

Combi 600 SC

South Africa Reg. No: L 10475 Act/Wet No. 36 of/van 1947



Suspensions concentrate herbicide for selective control of most annual broadleaf weeds as well as Goose grass in maize and grain sorghum.

ACTIVE INGREDIENT

Atrazine (triazine) 300 g/l

Terbuthylazine (triazine) 300 g/l

GROUP

5

HERBICIDE



WARNING

HAZARD STATEMENTS:

- Causes mild skin irritation.
- May cause an allergic skin reaction.
- May cause damage to organs through prolonged or repeated exposure.
- Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

- Avoid release to the environment.
- Wear impervious rubber gloves and chemical safety goggles.

Registration holder: **Green Island Investments (Pty) Ltd.**

Co. Reg. No.: 2013/043963/07

P.O. Box / Posbus 1822, Heidelberg 1438.

Tel: 010 035 4143

24 HR EMERGENCY NUMBERS

Griffon Poison Information Centre: +27 82 446 8946

24 Hr Transport / Spill emergency no:

(Hazcall24) +27 86 044 4411 (Typhoon Plant Protection)

Distributed by: **Typhoon Plant Protection (Pty) Ltd.**

Co. Reg. No.: 1998/006156/07

P.O. Box 1822, Heidelberg 1438

Tel: 010 035 4143

Net Volume:

ℓ

Expiry Date:

Batch No:

Date of Manufacture:

U.N. No. 3082

 **Typhoon**
PLANT PROTECTION

READ LABEL IN DETAIL BEFORE OPENING THE CONTAINER. FOR FULL PARTICULARS, SEE ENCLOSED LEAFLET.
KEEP OUT OF REACH OF CHILDREN AND ANIMALS.



WARNINGS:

HAZARD STATEMENTS:

- H316: Causes mild skin irritation.
- H317: May cause an allergic skin reaction.
- H373: May cause damage to organs through prolonged or repeated exposure.
- H410: Very toxic to aquatic life with long lasting effects

- Harmful when swallowed.
- Store in a cool, dry place.
- Store away from food, feeds and other agricultural remedies.
- Keep out of reach of children, uninformed persons and animals.
- Very toxic to fish and aquatic organisms.
- **Re-entry: Do not** enter treated area within 1 day after treatment unless wearing protective clothing.
- **In case of poisoning call a physician and make this label available to him/her.**

Aerial Application: Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. **Do not** spray over or allow the drift to contaminate water or adjacent areas.

Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions, because the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions, quality of water, incompatibility with other substances not indicated on the label and the occurrence of resistance of the weed against the remedy, as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal, or for lack of performance of the remedy concerned due to failure by the user to follow the label instructions, or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

PRECAUTIONS:

PRECAUTIONARY STATEMENTS:

- P273: Avoid release to the environment.
- P280: Wear impervious rubber gloves and chemical safety goggles.
- P302+P352: **IF ON SKIN:** Wash with plenty of water and soap.
- P310: Immediately call a **POISON CENTRE**.
- P333+313: If skin irritation or rash occurs: Get medical advice.
- P391: Collect spillage.
- P501: Dispose of contents/container in accordance with local regulations.

- **Do not** inhale spray mist.
- Wear protective clothing, a face shield, rubber gloves and rubber boots when handling the concentrate, preparing the spray mixture and when applying.

- Wash contaminated clothing after use.
- Wash with soap and water after use.
- **Do not** eat, drink or smoke while mixing or applying the product or before washing hands and face.
- Avoid drift of spray onto other crops, grazing, rivers, dams and areas not under treatment.
- Clean applicator before using with other materials. Dispose of wash water where it will not contaminate food, grazing, rivers or dams.
- **TRIPLE RINSE** empty containers in the following manner. Invert the empty container over the spray or mixing tank and allow to drain 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 a minimum of 10 % of that of the container. Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner.
- Destroy empty container by perforation and flattening and dispose of it in a safe way.
- **Never** re-use the empty container for any other purpose.
- Prevent contamination of food, feeds, drinking water and eating utensils.

ENVIRONMENTAL PRECAUTIONARY MEASURES:

- **Do not** mix and load within at least 15 metre from boreholes, streams, rivers and dams.
- **Do not** apply within at least 15 metre from boreholes, streams and rivers.
- **Do not** apply within 60 metre from dams.
- Ensure that no back siphoning to boreholes or dams takes place when product is applied through the irrigation system

Related ingredients:

Substance name (IUPAC)	CAS - No.	Concentration % By weight
	EC - No.	
Atrazine	1912-24-9	30 %
Terbuthylazine	5915-41-3	30 %
Polyaryl phenyl ether phosphate, amine salt / calcium salt	105362-40-1	6-8 %
Ethylene Glycol	107-21-1	1-5 %

SYMPTOMS OF HUMAN POISONING:

Acute toxicity to this herbicide is expected to be low and no adverse effects from exposure have been reported. It can be absorbed orally, dermally and by inhalation. Symptoms of poisoning include abdominal pain, diarrhea and vomiting, eye irritation, irritation of mucous membranes and skin irritations.

FIRST AID TREATMENT:

Skin contact: Remove contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with water and non-abrasive soap. If irritation persists, obtain medical assistance.

Eye contact: Immediately flush the contaminated eyes with gently flowing, clean water for 20 minutes, holding the eyelid(s) open until no evidence of chemical remains. If irritation persists, obtain medical assistance.

Inhalation: Remove source of contamination or move victim to fresh air. Keep patient under observation and obtain medical attention.

Ingestion: Have victim rinse mouth thoroughly with water. **Do not induce vomiting.**
Obtain medical advice immediately.

NOTE TO PHYSICIAN:

No signs and symptoms of poisoning are known or expected in humans. No specific antidote is available. Treat symptomatically and supportively when required. When large amounts have been ingested, consider gastric lavage and administer activated charcoal.

RESTRICTIONS OF USE:

To avoid damage to follow-up crops the following waiting periods should be observed:

a)	Maize and Sugar cane:	None
b)	Grain Sorghum:	12 months
c)	Sunflowers, Groundnuts, Soya beans, Potatoes, Dry Beans, Forage Sorghum and Small Grains:	18 months
d)	All Other Crops (a test planting is recommended):	24 months

Where the rate of **COMBI 600 SC** applied does not exceed 1,7 litre per hectare the waiting periods mentioned under (b) and (c) above can be reduced to 9 months except on the sandy soils of the North West Province and North Western Free State which contain 0 to 10 % clay.

IMPORTANT:

- The above-mentioned waiting periods are valid only if the correct dosage rate of **COMBI 600 SC** according to soil type was applied and normal or above rainfall occurred after application.
- When **COMBI 600 SC** is applied to soils which expand on wetting and crack or crumble on drying out, such as turf soils, the **COMBI 600 SC** may remain active in the soil for much longer than the above-mentioned waiting periods. Thus **COMBI 600 SC** should not be used on such soils if sensitive crops might be planted in the foreseeable future. On such soils the herbicide may also give poor control of the weeds when applied **pre-emergence**.
- **Do not** apply **COMBI 600 SC** to inbred parent plants of maize and grain sorghum hybrids or experimental or newly maize and grain sorghum cultivars without first referring to the manufacturer or seed supplier.

RESISTANCE WARNING:

COMBI 600 SC is a **Group code 5 herbicide**. Any weed population may contain individuals naturally resistant to **COMBI 600 SC** and any other **Group code 5 herbicides**. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **COMBI 600 SC** or any other **Group code 5 herbicide**.

To delay herbicide resistance:

- Avoid exclusive repeated use of herbicides from the same herbicide group code. Alternate or tank mix with products from different herbicide group codes,
- Integrate other control methods (chemical, cultural, biological) into weed control programmes.

For specific information on resistance management contact the registration holder of this product.

DIRECTIONS FOR USE: Use only as recommended.**Compatibility:**

- The compatibility of **COMBI 600 SC** with other products may be influenced by the formulation of the products involved as well as the quality of the water.
- Since the formulation of other products may change without the knowledge of the registration holder and the water quality may vary from farm to farm, a physical compatibility test should always be carried out prior to application.

MIXING INSTRUCTIONS:**Shake well before use. Replace cap after pouring.**

- Half fill the spray tank with water, then pour the required quantity of **COMBI 600 SC** through a 300 µm mesh sieve into the tank while stirring.
- Top up with water to the final volume required.
- Ensure thorough agitation during filling and spraying operations.
- After each days spraying thoroughly flush spray equipment out with water.

APPLICATION:

- **COMBI 600 SC** must be applied before or shortly after weeds emerge.
- The soil should preferably have a smooth surface, free of large clods.
- If dry conditions prevail for a period of 7 to 14 days after application, weeds may emerge and develop. In such cases it is recommended that a light cultivation be carried out with a rotary cultivator to destroy these weeds and to mix the herbicide into the top 10 to 20 mm of soil.

Ground application:

- **COMBI 600 SC** can be applied with any medium or high volume sprayer equipped with efficient agitation and which is capable of adequate coverage and even distribution.
- Best results are obtained using fan-typed spray nozzles and applying a minimum spray volume of 200 litres water per hectare.

Aerial Application:

Aerial application of **COMBI 600 SC** may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SANS Code 10118 (Aerial Application of Agricultural Pesticides). Ensure that the spray mixture is distributed evenly over the target area and that the loss of spray material during application is restricted to a minimum. It is therefore essential that the following criteria be met:

- **Volume:** A spray volume of 30 litres per hectare is recommended for **pre-emergence** and 30 to 35 litres per hectare for **post-emergence**. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy, or be held responsible for any adverse effects if this product is applied aerially at a lower volume rate than recommended above.
- **Droplet coverage:** 20 to 30 droplets per cm² must be recovered at the target area, when applied **pre-emergence** and 35 to 45 droplets per cm² when applied **post-emergence**.
- **Droplet size:** A droplet spectrum with a VMD of 350 to 400 microns is recommended, when applied **pre-emergence** and 300 to 350 microns when applied **post-emergence**. Limit the production of fine droplets less than 150 microns (high drift and evaporation potential) to a minimum.
- **Flying height:** Maintain the height of the spray boom at 3 to 4 metres above the target. **Do not** spray when aircraft dives, is in a climb or when banking.
- Use suitable **atomising equipment** that will produce the desired droplet size and coverage, but which will ensure the minimum loss of product. The spraying system must produce a droplet spectrum with the lowest possible Relative Span.
- Position all the atomisers within the inner 60 to 75 % of the wingspan to prevent droplets from entering the **wingtip vortices**.
- The difference in **temperature** between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8°C.
- Stop spraying if the **wind speed** exceeds 15 km/h.
- Stop spraying under **turbulent**, unstable and dry conditions during the heat of the day.
- Spraying under temperature **inversion conditions** (spraying in or above the inversion layer) and/or **high humidity conditions** (relative humidity 80 % and above) may lead to the following:
 - reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage),
 - damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target field.
- Ensure that the Aerial Spray Operator knows exactly which fields to spray.
- Obtain an assurance from the Aerial Spray Operator that the above requirements will be met and that relevant data will be compiled in a logbook and kept for future reference.

1. MAIZE (pre-emergence and early post-emergence):

SOIL TYPE:	% CLAY:	DOSAGE RATE COMBI 600 SC (ℓ/ha) for overall application:
Light sand/sand	0 to 10 %	2,1 ℓ
Loamy sand/sandy loam	11 to 20 %	2,7 ℓ
Sandy clay loam	21 to 30 %	3,3 ℓ
Sandy clay loam/sandy clay	31 to 40 %	4,0 ℓ

- **COMBI 600 SC** can be applied **post-emergence** if broadleaf weeds have not developed beyond the 4-leaf stage and grasses have not yet emerged.
- Where grasses have already emerged and broadleaf weeds have developed beyond the 4-leaf stage, these weeds must first be destroyed by cultivation and **COMBI 600 SC** then applied onto clean soil.
- When applied **post-emergence** to the weeds a suitable surfactant should be added to the spray mixture.

2. GRAIN SORGHUM (only post-emergence):

SOIL TYPE:	% CLAY:	DOSAGE RATE COMBI 600 SC (ℓ/ha) for overall application:
Light sand/sandy loam:	0 to 20 %	NOT RECOMMENDED
Sandy clay loam;	21 to 30 %	3,3 ℓ
Sandy clay loam/sandy clay:	31 to 40 %	4,0 ℓ

- **COMBI 600 SC** can only be applied **post-emergence** if broadleaf weeds have not developed beyond the 4-leaf stage and grasses have not yet emerged, and the grain sorghum has 5 or more leaves.
- Where grasses have already emerged and broadleaf weeds have developed beyond the 4-leaf stage, these weeds must first be destroyed by cultivation and **COMBI 600 SC** then applied into clean soil.
- Under cold and/or very wet conditions **COMBI 600 SC** may damage grain sorghum.

WEEDS CONTROLLED:

The following weed species are normally controlled by **COMBI 600 SC** at the dosage rates recommended below.

Broadleaf weeds:

<i>Acanthospermum australe</i>	Eight-seeded prostrate starbur	<i>Crotalaria sphaerocarpa</i>	Mealie Crotalaria
<i>Acanthospermum glabratum</i>	Five-seeded prostrate starbur	<i>Datura ferox</i>	Large thorn apple
<i>Acanthospermum hispidum</i>	Upright starbur	<i>Datura stramonium</i>	Thorn apple
<i>Amaranthus deflexus</i>	Perennial pigweed	<i>Galinsoga parviflora</i>	Gallant soldier
<i>Amaranthus hybridus</i>	Common pigweed	<i>Gisekia pharnacioides</i>	Gisekia
<i>Amaranthus spinosus</i>	Thorny pigweed	<i>Hibiscus cannabinus</i>	Kenaf
<i>Amaranthus thunbergii</i>	Red pigweed	<i>Hibiscus trionum</i>	Bladderweed
<i>Bidens bipinnata</i>	Spanish blackjack	<i>Nicandra physalodes</i>	Apple of Peru
<i>Bidens formosa</i>	Cosmos	<i>Physalis angulata</i>	Wild gooseberry
<i>Bidens pilosa</i>	Common Blackjack	<i>Portulaca oleracea</i>	Purslane
<i>Chenopodium album</i>	White goosefoot	<i>Richardia brasiliensis</i>	Tropical Richardia
<i>Chenopodium carinatum</i>	Green goosefoot	<i>Schkuhria pinnata</i>	Dwarf marigold
<i>Cleome monophylla</i>	Spindlepod	<i>Tagetes minuta</i>	Khakiweed
<i>Cleome rubella</i>	Pretty lady	<i>Vigna vexillata</i>	Wild cow-pea
<i>Commelina benghalensis</i>	Benghal wandering Jew		

Grasses:

<i>Eleusine indica subsp. africana</i>	Goose grass
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If dry conditions prevail for a period of 7 to 14 days after **pre-emergence** application the following weed species may not be adequately controlled, especially on heavy soils:

<i>Bidens formosa</i>	Cosmos	<i>Datura spp.</i>	Thorn apple
<i>Commelina benghalensis</i>	Benghal wandering Jew	<i>Eleusine indica subsp. africana</i>	Goose grass