

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
Co. Reg. No.: 1992/002474/07
 PO Box 10413
 Aston Manor, 1630, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone numbers:
24 Hr Transport / Spill emergency no:
 (Hazcall24) +27 86 044 4411
 (Client: Villa Crop Protection)
 Griffon Poison Information Centre +27 82 446 8946
 (Client: Villa Crop Protection)
Poisoning Emergency telephone numbers:
 Griffon Poison Information Centre +27 82 446 8946
 Poisons Information Centre +27 861 555 777

2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
Health		
Oral	Acute Tox .4	H302
Dermal	Acute Tox .5	H313
Dermal	Skin Irrit. 2	H315
Skin sensitizer	Skin Sens. 1	H317
Specific target organ toxicity repeated exposure	STOT RE 2	H373
Environment		
Aquatic chronic	Aquatic chronic 1	H410
Aquatic acute	Aquatic acute 1	H400

The most important adverse effects:
Physicochemical effects: None known.
Human health effects:
 Harmful if swallowed. (Acute Tox. 4)
 Causes skin irritation. (Skin Irrit. 2)
 May cause an allergic skin reaction. (Skin Sens. 1)
 May cause damage to organs through prolonged or repeated exposure (STOT RE 2).

Label elements:



Signal word: Warning.

Hazard statements:

H302: Harmful if swallowed.
 H313: May be harmful in contact with skin.
 H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 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.

Precautionary statements:

P260: Do not breathe dust, fume, gas, mist, vapours, and spray.
 P261: Avoid breathing dust, fumes, mists, gas, vapours, or spray. (respiratory sensitization).
 P264: Wash hands and face thoroughly after handling.
 P270: Do not eat, drink, or smoke when using this product.
 P272: Contaminated work clothing should not be allowed out of the workplace.
 P273: Avoid release into the environment.
 P280: Wear impervious rubber gloves and boots, protective clothing, and chemical safety goggles.
 P301+P317: IF SWALLOWED: Get medical help.
 P302+P317: IF ON SKIN: Get medical help.
 P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
 P319: Get medical help if you feel unwell.
 P330: Rinse mouth.
 P332+P317: If skin irritation occurs: get medical help.
 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.
 P501: Dispose of content/container to suitable landfill in accordance with local regulations.

Special labelling of certain mixtures:

None known.

Other hazards:

None known.

Toxicity:

Classification according to GHS: Category 4.

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3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture.

Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Terbuthylazine	5915-41-3	50.73%	Acute Tox 4 (H302) STOT RE 2 (H373) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
S-metolachlor	87392-12-9	10.6%	Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
SoprophorFL	99734-09-5	<1.0%	Aquatic Chronic 3 (H412)
Sapogenate T080	9046-09-7	<5.0%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Aquatic Chronic 2 (H411)
Sapogenate T110	9046-09-7	<1.0%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Aquatic Chronic 2 (H411)
Mono ethylene Glycol	107-21-1	<5.0%	Acute Tox. 4 * (H302)
Proxell	2634-33-5	<1.0%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400)

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 if breathing is needed. Seek medical attention if irritation occurs.

Skin: Remove contaminated clothing and shoes. Gently wipe of 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.

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 damage to organs through prolonged or repeated exposure.

Most important symptoms/effects: None known.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Do not breathe in fumes/Vapours. 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 unprotected personnel and animals.

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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 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 eyes and skin. 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
Ethylene glycol	10 ppm	8 – hour; 26 mg/m ³	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 to off-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.

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Upper/lower explosion limits: Not available.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density: 1.120 g/ml @ 20 °C.
Solubility: Miscible in water.
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: The product is stable for 2 years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50°C, preferably below 30°C, and not for prolonged periods in direct sunlight.

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.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS

Oral LD₅₀ >1700 mg/kg (rat).

Dermal LD₅₀ >3600 mg/kg (rat).

Inhalation LC₅₀ (4h) >8.4 mg/l (rat).

Skin Irritation/Corrosion: Causes skin irritation.

Eye Damage/Irritation: Not classified.

Skin Sensitization: May cause an allergic skin reaction.

Respiratory Sensitization: Not classified.

Reproductive cell mutagenicity: Not classified.

Carcinogenicity: Not classified.

Reproductive toxicity: Not classified.

Specific target organ toxicity – single exposure: Not classified.

Specific target organ toxicity – repeated exposure: May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Not classified.

Chronic Effects: Not available.

POTENTIAL ADVERSE EFFECTS: None known.

12. ECOLOGICAL INFORMATION

This product is considered a marine pollutant.

ECOTOXICITY DATA:

Fish:

S-metolachlor
LC₅₀ (96h) Rainbow trout 1.23 mg/l
Bluegill sunfish 3.16 mg/l

Terbuthylazine
LC₅₀ (96h) Rainbow trout 2.2 mg/l
Mirror carp >5.7 mg/l

Daphnia:

S-metolachlor
EC₅₀ (48h) 11.24 mg/l

Terbuthylazine
EC₅₀ (48h) >69.3 mg/l

Algae:

S-metolachlor
EC₅₀ (96 h) *Scenedesmus obliquus* 0.083 mg/l
Chlorella vulgaris 0.170 mg/l

ErC₅₀ (72 h) *Pseudokirchneriella subcapitata* 0.056 mg/l
Navicula pelliculosa 31 mg/l

Terbuthylazine
EC₅₀ (72h) *Scenedesmus subspicatus* 0.016 mg/l

E_bC₅₀ (72 h) *Microcystis aeruginosa* 0.016 mg/l

E_bC₅₀ (72 h) *Pseudokirchneriella subcapitata* 0.012 mg/l

Other aquatic organisms:

S-metolachlor
LC₅₀ (96h) Mysid shrimps 1.4 mg/l

E_dC₅₀ (14d) *Lemna gibba* 0.023 mg/l

Birds:

S-metolachlor
LD₅₀ Bobwhite quail, >2510 mg/kg

LC₅₀ Mallard duck

Dietary LC₅₀ (8 d) Bobwhite quail, >5620 mg/kg
Mallard ducks diet.

Terbuthylazine
LD₅₀ Ducks >2000 mg/kg
Japanese quail >2000 mg/kg

LC₅₀ (dietary) Ducks >5620 ppm
Japanese quail >5620 ppm

Bees:

S-metolachlor
LD₅₀ (contact) >200 µg/bee
LD₅₀ (oral) >85 µg/bee

Terbuthylazine
LD₅₀ Oral >22.6 µg/bee
Contact >32 µg/bee

Worms:

S-metolachlor
LC₅₀ (14 d) 570 mg/kg soil.

Terbuthylazine
LC₅₀ (14d) >1000 mg/kg soil

ENVIRONMENTAL EFFECTS:

S-metolachlor

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

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further degradation to polar, water-soluble, non-volatile metabolites.

Terbutylazine

Plants – Triazine-tolerant plants (e.g., maize) rapidly dechlorinate terbutylazine to hydroxy-terbutylazine. Various amounts of de-ethylated and hydroxy de-ethylated metabolites are produced, depending on the plant species.

Persistence and degradability:

S-metolachlor

In aerobic soils dissipates rapidly due to microbial activity. Geomean DT₅₀ (lab, aerobic) 21.2d.

Terbutylazine

In aerobic soils, dissipation is mainly due to microbial activity with the formation of metabolites by de-ethylation and hydroxylation, with eventual ring cleavage, and the formation of non-extractable residues (8–27% after 98 d). Median DT₅₀ (field) 17.4 (6.5–149, 9 sites).

Bio-accumulative Potential: Not determined.

Mobility in soil:

S-metolachlor

DT₉₀ (field) 36–165 d (12 soils). Adsorption (15 soils, pH 3.4–8.0, o.c. 0.2–19.8%), mean K^{Foc} 189 (61–369 l/kg). In water-sediment systems, S-metolachlor dissipates with a DT₅₀ of 42–53 d in the whole system.

Terbutylazine

Slightly mobile in water-sediment systems, dissipates with a DT₅₀ of 33–73 d.

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: TRIPLE RINSE THE EMPTY CONTAINER AS FOLLOWS: Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.

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. (**Terbutylazine** 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. (**Terbutylazine** 497.2g/l + **S-metolachlor** 102.8g/l)

Marine Pollutant (Y/N): Yes.

Air Transport IATA/CAO:

Class: 9
 Packaging group: III
 UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (**Terbutylazine** 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)

H318: Causes serious eye damage.

H319: Causes serious eye irritation.

H411: Toxic to aquatic life with long lasting effects.

H412: Harmful to aquatic life with long-lasting effects.

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

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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.