Read the label before opening the container. For full particulars, see enclosed leaflet.

KEEP OUT OF REACH OF CHILDREN AND ANIMALS

GLYPHO 360

South Africa Reg. No: L9474 Act No. 36 of 1947

HRAC HERBICIDE GROUP CODE: G

A non-selective soluble liquid herbicide with systemic action for the post-emergence control of annual and perennial weeds in agricultural and non-cultivated areas.

ACTIVE INGREDIENT:

Glyphosate isopropylamine salt 480g/ℓ
(acid equivalent).....360g/ℓ)

Product Information: 072 678 8226
In case of poisoning: 082 446 8946

HAZARD STATEMENTS

- Toxic to aquatic life with long lasting effects.



PRECAUTIONARY STATEMENTS

- Wash hands, forearms and face thoroughly after handling.
- Avoid release into the environment.

enviro™ bio-chem

Registration holder: Enviro Industries (Pty) Ltd t/a Enviro Weed Control Systems
Co. Reg. No: 1999/006136/07
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Expiry Date:
Batch No:
Date of Manufacture:

UN No. 3082

WARNINGS:

- When using Glypho 360 as a land preparation for transplanted tomatoes, or any other transplanted crop with green, soft stems, allow a minimum of 14 days between application and transplanting of seedlings.
- Toxic to aquatic life with long lasting effects.
- Keep out of reach of children, uninformed persons and animals.
- Store away from food, feeds, seed, fertilizer and other agricultural remedies.
- The product should be mixed, stored and applied only in stainless steel, aluminium, fiberglass, plastic or plastic lined containers.
- Do not mix, store or apply the product or solutions in galvanised steel or unlined steel (except stainless steel) containers or spray tanks. The product can react with such containers and tanks to produce hydrogen gas, which may form a highly combustible gas mixture that can flash or explode if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.
- Re-entry: Do not enter treated area, until spray deposit has dried unless wearing protective clothing.

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 drift to contaminate water or adjacent areas.

Glyphosate is a highly active herbicide that in very small quantities can cause serious damage to crop seedlings and deciduous fruit tees and grapevines during budding and early season growth stages. Under the following conditions it can cause serious damage as far as 3 to 5 kilometers from the nearest flight path of the aircraft: cloudy weather with relative humidity above 80% and low air movement of less than 5 km per hour. Where such conditions prevail aerial application should not be carried out where crop seedlings or deciduous fruit and grapevines in budding or early development stages are present within 5 kilometers of the nearest flight path of the aircraft.

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 effected 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 the pest against the remedy concerned as well as by the method, time and accuracy of the 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 herbicide concerned due to failure of the user to follow the label instructions or to the occurrence of conditions that could not have been foreseen in terms of the registration. Consult the supplier in event of any uncertainty.

PRECAUTIONS:

- Wash hands, forearms, and face thoroughly after handling
- Do not eat, drink, or smoke when using this product.
- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Collect spillage.
- Clean applicator thoroughly after use and dispose of rinsings where it will not contaminate crops, grazing, rivers or dams.
- Triple rinse empty container 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 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 content of the spray tank. Empty containers should be taken for local recycling or waste disposal. Do not re-use empty containers.

Use Precautions:

- Ensure that the person assigned to apply the product is properly trained in its use.
- Prevent spray drift onto susceptible or edible crops, grazing, green or immature bark and fruit of non-target plants, which can result in serious localized or translocated damage.

Glypho 360 may be used:
- as a broadcast spray to control weeds pre-planting in arable agriculture, forestry and sugarcane to reduce tillage;
- as a directed spray to control annual and perennial weeds in forests, fruit and ornamental plantings;
- for the control of unwanted trees and semi-woody plants on farmland, parkland, road reserves, forest plantations and similar areas;
- for the non-selective control of weeds in non-cultivated areas such as road-sides, railway lines and electrical yards and the like;
- for the creation of fire breaks.

RELEVANT SUBSTANCES:
Glyphosate 41%
D-Glucopyranose, Oligomeric, C8-16-Alkyl Glycosides < 10%

FIRST AID TREATMENT:
INGESTION: Immediately call a POISON CENTER or doctor/physician.
SKIN CONTACT: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.
INHALATION: Remove person to fresh air and keep comfortable for breathing.
EYE CONTACT: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Immediately call a POISON CENTER or doctor/physician.

RESISTANCE WARNING:
For resistance management **Glypho 360** is a **group code G** herbicide. Any weed population may contain individuals naturally resistant to **Glypho 360** and other **group code G** herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **Glypho 360** or any other **group code G** 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 indicated.
General Information:
- **Glypho 360** is a non-volatile, water soluble liquid product with non-selective herbicidal activity against a wide range of annual and broadleaf weeds and grasses in crop and non-crop situations.
- It is absorbed by plant foliage, green stems and immature bark and is inactivated immediately in the soil and does not provide residual weed control.
- Visible effects on annual weeds may take up to 7 days, while on perennial weeds effects may take 2 to 3 weeks or longer to become evident. Results are quicker under warm conditions.
- Weeds are best treated when growing vigorously, and prior to seed formation. Do not treat plants which are dormant or which have been frosted, or growing poorly due to drought, water-logging or are covered with dust or silt. Diminished results may occur when spraying is done when weeds are covered with dew.
- Perennial weeds are best treated when peak growth achieved in midsummer. Weeds having underground rootstocks may require a second application to control growth from buds which survived the initial application. Top growth of perennial bunch grasses may be removed by mowing prior to application and the herbicide after a few days. Plant residues should be raked away from the area to be treated so as to expose the green foliage to the spray.
- Rainfall within 6 hours of application may reduce foliar uptake and may necessitate a further application.

APPLICATION:
- **Glypho 360** may be applied in volumes between 20 to 600 litre per hectare.
- Avoid drift. Extreme care must be taken when spraying this product to prevent injury to desirable plants and crops. Do not spray under conditions when spray drift to desirable vegetation may occur.

- Clean all equipment after use by thoroughly flushing with water.
- Do not drench weeds or spray beyond the point of run-off.
- Always calibrate the equipment using the product under filed conditions.

Boom Equipment using Standard Nozzles:
- The optimum volume using standard nozzles is 100 to 200 ℓ/ha.
- A nozzle giving 'fine' to 'medium' droplets is preferred to 'coarse' droplets to ensure adequate coverage of the leaf surface.
- Boom height must be set to ensure correct overlp of nozzle pattern at the top pf the weed canopy.
- Standard flat fan nozzles may be used at pressures of 200 to 300 kPa. Alternatively low drift nozzles may be used at 100 to 200 kPa.
- The nozzle size to be used will depend on the speed of travel and pressure. Higher pressures that those specified will result in the production of finer droplets increasing the risk of drift.

Knapsack Equipment:
- Standard or low drift flat fan nozzles, or anvil (TK series) or hollow or solid cone nozzles may be used.
- For a spray swath of 500 mm a standard flat fan such as 8002 at 200 to 300 kPa, or the low drift 8002 LP at 100 to 200 kPa, walking at 1,0m/second (3,6 km/h) will apply approximately 200 ℓ/ha.
- A 20 litre sprayer will then treat 2 km, or 0,1 ha.
- Maintain the band with width, walking speed and pressure used in the initial calibration.
- The use of the 'Weedmaster' spray management valve will ensure a constant output from the nozzle.
- For a 1 metre swath width an anvil or TK 2,5 tip at 150 kPA will deliver approximately 200 ℓ/ha. 20 litre will then treat 1 km.
- For spot spraying or treating shrubs up to 2 metres high, a hollow or solid cone nozzle is recommended. A D3 or D4 disc with a no. 25 core will produce a hollow cone pattern with fine droplets. For a solid cone pattern with a coarser droplets, a TG 0,5 or 1,0 tip maybe used. Pressures of 200 to 300 kPa are satisfactory.
- Spray operators should be trained to achieve the correct dosage.

Pressure Sprayers – Hand Gun Equipment:
- This equipment is used to treat tall growth of dense stands of weeds.
- Adjust equipment to achieve a fine spray pattern to give complete foliar coverage but do not spray to the point of run-off. Use the minimum spray volume needed to achieve uniform wetting of all foliage.

Low Volume Controlled Droplet Application Equipment (CDA):
- Hand held or mounted CDA equipment may be used to apply Glypho 360 to weeds under 500 mm high.
- Contact the supplier for advice.
- 'Weedmaster Guide to Application Equipment for Enviro Products' provides additional information on application methods.

Aerial Application:
The use of a suitable drift retardant adjuvant and/or low drift nozzles (e.g. straight stream nozzles) is recommended. In the case of fixed-wing aircraft flying at a speed faster than 130 mph, the maximum deflection angle of the nozzles or spray stream, as measured from a horizontal straight backwards orientation, may not exceed 30 degrees. In the case of slower flying fixed wing aircraft the maximum deflection angle, as described above, may not exceed 55 degrees.
Use only correctly calibrated aircraft suitable for the required application.
A spray volume of between 20 to 50 litres per hectare is suitable provided the following constraints are observed:
- **Glypho 360** is a non-selective translocated herbicide. Direct spray contact, or even slight drift may cause severe injury or complete destruction of any growing crop or other desirable plants including trees.
- Droplets with an average size (VMD) of 300 to 400 micron diameter are recommended. The Micronair AU7000 is suitable when mounted on an approved microlight aircraft.
- Do not spray when winds exceed 8 km/hour or when wind direction is toward nearby desirable vegetation.
- Do not spray on a windless day with hot rising air conditions as fine droplets may move with the air current and cause damage elsewhere.
- Do not spray under inverted temperature conditions.
- Do not spray in the heat of the day.

- Do not spray when temperatures exceed 35OC or when relative humidity is below 40% or when the difference between wet and dry readings as determined by a whirling hygrometer exceeds 8OC.
- Obtain an assurance from the aerial spray operator that the above specifications will be met before using the product.

Mixing Instructions:
- Ensure that the spray tank is free of any residue from previous spry materials.
- Fill the spray tank with half the required amount of clean water, add the proper amount of Glypho 360 and ensure thorough mixing before adding the remaining water.
- Position the filling hose below the surface of the spray solution to prevent excessive foaming. Position the outlet of any return hoses at the bottom of the tank to reduce foaming. After mixing agitation is not required with this product.
- Reduced results may occur if water containing soil is used, e.g. from dams or rivers or if hard water containing calcium is used.

Surfactants/Additives:
- For optimum results a minimum of 1,5% Glypho 360 solution in the total spray volume is recommended. If it is less add 500 mℓ per 100 ℓ water of a suitable surfactant.
- For pH and water hardness adjustment of spray water, use a registered spray water modifier.

UNWANTED TREES AND WOODY PLANTS – ALIEN INVADERS AND DECLARED INVADING SPECIES:

SPECIES CONTROLLED	BOOM SPRAY ℓ/ha	HANDGUN ℓ/100ℓ WATER	KNAPSACK mℓ per 20ℓ at 200ℓ/ha	CRITICAL COMMENTS
Bugweed (*Solanum mauritianum)* a) Seedlings	2	500mℓ	300	Summer-Autumn application. Spray up to 1 metre high. Apply to 1 metre high coppice growth, after cutting the stems to plus-minus 100 mm.
b) Large trees	2	1.5	300	
Black wattle *(Acacia mearnsii)*	3	1.5	300	Summer-Autumn application. Spray up to 2 metres high.
Bramble *(Rubus species)*	6	3	600	Summer-Autumn application. Use penetrating spray to cover stems and leaves. Treat prior to leaf discoloration.
Eupatorium *(Chromolaena odorata)*		1	200	Summer-Autumn application. Apply to young plants to 0,5 to 1,2 metres high. Coppice from slashed plants may require a follow-up treatment.
Lantana *(Lantana camara)*	6	3	600	Summer-Autumn application. Use penetrating spray to wet plants.
Port Jackson Willow *(Acacia saligna)* a) Bipinnate leaf stage	2	1.5	200	Early Summer to Autumn.
b) Up to 60 cm high	4	1.5	400	
Mauritius thorn *(Caesalpinea decapetula)*	3	1.5	300	

SPECIES CONTROLLED	BOOM SPRAY ℓ/ha	HANDGUN ℓ/100ℓ WATER	KNAPSACK mℓ per 20ℓ at 200ℓ/ha	CRITICAL COMMENTS
Sesbania *(Sesbania punicea)* a) Seedlings up to 1 metre	3	1.5	300	
Seedlings over 1 metre		2	400	
b) Shrubs or tall trees slash and treat coppice 1 metre high		1.5 - 2	300 - 400	
Bluegum stumps *(Eucalyptus grandis)* a) Single stem		5	1 000	Apply stump treatment after felling and removal of saw dust on same day as felling to cambium and species other region using a low pressure and hollow cone nozzle. Should coppicing occur ringbark to expose entire cambium area and retreat.
b) Multi-stem trees		7	1 400	

PERENNIAL GRASSES AND BROAD-LEAVED WEEDS:
200 ℓ Volume per hectare

SPECIES CONTROLLED	BOOM SPRAY ℓ/ha	HANDGUN ℓ/100ℓ WATER	KNAPSACK mℓ per 20ℓ at 200ℓ/ha	CRITICAL COMMENTS All listed species are best treated when fully emerged after dormancy.
Buffalo or Ubabe grass (*Panicum maximum)*	6	3	600	Repeat at 3,0 ℓ/ha or 1,5 ℓ/100 ℓ as required.
Bush Buffalo grass (*Setaria megaphylla*)	6	3	600	
Common grass *(Cynodon dactylon)* a) Initial treatment	8	4	800	Apply in summer and follow up in autumn; or apply in autumn and follow up in summer.
b) Follow up treatment	6	3	600	
Common paspalum *(Paspalum dilatatum)*	6	3	00	Apply at flowering and spot treat regrowth in autumn using 4 ℓ/ha.
Couch paspalum *(Paspalum paspalodes)*	8	1.5	800	
Johnson grass *(Sorghum halepense)*	4	1.5	400	Apply at flowering and treat regrowth at 3 ℓ/ha or 1,5 ℓ/100 ℓ.
Wild grain Sorghum *(Sorghum bicolor)*	2	1.5	200	

SPECIES CONTROLLED	BOOM SPRAY ℓ/ha	HANDGUN ℓ/100ℓ WATER	KNAPSACK mℓ per 20ℓ at 200ℓ/ha	CRITICAL COMMENTS All listed species are best treated when fully emerged after dormancy.
Kikuyu grass *(Pennisetum clandestinum)* a) Initial application	4	1.5	400	Apply when in vigorous growth. Treat any regrowth to prevent re-infestation from dormant buds.
b) Follow up application	3	1.5	300	
Lovegrass *(Eragrostis curvula)*	2	1.5	300	Apply to full growth but before onset of dormancy.
Purple nutsedge *(Cyperus rotundus)* Yellow nutsedge *(Cyperus rotundus)*	6		600	Apply at flowering and follow up with a repeat treatment to regrowth.
Field bindweed *(Convolvulus arvensis)*	6	3	600	Apply at early flowering and follow up with 1,5 ℓ/100 ℓ.
Plantain *(Plantago lanceolata)*	3	1.5	300	Apply before flowering.
Small mallow *(Malva paviflora)*	3		300	Apply before flowering and treat any regrowth to prevent re-establishment.

CONTROL OF WEEDS IN ARABLE AGRICULTURE PRE-PLANTING (REDUCED TILLAGE) AND IN FRUIT, PLANTATION AND FORESTRY CROPS
Volume 100 to 200 ℓ/ha for Ground application; 20 to 50 ℓ/ha for Aerial application

SITUATION	BOOM SPRAY ℓ/ha	KNAPSACK mℓ per 20ℓ at 200ℓ/ha	CRITICAL COMMENTS
Annual weeds	2 – 3	200 – 300	Treat in the early pre-flowering stage. Use the higher rate after flowering and on Conyza and Commelina spp.
Perennial weeds			Refer to specific weeds in table.

USE IN SUGARCANE CULTURE

SITUATION	BOOM SPRAY ℓ/ha	KNAPSACK mℓ per 20ℓ at 200ℓ/ha	CRITICAL COMMENTS Sugarcane is susceptible to damage particularly in young growth stage
Annual weed control	2 – 3	200 – 300	Apply pre-plant broad cast, or as directed spray to avoid injury in plant or ratoon cane. Avoid drift.
Perennial weed control *Cyperus rotundus* (nutsedge)	6	600	Apply as a directed spray to plant or ratoon cane when nut-sedge is in early head stage. Apply a second treatment after maximum re-emergence in a nutsedge control programme.

SITUATION	BOOM SPRAY ℓ/ha	KNAPSACK mℓ per 20ℓ at 200ℓ/ha	CRITICAL COMMENTS Sugarcane is susceptible to damage particularly in young growth stage
Cane eradication a) Without undercutting stools	8 - 10	800 - 1 000	Apply when tillering from last ratoon is complete at a height of 450 mm.
b) With undercutting stools	4 - 8	400 - 800	Apply when tillers are 350 to 1000 mm high in last ratoon. Wait 2 to 10 days and undercut roots at a depth of 10 to 15 cm using a sub-surface shear.
Eradication of diseased or off-type stools		2ℓ	Apply as a direct spot treatment.

CROP USE RESTRICTIONS

SITUATION	CRITICAL COMMENTS
Vineyards	Do not use in vineyards younger than 2 years or near interplants less than 2 years old. Apply only as a directed spray to vines from bud to dormancy. Use only in the dormant pre-bud-burst stage for cover crop destruction in late winter in the Western Cape. In low growing bush or trellised vines or under 60cm high, use only pre-bud burst. Do not permit spray or drift to contact buds, foliage or green stems, suckers or fresh wounds otherwise severe injury or destruction may result. Allow 10 days to elapse between pruning and application to prevent uptake from wounds.
<u>Pome fruit:</u> Apples, Pears <u>Stone fruits:</u> Peaches, Plums, Nectarines <u>Subtropical fruit:</u> Citrus, Nut crops, Avocado, Paw-paw, Mango, Guava, Litchi, Bananas, Tea plantations.	Use only as a directed spray in orchards older than 3 years or near interplants less than 3 years provided the green bark and foliage is protected from the spray or drift. Do not permit spray or drift to contact leaves, green bark or fruit as severe damage or destruction may result. Allow 10 days to elapse between pruning and application to prevent uptake from wounds.

TANK MIX COMBINATIONS

Glypho 360 may be used as follows:

1. With simazine for extended weed control in apples, pears and vines. Do not use simazine in stone fruit or other plantings where simazine is not recommended. The correct quantity of simazine for the soil type and frequency of application must be adhered to.
2. With MCPA for improved control of Plantain (*Plantago lanceolata*), Herons Bill *(Erodium moschatum)*, Burrclover *(Medicago polymorpha)*, Prostrate Knotweed *(Polygonum aviculare)* and Sheep Sorrel *(Rumex angiocarpus)*.

The directions for use and dosage rates for the additional herbicide must be followed in all cases. Should simazine be used, ammonium sulphate as a 2% solution is recommended to assist in compatibility.

CONTROL OF WEEDS ON INDUSTRIAL AREAS

Glypho 360 may be used to control weeds by a post-emergence application to vegetation on roadsides, electrical sub-stations, railway lines, storage areas or where ever unwanted vegetation exists. Consult the weed list for specific weeds where required.

Use the following guide for rates of application:

SITUATION	BOOM SPRAY ℓ/ha	KNAPSACK mℓ per 20ℓ at 200ℓ/ha	CRITICAL COMMENTS
Annual weeds	2 - 4	133 - 266	Use the lower rate in the pre-flowering stage, and the higher rate up to seed set.
Perennial weeds	4 - 10	266 - 666	