Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Terbutylazine	5915-41-3	10.28	Acute Tox 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
S-metolachlor	87392-12-9	49.72	Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

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Monoethylene Glycol	107-21-1	< 5	Acute Tox 4 (H302)
Sapogenate T080	9046-09-7	< 5	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Aquatic Chronic 2 (H411)
Sapogenate T110	9046-09-7	< 1	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Aquatic Chronic 2 (H411)
Formaldehyde	50-00-0	< 1	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Acute Tox 3 (H331) Muta. 2 (H341) Carc. 1B (H350)

**Advice to physician:** Treat symptomatically and supportively. If swallowed, administer activated charcoal. No specific antidote known.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:** Carbon dioxide, dry chemical, water spray or foam.

**Unsuitable Extinguishing Media:** Water jet. Use a water jet only to cool heated containers.

**Specific hazards:** Irritating or hazardous gases may be generated by thermal decomposition or combustion.

**Special Fire Fighting Procedures:** Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Keep upwind. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.

**Personal protective equipment:** Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear.

## 4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure. Immediately consult a doctor.

**Inhalation:** Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs.

**Skin:** Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. If irritation persists obtain medical attention.

**Eyes:** Immediately flush eyes with clean water for at least 15-20 minutes. Lift eyelid (s) to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention**

**Ingestion:** If the person is alert, rinse mouth thoroughly with water and administer activated charcoal. Do not give anything by mouth to an unconscious person. Seek medical attention or call a poison control centre for treatment advice if you feel unwell. Do NOT induce vomiting unless instructed to do so by a poison control centre or doctor

**Anticipated acute effects:** May cause an allergic skin reaction.

**Anticipated delayed effects:** May cause cancer.

**Most important symptoms/effects:** None known.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Do not breathe in fumes. Ventilate area of spill or leak, especially in contained areas. Avoid contact with eyes and skin.

**Protective equipment:** Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

**Emergency procedures:** Alert firefighting personnel, evacuate of unprotected animals and people.

**Environmental Precautions:** Prevent spilled product from entering sewers, waterways or ground water as the product is classified to be very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into water courses should be immediately reported to the police and the Department of Water/Environmental Affairs.

**Methods and Materials for Containment:** Contain spilled product by diking area with sand, earth, vermiculite or clay.

**Methods and Materials for Clean-up:** Cover contained spill with an inert absorbent material such as sand, vermiculite, earth or other appropriate material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. Collect washings and add

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to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. See section 13 for disposal considerations.

### 7. HANDLING AND STORAGE

**Handling:**

**Precautions for safe handling:** Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. Do not handle broken packages and containers without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.

**General occupational hygiene:** Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used again.

**Storage:**

**Conditions for safe storage:** Store in its original container in dry, cool, well-ventilated area. Avoid excessive heat and cold temperatures. Not to be stored next to foodstuffs, feed and water supplies. Keep out of reach of children, uninformed persons and animals. Do not contaminate other pesticides and fertilizers.

**Incompatible substances and mixtures:** Refer to product label.

**Packaging material:** Plastic containers.

### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Permissible concentration**

Components	Exposure limits	Type of exposure limit	Source
Formaldehyde	0.75 ppm (ST) 2 ppm	8-hour (TWA)	CAL OSHA PEL
Ethylene glycol	10 ppm	8 – hour; 26 mg/m <sup>3</sup>	MAK DFG

**Engineering Controls:**

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

**Personal Protective Equipment:**

**Respiratory Protection:** For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved air-purifying respirator.

**Hand Protection:** The use of chemically resistant gloves is recommended to prevent against skin contact.

**Eye Protection:** Wear a face shield when handling the concentrate and when applying the product. The use of safety goggles is recommended if a face shield is not used. Contact lenses are not protective eye devices.

**Skin and Body Protection:** Employee must wear appropriate protective clothing; boots, hat and equipment to prevent repeated or prolonged skin contact with this substance.

**Emergency eyewash:** Where there is any possibility that an employee's eyes may be exposed to this substance; the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** White liquid, suspension concentrate.

**Odour:** Faint odour.

**pH (1% aqueous dilution):** 6.1 @ 20 °C.

**Melting point:** Not available.

**Freezing Point:** Not available.

**Boiling Point:** Not available.

**Flash Point:** Not available.

**Flammability:** Not available.

**Upper/lower explosion limits:** Not available.

**Vapour Pressure (mm Hg):** Not available.

**Relative Vapour Density:** Not available.

**Density:** 1.118 g/ml @ 20 °C.

**Solubility:** Miscible.

**n-octanol/water partition coefficient:** Not available.

**Auto-ignition temperature:** Not available.

**Decomposition temperature:** Not available.

**Viscosity:** Not available.

### 10. STABILITY AND REACTIVITY

**Chemical Stability:** Product is stable at ambient temperature and pressure, under normal storage and handling conditions.

**Reactivity:** None known.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Extreme heat or cold temperatures.

**Incompatible Materials:** Not available.

**Hazardous Decomposition Products:** Combustion or thermal decomposition may produce toxic or irritant vapours.

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## 11. TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY:

Calculated according to GHS

Oral LD<sub>50</sub> rat > 2200 mg/kg

Dermal LD<sub>50</sub> rabbit > 3200 mg/kg

Inhalation LC<sub>50</sub> (4h) rat > 2.08 mg/ℓ

**Skin Irritation/Corrosion:** Causes mild skin irritation.

**Eye Damage/Irritation:** Not available.

**Skin Sensitization:** May cause an allergic skin reaction.

**Respiratory Sensitization:** Not available.

**Reproductive cell mutagenicity:** Not available.

**Carcinogenicity:** May cause cancer.

**Reproductive toxicity:** Not available.

**Specific target organ toxicity – single exposure:** Not available.

**Specific target organ toxicity – repeated exposure:** Not available.

**Aspiration hazard:** Not available

**Chronic Effects:** Not available.

**POTENTIAL ADVERSE EFFECTS:** None known.

## 12. ECOLOGICAL INFORMATION

This product is considered a marine pollutant.

### ECOTOXICITY DATA:

#### Fish:

##### S-metolachlor

LC <sub>50</sub> (96h)	Rainbow trout	1.23 mg/ℓ
	Bluegill sunfish	3.16 mg/ℓ

##### Terbutylazine

LC <sub>50</sub> (96h)	Rainbow trout	2.2 mg/ℓ
	Mirror carp	>5.7 mg/ℓ

#### Daphnia:

##### S-metolachlor

EC <sub>50</sub> (48h)		11.24 mg/ℓ
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##### Terbutylazine

EC <sub>50</sub> (48h)		≥69.3 mg/ℓ
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#### Algae:

##### S-metolachlor

E <sub>b</sub> C <sub>50</sub> (120h)	<i>Selenastrum capricornutum</i>	0.008mg/kg
E <sub>b</sub> C <sub>50</sub> (96h)	<i>Navicula pelliculosa</i>	17mg/kg

##### Terbutylazine

EC <sub>50</sub> (72h)	<i>Scenedesmus subspicatus</i>	0.016mg/ℓ
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#### Other aquatic organisms:

##### S-metolachlor

LC <sub>50</sub> (96h)	Mysid shrimps	1.4mg/ℓ
E <sub>d</sub> C <sub>50</sub> (14d)	<i>Lemna gibba</i>	0.023mg/ℓ

#### Birds:

##### S-metolachlor

LD <sub>50</sub>	Bobwhite quail	>2510mg/kg
LC <sub>50</sub>	Mallard duck	>5620 ppm

##### Terbutylazine

LD <sub>50</sub>	Ducks	>2000mg/kg
	Japanese quail	>2000mg/kg
LC <sub>50</sub> (dietary)	Ducks	>5620 ppm
	Japanese quail	>5620 ppm

#### Bees:

##### S-metolachlor

LD <sub>50</sub> (contact)		>0.2mg/bee
LD <sub>50</sub> (oral)		>85mg/bee

##### Terbutylazine

LD <sub>50</sub> (contact/oral)		>200mg/bee
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#### Worms:

LC <sub>50</sub> (14d)		>1000mg/kg soil
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## ENVIRONMENTAL EFFECTS:

### S-metolachlor

Animals – Rapidly and efficiently absorbed, fairly uniformly distributed and rapidly excreted in urine and faeces.

Plants – Metabolism involves dechlorination and conjugation to glutathione S-transferases, followed by further degradation.

### Terbutylazine

Animals – In mammals, following oral administration, 70-80% is eliminated in the urine and faeces within 24 hours, and almost all within 48 hours. Plants – Triazine-tolerant plants (e.g. maize) rapidly dechlorinate terbutylazine to hydroxyl-terbutylazine.

### Persistence and degradability:

#### S-metolachlor

In aerobic soils dissipates rapidly due to microbial activity. Geomean DT<sub>50</sub> (lab,aerobic) 21.2d.

#### Terbutylazine

In aerobic soils, dissipation is mainly due to microbial activity. DT<sub>50</sub> (field) 17.4

**Bio-accumulative Potential:** Not determined.

### Mobility in soil:

#### S-metolachlor

K<sub>Foc</sub> 189 (61-369 ℓ/kg)

#### Terbutylazine

Adsorption on soils is medium, K<sub>Foc</sub> 224.

**Other adverse effects:** Not determined.

## 13. DISPOSAL CONSIDERATIONS

**Waste:** Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Soil layers that have become heavily contaminated need to be removed. Product that was spilled cannot be used anymore. Comply with local legislation applying to waste disposal.

**Container:** Do not re-use the empty container for any other purpose. Triple rinse empty containers by inverting the empty container over the spray or mixing tank and



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allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to one third of that of the container. Add the rinsings to the contents of the spray tank before recycling or destroying the container in the prescribed manner. Comply with local legislation applying to waste disposal.

## 14. TRANSPORT INFORMATION

**UN Number: 3082**

**Road Transport ADR/IRD:**

Class: 9  
 Packaging group: III  
 UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (Terbuthylazine 497.2g/l + S-metolachlor 102.8g/l)

**Maritime Transport IMDG/IMO:**

Class: 9  
 Packaging group: III  
 UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (Terbuthylazine 497.2g/l + S-metolachlor 102.8g/l)

**Marine Pollutant (Y/N):** Yes.

**Air Transport IATA/ICAO:**

Class: 9  
 Packaging group: III  
 UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (Terbuthylazine 497.2g/l + S-metolachlor 102.8g/l)

**Special/Environmental Precautions:** Not available.

**Transport in bulk** (according to MARPOL 73/78, Annex II and the IBC code): Not available.

## 15. REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation for the mixture:**

OHSA 1993 Regulations for Hazardous Chemical Substances.

**Relevant information regarding restrictions:** None.

**EU regulation:** Regulation EC1272/2008 (EU-GHS/CLP).

**Other national regulations:** None.

**Chemical Safety Assessment carried out?** No

## 16. OTHER INFORMATION

**Packaging:** Packed in 1, 2, 5, 10, 20, 25 and 50 litres plastic containers, labelled according to South African regulations and guidelines.

**Additional H-statement (s) (formulants)**

- H301:** Toxic if swallowed.
- H302:** Harmful if swallowed.
- H311:** Toxic in contact with skin.
- H314:** Causes severe skin burns and eye damage.
- H319:** Causes serious eye irritation.
- H331:** Toxic if inhaled.
- H341:** Suspected of causing genetic defects.

**Disclaimer:** The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

## END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.