



DUPLEX 600 SC

Reg. No. L10890, Act No. 36 of 1947 | Reg. Nr. L10890, Wet Nr. 36 van 1947

A suspension concentrate herbicide for use of Maize and Grain Sorghum to control a variety of annual broadleaf weeds and goose grass.

'n suspensie-konstraat onkruidodder vir die gebruik van mielies en graansorghum vir die beheer van verskeie eenjarige breëblaaronkruid en jongosgras

HERBICIDE GROUP CODE C1 ONKRUIDDODER GROEPKODE

ACTIVE INGREDIENT | AKTIEWE BESTANDDEEL:

atrazine (triazine) 291g/L atrasiën (triasiën)

terbuthylazine (triazine) 291g/L terbutielasiën (triasiën)

related active triazines 18g/L verwante aktiewe triasiëns

Manufactured for and registered by/Vervaardig vir en geregistreer deur:

Sharda International Africa (PTY) LTD

Reg. No./Reg. Nr. 2010/002268/07

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BATCH NO. LOT NR.	
EXPIRY DATE VERVAL DATUM	

NET CONTENTS /
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UN No./VN Nr. 3032



HARMFUL
SKADELIK



WARNINGS:

- 1* Handle with care.
- 2* Harmful if swallowed. Avoid eye and skin contact as this may cause irritation.
- 3* Keep out of reach of children, uninformed persons and animals.
- 4* Store in the original container in a cool place under lock and key, away from food, feed, fertiliser and seed.
- 5* Flammable - do not expose to heat and flames.
- 6* In case of poisoning, call a physician immediately and make this label available to him/her.
- 7* Toxic to fish - do not contaminate dams, lakes, rivers or any other body of water.
- 8* Re-entry interval: Do not enter treated area within 1 day after treatment unless wearing protective clothing.

Although this herbicide 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 dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of weeds against the remedy concerned, 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 of 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:

- Do not inhale fumes or spray mist.
- Wear protective clothing when handling the concentrate (face shield, rubber boots and gloves).
- Avoid contact with the skin and eyes.
- Wash skin with soap and water after use, or in the case of accidental skin contact.
- Wash any contaminated clothing before re-use.
- Do not eat, drink or smoke while mixing or applying or before washing hands and face and change of clothing.
- Prevent contamination of food, feedstuff, eating utensils and drinking water.
- Prevent the drift of spray mist onto other crops, grazing, rivers, dams or areas not under treatment.
- Prevent the direct spraying of, and the drift of spray mist onto, crops and desirable plants and trees.
- Apply this product strictly in accordance with the application directions.
- Rinse the empty 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 disposing of the container by perforation and flattening. Never use the container for any other purpose.
- Clean the applicator thoroughly after use and dispose of the wash water where it will not contaminate crops, grazing, rivers or dams.

SYMPTOMS OF HUMAN POISONING:

No known cases of human poisoning
 DUPLEX 600 SC causes mild skin irritation eye irritation.
 See MSDS.

FIRST AID:

Eye contact: Flush eyes with plenty of clean water, occasionally lifting upper and lower eye lids, for at least 15 minutes. Check for, and remove if present, any contact lenses after the first 5 minutes of flushing. Get medical attention should any symptoms develop or persist.

Skin contact: Remove all contaminated clothing and leather items. Wash the skin thoroughly with soap and water, and rinse the skin with large quantities of clean water. Wash any contaminated clothing before reuse.

Inhalation: Remove patient to fresh air. Get medical attention should any symptoms develop or persist.

Ingestion: If swallowed, immediately give a large amount of water to drink. Rinse the mouth with clean water. Do not induce vomiting. If vomiting does occur, administer more water. Never give anything by mouth to an unconscious person. Get medical attention.

NOTE TO PHYSICIAN: There is no specific antidote. Treat symptomatically and supportively. If large quantities have been ingested, gastric lavage and the administering of activated charcoal may be considered, as well as forced alkaline diuresis or haemodialysis.

RESISTANCE WARNING:

For resistance management "DUPLEX 600 SC" is a group code C1 herbicide. Any weed population may contain individuals naturally resistant to "DUPLEX 600 SC" and other group code C1 herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by "DUPLEX 600 SC" or any other group code C1 herbicide.

To delay herbicide resistance:

- Avoid exclusive repeated use of herbicides from the same herbicide group code. Alternate or tank mix with registered 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 directed.

USE RESTRICTIONS:

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

- Maize and sugarcane - nil.
 - Grain sorghum - 12 months.
 - Sunflowers, groundnuts, soybeans, potatoes, dry beans, forage sorghum and small grains - 18 months.
 - All other crops - 24 months (a test planting is recommended).
- Where the rate of DUPLEX 600 SC applied does not exceed 1,7 l/ha the waiting periods mentioned under (b) and (c) above may be reduced to 9 months except on the sandy soils of the North West Province and North Western Free State, which contain 0 - 10 % clay. Correct dosage rate of DUPLEX 600 SC according to soil type was applied and normal or above average rainfall occurred after DUPLEX 600 SC application.
- When DUPLEX 600 SC is applied to soils which expand on wetting and crack or crumble on drying out, such as turf soils, DUPLEX 600 SC may remain active in the soil for much longer than the above mentioned waiting periods. Thus DUPLEX 600 SC should not be used on such soils if sensitive crops might be planted in the foreseeable future. On such soils DUPLEX 600 SC may also give poor control of the weeds when applied as a pre-emergence treatment.
- Do not apply DUPLEX 600 SC on poorly drained soils or soils with a compaction layer, since this can cause damage to triazine sensitive crops under waterlogged conditions.
- Do not apply DUPLEX 600 SC to inbred parent plants of maize and sorghum hybrids or to experimental or newly released maize or sorghum cultivars without first consulting the SHARDA representative/agent or seed supplier.

For optimal results with DUPLEX 600 SC, approximately 10 - 20 mm of rain or irrigation is required for activation of the product. If there is no rain for more than two weeks, certain weeds will germinate and consequently, control will be poor or erratic.

Due to the low adsorption capacity of sandy soils (0 - 15% clay), the herbicide present can drop to sub lethal levels within the upper 50 mm of the soil profile after soaking rains (>25 mm per day) with a subsequent reduction in weed control. Continuous rains (> 50 mm spread over 3 - 7 days) will also lead to reduced weed control and possible crop damage.

Do not apply DUPLEX 600 SC under stress conditions, e.g. waterlogged conditions, drought, extremely cold conditions, excessive rain, poor fertilizer application, low pH etc. Application under these conditions will result in poor weed control and possibly crop damage.

Fields that has been burned must first be well cultivated before applying DUPLEX 600 SC. Ash on the soil surface can lead to inactivation of the applied herbicides with subsequent poor control.

Due to the translocation of treated topsoil and leaching of DUPLEX 600 SC on sandy soils, sub optimal weed control may result under flood irrigation.

Under abnormal climatic conditions, such as excessive rain followed by long periods of cloudy weather shortly after planting, can cause crop damage when applications are made early post emergence (1 - 3 leaf stage of the crop).

If GRAMOXONE (L1174) is added to the spray mixture the following conditions should be avoided:

- Maize under physiological stress.
- Maize with low yield potential.
- Windy conditions.
- Fields with uneven surfaces.

MIXING AND APPLICATION:**Mixing instructions**

Half fill the spray tank with water, add the required amount of DUPLEX 600 SC, and then fill the spray tank to the desired volume. When spraying a tank mix, add DUPLEX 600 SC to the spray tank first followed by the other tank mix product. Ensure agitation of the spray mixture during mixing and spraying.

Ground application

Depending on the size of the weeds, apply the product using a water volume of 300 to 500 l/ha.

Directions for use

Use only as recommended

Compatibility.

Duplex 600 SC is compatible with 2,4D amine and Gramoxone

Mixing instructions

Shake well before use. Replace cap after use. Half-fill the spray tank with water, then pour the required amount of Duplex 600SC through a 50-mesh sieve into the tank while stirring. Top up with water to the final volume required.

When Duplex 600 SC is tank mixed with Gramoxone or 2,4-D amine the Duplex 600SC should be mixed first into a tank half filled with water and agitated well after which the spray tank should be filled almost to capacity. Only then should the 2,4-D amine and finally Gramoxone be added while the spray tank is filled to its final volume.

Ensure thorough agitation of the mixture in the tank during mixing and spraying.

Tank mixtures must be sprayed out immediately and not allowed to stand in the spray tank.

APPLICATION TECHNIQUES

Duplex 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.

Duplex 600 SC may also be applied in a tank mixture with Gramoxone as a directed inter-row application. Maize must be at least 30 cm tall to facilitate proper directing of the spray mixture. Weeds should not be taller than 10 cm to ensure effective control. For further information please consult the Gramoxone label.

Ground application

Duplex 600 SC may be applied with any properly calibrated medium or high volume sprayer which is equipped with an efficient agitation mechanism capable of adequate coverage and even distribution. Best results are obtained using flat fan type spray nozzles and applying a minimum spray volume of 200 l water/ha.

Aerial application

Aerial application of this product may only be done by a registered aerial application operator using a correctly calibrated, registered aircraft according to the instructions of SANS 10118 (Aerial Application of Agricultural Remedies). It is important to 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 are met:

a) Application parameters:

Volume: A volume of 30 l/ha (pre-emergence) and 35 l/ha (post-emergence) is recommended. 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 the product is applied aerially at a lower volume rate than recommended above.

Droplet coverage: A droplet coverage of 20 - 30 droplets/cm²

(pre-emergence) and 30 - 45 droplets/cm² (post-emergence) must be recovered at the target.

Droplet size: A droplet spectrum with a VMD of 350 - 400 microns (pre-emergence) and 300 - 350 microns (post-emergence) is recommended. Ensure that the production of fine droplets (less than 150 microns - high drift & evaporation potential) is restricted to a minimum.

Flying height: The height of the spray boom should be maintained at 3 - 4 metres above the target. Do not spray when aircraft is in a climb, at the top or during a dive, or when banking.

b) Equipment:

Use suitable atomising equipment (hydraulic nozzles or rotary atomisers) that will produce the desired droplet size and coverage but which will ensure the minimum loss of product either through endodrift (within target field) or exodrift (outside target field). The operator must use a setup that will produce a droplet spectrum with the lowest possible relative span. All nozzles / atomisers should be positioned within the inner 60% to 75% of the wingspan to prevent droplets from entering the wingtip vortices.

c) Meteorological conditions:

The difference in temperature between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8°C. The addition of a suitable anti-evaporant is recommended if the VMD of the droplets is less than 200 - 250 microns. Stop spraying if the wind speed exceeds 15 km/h.

Aerial application of this product must not be done under turbulent, unstable conditions during the heat of the day when rising thermals and downdraughts occur. Also note that the application of this product under temperature inversion conditions (spraying in or above the inversion layer) 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 the movement of the suspended spray cloud away from the target field. It is essential to obtain an assurance from the aerial spray operator that the above requirements are met.

APPLICATION RATES

Maize – Duplex 600 SC pre-emergence and early post-emergence.

TABLE 1: Application rates of Duplex 600 SC on maize:

SOIL TYPE	% CLAY	Duplex 600 SC (l/ha) for overall application	Comments
Light sand / sand	0 - 10	2,0	Duplex 600 SC may only 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 Duplex 600 SC then applied onto clean soil. When applied post-emergence to the weeds a suitable surfactant should be added to the spray mixture
Loamy sand / sandy loam	11 - 20	2,7	
Sandy clay loam	21 - 30	3,3	
Sandy clay loam / Sandy clay	31 - 50	4	

CROP ROTATION with triazine sensitive crops.

In the North West Province and North Western Free State, on 11 - 20 % clay soils where the carry-over effect of triazines to groundnuts and/or other sensitive crops should be avoided.

After the first cultivation apply Duplex 600 SC overall at the pre-emergence recommended rate for the soil type. Add a suitable surfactant such as COMPLEMENT SUPER L8169 to the Duplex 600 SC spray mixture to ensure good control of broadleaf weeds on the maize row.

Grain Sorghum only post-emergence

TABLE 2: Application rates of Duplex 600 SC in grain sorghum:

SOIL TYPE	% CLAY	Duplex 600 SC (l/ha) for overall application	Comments
Light sand / sandy loam	0 - 20	NOT RECOMMENDED	Duplex 600 SC may only be applied post-emergence if broadleaf weeds have not developed beyond the seedling stage (4 - leaf stage), grasses and khaki weed 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 seedling stage, these weeds must first be destroyed by cultivation before applying Duplex 600 SC onto clean soil. Under cold and/or very wet conditions Duplex 600 SC may damage grain sorghum. Post-emergence treatments for the control of broadleaf weeds only. Duplex 600 Sc plus 2,4-D amine. These treatments are only recommended in cases where a grass killer has been applied prior to or at planting. These treatments control all the broadleaf weeds mentioned above and, in addition, also large cocklebur (<i>Xanthium strumarium</i>) striped wild cucumber (<i>Cucumis myrio - carpus</i>), dubbeltjie (<i>Tribulus terrestris</i>), common morning glory (<i>Ipomoea purpurea</i>) and <i>Ipomoea coscinosperrum</i> .
Sandy clay loam	21 - 30	3,3	
Sandy clay loam /	31 - 50	4	

WEEDS CONTROLLED:

GRASS WEEDS:

Eleusine indica Common paspalum

BROADLEAF WEEDS:

Amaranthus hybridus Common pigweed

Chenopodium album White goosefoot

Datura Ferox Thorn apple

Schkuria pinata Dwarf marigold

Tagetis minuta Khaki weed