

ROPSERVE

LIFELINE

Reg. No.: L10151 Act /Wet No. 36 of/van 1947

LIFELINE is a non-selective, partly systemic contact herbicide formulated as a water soluble concentrate, for the control of certain broadleaf weeds, grasses and sedges in crops as indicated as well as industrial sites and unplanted areas. **LIFELINE** is 'n nie-selektiewe, gedeelteliksistemiese kontak onkruiddoder geformuleer as 'n wateroplosbare konsentraat, vir die beheer van sekere breëblaar-, gras- en watergrasonkruide in gewasse soos aangedui sowel as industriële en onbeplante gebiede.

HRAC HERBICIDE GROUP CODE:	Н	HRAC ONKRUIDDODERGROEP KODE:
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ACTIVE INGREDIENT/AKTIEWE BESTANDDEEL:

Glufosinate-ammonium / Glufosinaat-ammonium...... 280 g / &

Registration holder / Registrasiehouer: Cropserve (Pty) Ltd.

Co. Reg. No. / Mpy. Reg. Nr: 80/08776/07 P.O Box 10420, Aston Manor, South Africa, 1630 Tel: 011 979-2249/53

Distributed By/Versprei deur:

ARYSTA LifeScience South Africa (Pty) Ltd Co. Reg. No. / Mpy. Reg. Nr.: 2009/019713/07 7 Sunbury Office Park, Off Douglas Saunders Drive, La Lucia Ridge, South Africa, 4019 Tel: 031 514 5600



Contents/Inhoud

Batch No. / Lot Nr.:	
Date of manufacture: / Datum van vervaardiging:	

U.N. No. 3082



READ THE LABEL IN DETAIL BEFORE OPENING THE CONTAINER. / LEES DIE ETIKET VOLLEDIG VOORDAT DIE HOUER OOPGEMAAK WORD. For full particulars, see enclosed leaflet. / Vir volledige besonderhede, sien ingeslote pamflet.

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LIFELINE is a non-selective, partly systemic contact herbicide formulated as a water soluble concentrate, for the control of certain broadleaf weeds, grasses and sedges in crops as indicated as well as industrial sites and unplanted areas. LIFELINE is 'n nie-selektiewe, gedeeltelik-sistemiese kontak onkruiddoder geformuleer as 'n wateroplosbare konsentraat, vir die beheer van sekere breëblaar-, gras- en watergrasonkruide in gewasse soos aangedui sowel as industriële en onbeplante gebiede.

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CAUTION / VERSIGTIG

WARNINGS:

- Handle concentrate with care.
- Harmful if swallowed.
- May be irritating to eyes.
- Store in cool place away from food, feed, seed or other agricultural remedies.
- Keep out of reach of children, uninformed persons and animals.
- Use of **LIFELINE** in any other way or time as indicated in the "Directions for use" may lead to plant injury or other negative effects.
- **Re-entry** Do not enter treated area within one day after treatment unless wearing protective clothing.
- In case of poisoning CALL A DOCTOR AND MAKE THIS LABEL AVAILABLE TO HIM.

Although **LIFELINE** has been tested on most important cultivars and no significant phytotoxicity in the form of yield reduction has been recorded under normal growing conditions, this does not meant that a more sensitive cultivar might not be commercialised in the future. Where a new cultivar is encountered, large areas should not be sprayed without prior testing of **LIFELINE** on that cultivar.

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 dilution water, compatibility with other substances not indicated on the label and the occurence of resistance of the weeds to the remedy concerned as well as by the method, time an 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 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 vapours or spray mist and avoid skin contact.
- Wear protective clothing (boots, face shield, rubber gloves) when handling or applying the product. Wash contaminated clothing daily.
- Do not eat, drink or smoke whilst mixing or applying or before washing hands and face and changing clothes.
- Wash with soap and cold water after use or skin contact.
- Prevent spay drift onto other crops, grazing, rivers, dams or other areas not under treatment.

- Prevent contamination of food, eating utensils, feed and drinking water. •
- Clean all equipment thoroughly after use and do not pollute the environment with wash water. •
- When empty, invert the container over the spray tank and allow it 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 at least one tenth of that of the container and add the rinsing to the contents of the spray tank. Destroy the container by puncturing and flattening. Do not use the container for any other purpose.

SYMPTOMS OF POISONING:

Shivering, disturbance of consciousness, cramps, gastrointestinal complaints, hyperthermia, dyspnoea, bradycardia / tachycardia.

FIRST AID TREATMENT:

ALWAYS OBTAIN TREATMENT BY A DOCTOR IMMEDIATELY.

Remove patient from source of poisoning and keep him guiet and reassured. In the case of accidental contact remove contaminated clothing and rinse contaminated body area thoroughly with soap and plenty of water. Do not rub skin. Flush contamination out of eyes with plenty of clean running water for 15 minutes. When swallowed – do not induce vomiting. Call a doctor immediately and advise him of the poisoning, or transport patient to a doctor or hospital, whichever is faster. Administer artificial respiration or closed cardiac massage if necessary. Do not apply direct mouth to mouth respiration. Never give anything by mouth to an unconscious person.

INFORMATION FOR DOCTOR:

No specific antidote. Treat symptomatically. Specific treatment -

• Gastric lavage – administer activated charcoal, sodium sulphate and endotracheal incubation.

Administer Phenobarbital sodium 1 mg / kg intra-muscularly or subcutaneously up to 5 mg / kg per day. If required, administer 10 mg Diazepam slowly intravenously. Elimination by dialysis (forced alkaline dieresis) or haemodialysis, perfusion.

If necessary give oxygen.

RESISTANCE WARNING:

For resistance management, LIFELINE is a Group Code H herbicide. Any weed population may contain individuals naturally resistant to LIFELINE and other Group Code H herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by LIFELINE or any other Group Code H herbicides. Since the presence of resistant weeds is difficult to detect prior to herbicide application, it is of the utmost importance that treated areas be inspected at regular intervals to identify the occurrence of herbicide-resistant weeds timeously. UPL Limited will not accept liability for performance failures in the event of a build-up of resistant weeds resulting from inadequate resistance management practices as indicated on the label.

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 your local UPL Limited representative.

DIRECTIONS FOR USE: USE ONLY AS DIRECTED

MIXING INSTRUCTIONS:

- Shake container well before use. •
- Use clear clean water for mixing and avoid water which is contaminated by mud, minerals or • organic matter.

METHOD OF APPLICATION:

LIFELINE_RSA/JUL19/REV2_E

GROUND APPLICATION:

Use 300 – 500 ℓ water / ha depending on size of weeds.

For weeds in the seedling stage (up to 10 cm high) use the lower listed dose. For weeds taller than 10 cm but less than 50 cm use the higher listed dose. For weeds 50 cm and taller increase the volume of water to 800ℓ / ha without increasing the dose above that of the highest listed one.

Spot spraying:

Where spot spraying is conducted the same recommendations should be followed as for overall spraying and the same concentration of mixture used ($15 - 25 \text{ m} \ell/\ell$ water). Weeds should be thoroughly wetted with this spray mixture.

TIMING OF APPLICATION:

CROP	APPLICATION TIMING
Citrus, pome fruit, stone fruit and vines in the Winter Rainfall Region	Commence spraying in later winter or early spring, taking the recommendations for specific weeds into consideration. Follow-up sprays may be needed on perennial weeds or problem broadleaf weeds 4 to 6 weeks after the initial spray unless otherwise indicated. Commence spraying before bud burst in bush and low trellised vines. In the case of high trellises do not spray overhanging foliage or green portions of the vines. Do not spray vines which are two years and less in age unless stems are shielded.
Citrus, subtropical fruit, nuts, pome fruit and stone fruit in the Summer Rainfall Region	Commence spraying during late spring when soil moisture is sufficient and weeds are actively growing. Repeat spray 7 – 8 weeks later if necessary.
Industrial sites and unplanted areas in the Sumer and Winter Rainfall Regions	Apply when weeds are growing actively and not under stress due to drought or low temperatures. Best results will be achieved if application is made 1 – 3 days after rain has fallen and there is adequate soil moisture for active plant growth.

WEEDS CONTROLLED IN THE WINTER RAINFALL REGION

Annual grasses:

BOTANICAL NAME	COMMON NAME	RATE / HA	۱	REMARKS
Avena fatua	Common wild oats	3,6−5,4ℓ	А	
Avena sativa	Oats (cover crop)	3,6−5,4ℓ	А	
Bromus diandrus	Ripgut brome	3,6−5,4ℓ	А	
Bromus unioloides	Rescue grass	3,6−5,4ℓ	А	
Digitaria sanguinalis	Crab finger-grass	3,6−5,4ℓ	А	
Echinochloa crus-galli	Barnyard grass	3,6-5,4 ℓ	A	Large established grass not adequately controlled. Suppression.
Ehrharta longifolia	Oat-seeded grass	3,6−5,4ℓ	А	
Eleusine indica	Goose grass	3,6−5,4ℓ	А	
Lolium multiflorum	Italian ryegrass	5,4 <i>l</i>	А	
Poa annua	Winter grass	2,1 – 3,6 ℓ	А	
Secale cereal	Rye (cover crop)	3,6 – 5 ł	А	

A = Spray older plants before seed sets

Perennial grasses:

BOTANICAL NAME	COMMON NAME	RATE / HA	ATE / HA REMARKS	
Cynodon dactylon	Common couch	5,4 {	В	Multiple sprays. Spray when adequate leaf area is present for uptake but before the grass forms a Recumbent mat.
Paspalum dilatatum	Common Paspalum	3,6−5,4ℓ	В	Big clumps suppressed. Small plants controlled.
Paspalum distichum	Couch Paspalum	3,6−5,4ℓ	В	

Paspalum urvillei	Tall Paspalum	3,6-5,4 ł	В	Big clumps suppressed. Small plants
Pennisetum	Kikuyu	3,6−5,4ℓ		controlled. Repeat 5 – 8 weeks later if re
clandestinum				growth occurs, 3,6 ℓ/ha will be sufficient for follow-up sprays.

For the above mentioned perennial grasses, sprays should be repeated when 50 – 60 % re growth occurs. DO NOT USE LESS THAN 300^l SPRAY MIXTURE / HA. ENSURE GOOD WETTING OF FOLIAGE.

B = Spray at any stage while actively growing. Repeat if re growth occurs.

Sedges:

BOTANICAL NAME	COMMON NAME	RATE / HA	REMARKS
Cyperus esculentus	Yellow nut sedge	5,4 ℓ	Multiple sprays. If yellow nut sedge is shaded 5,4 <i>l</i> / ha can in the majority of cases be expected to give good suppression if sprayed at 5 % flowering under normal growing conditions. Control may be erratic under other situations due do climate and many other factors influencing growth and herbicide uptake. Re-growth normally occurs. Re-spray when sufficient leaf area (50 %) is present for uptake of herbicide.

Broadleaf weeds:

BOTANICAL NAME	NICAL NAME COMMON NAME RATE / HA			REMARKS
Amaranthus spp.	Pigweed	3,6−5,4ℓ	A+C	
Arctotheca calendula	Cape marigold	3,6−5,4ℓ	A	-
Bidens spp.	Blackjacks	3,6-5,4 ℓ	А	Before plants reach a height of 50 cm.
Centaurea repens	Russian knapweed	2,13 – 3,6 ℓ	А	
Chenopodium album	White goosefoot	5,4 {	A+C	
Convolvulus arvensis	Field bindweed	3,6−5,4ℓ	Α	Add 3ł MCPA/ha. Spray re growth.
Conyza spp.	Fleabane	3,6-5 ł	A+C	
Datura spp.	Thorn apple	3,6−5,4ℓ	A+C	
Echium lycopsis	Patterson's curse	2,1 – 3,6 ℓ	С	Spray before flowers from.
Emex australis	Spiny emex	3,6−5,4ℓ	В	
Erodium moschatum	Musk heron's bill	5,4 ℓ	A	Add 3ℓ MCPA if plants have reached 25cm in height
Fumaria officinalis	Fumitory	2,1 – 3,6 ℓ	В	
Geranium molle	Cranesbill	5,4 {	Α	
Gnaphalium luteo-album	Jersey cudweed	5,4 {	Α	
Lactuca serriola	Wild lettuce	3,6−5,4ℓ	Α	
Lamium amplexicaule	Henbit	2,1 – 3,6 ℓ	Α	
Lepidium africanum	Pepper cress	3,6−5,4ℓ	А	
Malva parviflora	Small mallow	5,4 ℓ		Will suppress young actively growing plants before they reach 25 cm in height.
Medicago polymorpha	Bur clover	3,6−5,4ℓ	А	
Melilotus indica	Annual yellow sweet clover	2,1 – 3,6 ℓ	А	
Oenothera stricta	Evening primrose	3,6 – 5,4 ℓ	Α	Repeat sprays when necessary.
Oxalis pes-caprae	Yellow sorrel	3,6−5,4ℓ	В	Suppression only.
Plantago lanceolata	Narrow-leaved ribwort	5,4 ℓ		Multiple sprays. Just before or just after flowering. Repeat when there is sufficient leaf area for uptake of herbicide. Suppression only. For improved control, add 4ℓ MCPA to

				5,4 & LIFELINE /ha. Prior or just after flowering stage for complete control.
Polygonum aviculatre	Prostrate knotweed	3,6-5,4 ł	А	Up to early flowering. After flowering
Raphanus raphanistrum	Wild radish	5,4 ł	С	add 4łMCPA to 3,6 ł LIFELINE /ha.
Rumex angiocarpus	Sheep sorrel	3,6−5,4ℓ	А	
Senecio spp.	Senecio	2,1 – 3,6 ℓ	А	
Sisymbrium thellungii	Common wild mustard	2,1 – 3,6 ℓ	A	Spray older plants before fruits ripen.
Solanum nigrum	Nightshade	3,6−5,4ℓ		1
Sonchus spp.	Sowthistle	2,1 – 3,6 ℓ	А	1
Spergula arvensis	Corn spurry	2,1 – 3,6 ℓ	А	1
Stellaria media	Chickweed	2,1 – 3,6 ℓ	В	1
Tagetes minuta	Khaki weed	3,6−5,4ℓ	A+C	1
Urtica dioica	Stinging nettle	2,1-3,6 ł	С	1
Veronica persica	Field speedwell	2,1 - 3,6 ł	А]
Vicia sativa	Common Vetch	2,1-3,6 ł	А]

A = Spray plants before seeds sets

B = Spray at any stage while actively growing

C = Before plants reach a height of 25 cm

WEEDS CONTROLLED IN SUMMER RAINFALL REGION

Annual grasses:

BOTANICAL NAME	COMMON NAME	RATE / HA	١	REMARKS
Bromus unioloides	Rescue grass	3,6−5,4 ℓ	В	Repeat when 50 – 60 % re growth occurs.
Digitaria sanguinalis	Crab finger-grass	3,6 – 5,4 ł	А	_
Echinochloa colona	Marsh grass	3,6−5,4ℓ	А	
Eleusine indica	Goose grass	3,6−5,4ℓ	А	
Eragrostis aspera	Rough lovegrass	3,6-5,4 ł	В	Repeat when 50 – 60 % re growth occurs.
Rhynchelytrum repens	Natal red-top	3,6−5,4ℓ	А	
Setaria verticillata	Bur bristle grass	3,6−5,4 ℓ	А	
Sporobolus pyramidalis	Catstail dropseed	3,6−5,4 ℓ	А	
Tragus berteronianus	Small carrot-seed grass	3,6-5,4 ł	A	
Tragus racemosus	Large carrot-seed grass	3,6-5,4 ł	A	
Urochloa panicoides	Herringbone grass	3,6−5,4ℓ	А	

A = Spray plants before seed sets.

Perennial grasses:

BOTANICAL NAME	COMMON NAME	RATE /	/ HA	REMARKS
Cynodon dactylon	Common couch	5,4 ł	В	Multiple sprays. Spray when adequate leaf
Panicum maximum	Common buffalo grass	3,6 − 5,4 ℓ	В	area is present for uptake but before the grass forms a recumbent mat. Repeat at the lower rate if re growth appears.
Paspalum dilatatum	Common Paspalum	3,6 − 5,4 ℓ	В	Repeat at the lower rate if re growth appears. Repeat if re growth occurs
Paspalum distichum	Couch Paspalum	5,4 ł	В	Repeat 5 – 8 weeks later if re growth
Pennisetum clandestinum	Kikuyu	3,6 – 5.4 ł	В	occurs. 3,6 {/ha will be sufficient for follow- up crops.
	d perennial grasses, spr	-, -	d be repea	ated when 50 – 60 % re growth occurs. DO

THAN 300 ℓ SPRAY MIXTURE / HA. ENSURE THOROUGH WETTING OF FOLIAGE.

B = Spray at any stage while actively growing.

Sedges:

BOTANICAL NAME	COMMON NAME	RATE / HA	REMARKS
Cyperus esculentus	Yellow nut sedges	5,4 ł	Multiple sprays
Cyperus rotundus	Purple nut sedges	5,4 ℓ	If nut sedge is shaded, 5,4 {/ha can be
Kyllinga erecta	White sedge	5,4 ℓ	expected to give good suppression in the majority of cases if sprayed at 5 % flowering under normal growing conditions. Control may be erratic under other situations due to climatic and many other factors influencing growth and herbicide uptake. Re growth normally occurs. Re- spray when sufficient leaf area is present (50 %) or uptake of herbicide.

Broadleaf weeds:

BOTANICAL NAME	COMMON NAME	RATE / HA		REMARKS
Acanthospermum	Upright starbur	3,6 − 5,4 ℓ	A+C	
hispidum				
Alternanthera pungens	Khaki bur weed	2,1−3,6ℓ	А	
Amaranthus spinosus	Thorny pigweed	2,6−3,6 ℓ	A+C	
Amaranthus spp.	Pigweed	3,6−5,4 ℓ	A+C	
Bidens pilosa	Blackjack	3,6−5,4 ℓ	A+C	
Chenopodium album	White goosefoot	3,6−5,4 ℓ	A+C	
Chenopodium carinatum	Green goosefoot	3,6−5,4ℓ	A+C	
Commelina benghalensis	Bengal wandering Jew	3,6−5,4ℓ	В	
Conyza bonariensis	Flax-leaf fleabane	3,6−5,4 ℓ	A+C	
Conyza Canadensis	Horseweed fleabane	5,4 ł	A+C	
Datura stramonium	Thorn apple	3,6−5,4 ℓ	A+C	
Euphorbia hirta	Red milkweed	3,6−5,4 ℓ	В	
Fallopia convolvulus	Climbing knotweed	2,1−3,6ℓ	А	
Galinsoga parviflora	Gallant soldier	2,1−3,6ℓ	В	
Lepidium africanum	Pepper cress	3,6−5,4 ℓ	А	
Oxalis spp.	Sorrel	2,1−3,6ℓ	В	
Physalis angulata	Wild gooseberry	2,1−3,6ℓ	В	
Portulaca oleracea	Purslane	3,6−5,4 ℓ	В	
Richardia brasiliensis	Tropical Richardia	3,6−5,4 ℓ	В]
Rumex lanceolatus	Smooth dock	3,6−5,4 ℓ	A+C	
Schkuhria pinnata	Dwarf marigold	3,6−5,4 ℓ	А	
Sida rhombifolia	Arrowleaf Sida	3,6-5,4 ł	A	Spray seedlings. Other plants not well controlled.
Tagetes minuta	Khaki weed	5,4 ł	A+C]

A = Spray plants before seed sets

B = Spray at any stage while actively growing

C = Before plants reach a height of 25 cm

ALL REGIONS

BOTANICAL NAME	COMMON NAME	RATE / HA	REMARKS		
Phragmites australis	Common reed	10,7 ℓ	Apply in 1000 ℓ water per ha when common reed re growth has reached		
LIFELINE can only be sprayed on common reed where the areas of growth are drained, or where the water					

LIFELINE can only be sprayed on common reed where the areas of growth are drained, or where the water systems wherein they grow are closed or confined areas with standing water (dams, pans or valleys). Where contact between LIFELINE and adjoining water has been made – DO NOT USE THIS WATER FOR DOMESTIC PURPOSES FOR A MINIMUM PERIOD OF 24 HOURS AFTER APPLICATION.

IMPORTANT NOTES:

1. Seedlings that have not emerged at the time of application will not be controlled or are not damaged. No action via the roots is present.

- Damage symptoms in the form of yellowing and leaf scorch to the aerial portions of plants commence 7 – 10 days after treatment and maximum control is a achieved 2 – 6 weeks after spraying depending on weed spectrum and environmental conditions.
- 3. Optimum herbicidal action following leaf uptake is obtained under environmental conditions favourable for active plant growth as well as for young growing plants having a large proportion of foliage with a high metabolic rate.
- 4. The use of LIFELINE sprays at the prescribed doses will remove weed competition within orchards etc, for a period of usually not less than 6 weeks in the case of an established weed population, but often greatly in excess of this period, depending upon the weed species, type of weed, stage of development, whether the weeds are annual or perennial as well as upon environmental factors.
- 5. Irrigation prior to application of **LIFELINE** assists in weed control. DO NOT SPRAY WEEDS UNDER ENVIRONMENTAL STRESS such as drought, low temperatures, water logging and salinity as herbicidal action may be affected. This also applies to weeds which are senescing or dormant or growing slowly due to other plant stress inducing factors.
- 6. TWELVE HOURS should be left between spray application and the re-commencement of irrigation where perennials and waxy leafed weeds have been sprayed.
- 7. In the case of weeds which do not have waxy leaves or in the case of small annual weeds EIGHT HOURS should be left between spray application and re-commencement of irrigation.
- 8. What has bearing upon irrigation also has bearing upon the effect of rainfall above 5mm.
- 9. No impairment of plant growth takes place if crops are planted in soil recently treated with **LIFELINE** as breakdown is rapid.
- 10. Do not spray when weeds are wet from rain or irrigation.
- 11. Do not spray if weeds are covered with a heavy layer of mud, dust or debris as may occur when flood irrigation is in use.
- 12. Green side shoots and suckers may be sprayed and scorched without damage extending to the rest of a fruit tree or vine.
- 13. Ensure that direct spray or drift is kept out of contact with green leaves, active buds and fruit.
- 14. In the case of young trees with green stems, these should be protected or spray shields used to prevent damage to nonsuberised bark.
- 15. It is recommended that low hanging branches should be trimmed to avoid leaf and fruit contact as well as to prevent interference with weed control.
- 16. Bananas should be at least 2 years old before spray is allowed to come into contact with the plants. Only the bases of the pseudo stems should be permitted to come in contact with the spray.

NOTE:

LIFELINE controls the above mentioned weed species alone. Other weed species that were not present during the development trials with the product, may possibly also be controlled to a certain degree. The registration holder does not accept any responsibility for unlisted weeds.