



Carabiner



GRAMINX

Reg. No. / Nr L11429 Act No. 36 of 1947 / Wet Nr 36 van 1947

**READ THE LABEL BEFORE USE
KEEP OUT OF REACH OF CHILDREN AND ANIMALS**

A selective, emulsifiable systemic weedkiller for the post-emergence control of certain grasses in forestry, crops, seedbeds (including volunteer maize containing the glyphosate resistant gene).

'n Selektiewe, emulgeerbare sistemiese onkruiddoder vir die na-opkoms beheer van sekere grasse in bosbou, saadbeddens (insluitend opslagmielies wat die glifosaat-bestandheidsgeen bevat).

GROUP	1	HERBICIDE
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WARNING

Hazard statements

Combustible liquid.
Harmful if swallowed.
May be fatal if swallowed and enters airways.
Causes mild skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
Harmful to aquatic life with long lasting effects.

Precautionary statements

IF SWALLOWED: Get emergency medical help immediately.
IF ON SKIN: Wash with plenty of water and soap.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Active Ingredient/ Aktiewe Bestanddeel

Clethodimcontains 240 g a.i. per litreKletodim
(cyclohexanedione) (sikloheksaandioon)

Net volume ℓ Netto volume

REGISTRATION HOLDER / REGISTRASIEHOUER:

Agritech Bioscience (Pty) Ltd / (Edms) Bpk t/a Carabiner
Reg. No. 2008/004392/07
6 Antwerp Street,
Apex, Benoni,
1540
South Africa / Suid-Afrika

Batch No
Date of Manufacture
Expiry date (2 years)

..... Lot Nr.
..... Datum van Vervaardiging
..... (2 jr) Vervaldatum

UN No. / VN Nr. Not regulated

In case of poisoning, call the following number:
Poison centre (Unitas hospital): Emergency Number: 012 664 1100
TYGERBERG: Emergency Number: 021 931 6129
RED CROSS: Emergency Number: 021 689 5227
RAPID SPILL RESPONSE: Emergency Number: 0800 775 3305
GRIFFON POISON CENTRE: Emergency Number: 082 446 8946

WARNINGS

- GHS Hazard statements

Combustible liquid.
Harmful if swallowed.
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Causes serious eye irritation.
Harmful if inhaled.
Harmful to aquatic life with long lasting effects.

Allow the following number of days between the last treatment and harvest or use as food or feed:

Canola.....90 days
Other crops.....28 days

IMPORTANT: The recommended withholding period between the last application and harvest meets local residue requirement but may not meet export requirements. However, it is important to note that import tolerances of other countries might potentially be exceeded. If the treated crop will be exported, first consult the relevant importer or exporting body regarding the use of this product, MRL's and recommended withholding periods.

- Harmful when swallowed, inhaled, or absorbed through the skin.
- Store in the original container in a cool, dry, well-ventilated place out of direct sunlight.
- Store away from food, feed, seed, other agricultural chemicals and out of reach of children, uninformed persons, and animals.
- Do not contaminate dams, rivers, lakes, or any other water sources.
- **Re-entry:** Do not enter treated area within 1 day following application unless wearing protective clothing.
- **In case of poisoning immediately call a physician and make this label available to him/her.**

DISCLAIMER

Although this remedy has been 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 the 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 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

- GHS Precautionary statements

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read carefully and follow all instructions.
Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
Avoid breathing dust/fumes/gas/mist/vapours/spray.
Wash hands thoroughly after handling. Do not touch eyes.
Do not eat, drink, or smoke when using this product.

Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection / hearing protection.
IF SWALLOWED: Get emergency medical help immediately.
IF SWALLOWED: Get medical help. Rinse mouth.
IF ON SKIN: Wash with plenty of water and soap.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see FIRST AID TREATMENT on this label).
Do NOT induce vomiting.
If skin irritation or a rash occurs: Get medical help.
If eye irritation persists: Get medical help.
Take off contaminated clothing and wash it before reuse.
In case of fire: Use fine water spray, alcohol foam, carbon dioxide, or dry chemical to extinguish.
Store in a well-ventilated place.
Store locked up.
Dispose of contents/container in accordance with national regulations.

- OPERATOR PROTECTION

- Handle with care.
- Do not inhale spray mist.
- Avoid skin and eye contact by wearing protective clothing when mixing the product. Should eye contact occur, flush with plenty of clean water for 15 minutes holding eyelids open. Remove contact lenses after five minutes or irrigation. Seek medical attention if irritation persists.
- Wash with soap and water after use and accidental skin contact as well as contact with contaminated clothing.
- Wash contaminated clothing after use.
- Avoid contact with skin or eyes since product may cause eye and skin irritation.
- Do not eat, drink, or smoke while mixing or applying the product or before washing hands and face and changing clothes.

- ENVIRONMENTAL PROTECTION

- Do not contaminate dams, rivers, lakes, or any other water sources.
- Avoid drift of spray onto other crops, grazing, rivers, dams, and areas not under treatment.
- Clean the applicator with clean water directly after use. Dispose of the rinsate where it will not contaminate crops, grazing, rivers, dams, and boreholes.

- STORAGE AND DISPOSAL

- Store under lock and key in the original container in a cool, dry place out of direct sunlight.
- Store away from food, feed, fertilizer, and seed.
- **KEEP OUT OF SIGHT AND REACH OF CHILDREN**, uninformed persons, untrained personnel, unauthorised personnel and animals.
- Do not allow access to this product by children, uninformed persons, untrained personnel, unauthorised personnel, or animals under any circumstances.
- Prevent contamination of food, feeds, drinking water and eating utensils.
- Containers and packages must be completely emptied before disposal.
- **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. Destroy the triple rinsed container by perforation and flattening and do not use for any other purpose. Store appropriately until it can be disposed of via an approved collector or recycler authorised to recycle or destroy waste in terms of the National Environmental Management: Waste Act, 2008

(Act No. 59 of 2008) and the relevant waste management regulations. Empty containers and product should not be burnt. Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.

RELEVANT SUBSTANCES

Hazardous ingredient	Concentration (w/v)
Clethodim	24%
Calcium dodecylbenzene sulphonate	$\geq 1 - \leq 10\%$
Fatty alcohol polyoxyethylene ether	$\geq 1 - \leq 10\%$
Solvent naphtha (petroleum) heavy aromatic	$\geq 1 - \leq 70\%$

FIRST AID TREATMENT

If medical advice is needed, have product container or label at hand. Provide medical personnel with the product container, label or safety data sheet (SDS) when seeking medical attention.

General Information: Remove patient from exposed area. Never give fluids or induce vomiting if patient is unconscious or is having convulsions.

Inhalation: Remove patient to fresh air. Loosen clothing around neck. Lie down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. **Seek medical assistance immediately.**

Skin contact: Immediately flush body and clothes with large amounts of water and soap. Remove contaminated clothing and footwear. Wash affected areas with soap and water. Do not rub skin. Persons providing first aid must wear gloves to avoid self-contamination. Seek medical assistance if irritation occurs.

Eye contact: Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. **Seek medical assistance immediately.**

Ingestion: Never give anything by mouth to an unconscious person. Do not induce vomiting as this product contains an aromatic solvent. For advice, contact the National Poisons Centre. If the patient is alert and able, rinse mouth thoroughly with water. **Seek medical assistance immediately.** Treat symptomatically and supportively.

No specific antidote known. Treat symptomatically and supportively. For further information on the treatment of poisoning refer to the product Safety Data Sheet provided.

RESISTANCE MANAGEMENT WARNING STATEMENT

For resistance management, **GraminX** is a group code 1 herbicide. Any weed population may contain individual weeds naturally resistant to **GraminX** and other group code 1 herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **GraminX** or any other group code 1 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. Large numbers of healthy surviving weeds can be an indication that resistance is developing. Efforts should be taken to prevent seed set of these survivors.
- Refer to the Herbicide Resistance Action Committee for information regarding any applicable resistance management of group 1 herbicides at <https://hracglobal.com/> for more information.

- Integrate other control methods (chemical, cultural, biological) into weed control programmes.
- Avoid distribution of the resistant species to adjacent field by implements during the cultivation period.

As the occurrence of resistance cannot be forecast, users are advised to keep all treated crops under close observation. If the treatment is not effective following the use of **GraminX** as recommended, a resistant strain may be present. If a resistant strain is positively identified, consideration should be given to the prompt use of a herbicide with a different mode of action against which no record of resistance exists.

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

The presence of resistant weeds is difficult to detect prior to use and therefore neither the Registration Holder nor the Distributor can accept responsibility for any losses as a result of **GraminX** not controlling resistant weeds. Do not apply **GraminX** alone in situations where weed resistance has been confirmed. Sub-standard application of **GraminX** or other Group 1 herbicides will lead to inferior weed control and may assist in development of herbicide resistance.

Ensure that the person assigned to apply the product is properly trained in its use.

MODE OF ACTION

Clethodim is a systemic herbicide, rapidly absorbed and readily translocated from treated foliage to the root system and growing parts of the plant where it operates as a fatty acid biosynthesis inhibitor via inhibition of acetyl CoA carboxylase (ACCase).

DIRECTIONS FOR USE - Use only as directed.

Before applying **GraminX** it is advisable to wait until the majority of the grass weeds are within the optimum stages for control as mentioned in the "Weeds" list. Since **GraminX** has a limited soil residual action, the weeds to be controlled must have emerged before applying **GraminX**.

For optimum weed control, ensure thorough spray coverage over the entire leaf area of the target plant, especially where the crop is very dense.

Rain or irrigation within 1 hour after a **GraminX** application may necessitate a second application.

NOTICE TO USER: This agricultural remedy is to be used only in accordance with the instructions on the label. It is an offence under Act No. 36 of 1947 to use this agricultural remedy for any purpose in a manner contrary to the directions on the label.

WAITING PERIOD FOR FOLLOW-UP CROPS:

Where follow-up crops are to be planted following **GraminX** applications, apply the following withholding periods:

- Broadleaf crops: None
- Maize, other grains and grass crops: 7 days for dosage rates of up to 0.5 L/ha ONLY. The higher dosage rates are NOT recommended where these crops are to be planted as follow-up crops. Applications in sandy soils (<10% clay) may still result in slight phytotoxicity where these crops are planted as follow-up crops.

COMPATIBILITY

The compatibility of **GraminX** with other products depends on the formulations of the respective products as well as the quality of the spray water to be used. As formulations change from time to time it is recommended that a physical compatibility test be done prior to the tank mixture being made. Do not mix or apply **GraminX** with any other additives, agrochemicals, or fertilizers unless specifically recommended.

Always add a suitable adjuvant such as ZAP (L6912), Methos (L11114) or H&R Crop Oil (L 6802) at the recommended rate. All WARNINGS, PRECAUTIONS, USE RESTRICTIONS and DIRECTIONS FOR USE on the product labels must be fully adhered to. Consult the relevant labels for full details.

GraminX should not be mixed with products other than those specifically listed in this label.

USE RESTRICTIONS

- Allow at least 4 days after an application of **GraminX** before applying another agrochemical unless specifically recommended otherwise.
- Apply only during favourable growing conditions.
- Do not apply to large areas of newly released cultivars, before consulting your local **GraminX** representative or distributor, or before testing phytotoxicity.
- Only apply to actively growing grass weeds within the recommended growth stages as mentioned in the recommendations. Do not apply to crops and weeds stressed by abnormal weather or growing conditions, drought, waterlogged soil, insect damage, nematode infections, diseases, nutritional deficiencies, or crops under stress through prior use of other agrochemicals.
- Do not apply **GraminX** to any crop or situation not mentioned in this instruction leaflet.
- Only apply using an accurate and safe application technique.
- If **GraminX** is used in a tank mixture with other products, consideration should be given to the restrictions of those respective products.
- Do not apply this product in combination or tank mixture with any other product or agricultural remedy which is not specifically listed on this label. Agritech Bioscience (Pty) Ltd t/a Carabiner accepts no responsibility for any negative effects experienced if the instructions on this label are not adhered to, unless a Carabiner representative was consulted beforehand.
- By buying this product, the buyer undertakes that the user is fully aware of and suitably trained on the hazards associated with the preparation and use of this product. By selecting this product voluntarily, the user assumes responsibility for his or her own personal protection whilst storing, mixing, and applying the product in the approved manner according to the instructions for use. The user also confirms to have consulted the SDS of this product and he/she is aware of the potential health hazards which could arise out of use and misuse of this product. Users are encouraged to keep records of all procedures followed and which personal protection equipment was used at all times. All personal protection equipment used must be kept clean and in good working order according to the manufacturer's specifications. Agritech Bioscience (Pty) Ltd accepts no responsibility for any adverse effects experienced if the instructions on this label are not adhered or resulting from improper use of this product or the use of unsuitable personal protection equipment. The user has selected to use this product at his/her own free will and risk.

MIXING INSTRUCTIONS

Shake container thoroughly just before use. Close tightly after use.

Half-fill the spray tank with suitable water, then add the required amount of **GraminX** to the water in the tank while agitating. Fill the spray tank to the desired volume. Should tank mixtures with other herbicides be made, follow the respective manufacturers' label recommendations. Do not use brackish water. Should tank mixtures with other products be made, follow the respective manufacturer's label recommendations. **Ensure thorough agitation of the mixture in the tank during mixing and application. Tank mixtures must be sprayed out immediately and not be allowed to stand in the spray tank overnight.** Spraying equipment must be thoroughly flushed out at the end of the spraying operation. Ensure that spray premixes and/or final spray mixtures are kept out of reach of children, uninformed persons, untrained personnel, unauthorised personnel and animals.

APPLICATION METHODS

GROUND APPLICATION

Ensure that the equipment is correctly calibrated and is checked regularly during application to ensure even and accurate application.

GraminX can be applied with conventional ground application equipment (tractor mounted sprayers, knapsack sprayers) capable of producing a uniform spray pattern. It is recommended to use flat fan or hollow-cone nozzles and a low spray pressure (100–200 kPa) for a coarse droplet spray. Ensure thorough coverage of the weeds by applying at least 150 l of spray mixture per hectare. Grass species that were not present during the development trials of the product could possibly also be controlled to a greater or lesser degree. The registration holder does not accept any responsibility for unlisted weeds.

APPLICATION RATES

USE	DOSAGE / HA	REMARKS
Soybeans, Sunflowers, Dry Beans, Green beans, Groundnuts, Onions, Potatoes	0.5 to 1 l GraminX + Suitable Adjuvant as required	Apply in at least 150 l water/ha. Apply to actively growing weeds at the correct growth stage as indicated in the WEEDS CONTROLLED table. To control glyphosate resistant maize, apply the higher dosage to larger plants up to the 8-leaf stage. In the case of soybeans, a registered glyphosate formulation may be added to control weeds not controlled by GraminX .
Leguminous pastures	0.5 to 1 l GraminX + Suitable Adjuvant as required	Apply before the beginning of flowering as GraminX may cause flower-drop in leguminous pastures. Apply to actively growing weeds at the correct growth stage as indicated in the WEEDS CONTROLLED table.
Canola	0.5 to 1 l GraminX + Suitable Adjuvant as required	Apply once the Canola has reached at least the 2 – 3 leaf stage, and not later than the 8 – leaf growth stage (before the beginning of stem elongation). Apply to actively growing weeds at the correct growth stage as in the WEEDS CONTROLLED table. Where resistant weeds are present, additional registered herbicides would need to be applied to improve control of such weed biotypes.
Fruit orchards and vines	0.5 l to 1 l GraminX + Suitable Adjuvant as required	Apply to actively growing weeds at the correct growth stage as indicated in the WEEDS CONTROLLED table.
Commercial timber plantations	0.3 to 1 l GraminX + Suitable Adjuvant as required	Apply to actively growing weeds at the correct growth stage as indicated in the WEEDS CONTROLLED table.
Seedbeds (pre- planting of maize to control grasses and glyphosate resistant volunteer maize)	0.5 to 1 l GraminX + Suitable Adjuvant as required	To control volunteer glyphosate resistant maize, apply the higher dosage to larger plants up to the 8-leaf stage. In the case of broadleaf weeds, a registered glyphosate formulation may be added to control weeds not controlled by GraminX . In this instance volunteer glyphosate resistant soybeans will not be controlled, and an alternative herbicide would need to be employed.

NOTES:

- In order to prevent poor weed control, apply only during moist conditions and when weeds are actively growing.

- **GraminX** will not control weeds that have not emerged at the time of application.
- Under certain conditions **GraminX** may cause some temporary crinkling and cupping of emerging *Eucalyptus* leaves but this is normally temporary and will not affect growth significantly.
- **Adjuvants: It is essential to add a high quality penetrating adjuvant such as ZAP or Methos at 500 ml per ha in ALL cases. Failure to do so will result in poor weed control. For Canola and “Seedbeds” use the recommended quantity of adjuvant as well as a 1% ammonium sulphate dry formulation.**

WEEDS CONTROLLED:

Scientific name	Common name	Growth stage
<i>Avena fatua</i>	Common wild oats)	2 – 6 leaves
<i>Bromus diandrus</i>	Brome grass)	2 – 6 leaves
<i>Digitaria sanguinalis</i>	Crab finger-grass	2 – 6 leaves
<i>Eleusine indica</i>	Goose grass	2 – 6 leaves
<i>Lolium multiflorum</i>	Italian ryegrass	2 – 5 leaves
<i>Panicum maximum</i>	Common buffalo grass	2 – 8 leaves
<i>Zea mays</i>	Volunteer maize	4 – 8 leaves
<i>Sorghum halepense</i>	Johnson grass	3 – 6 leaves

NOTE:

- Improved control of larger *Sorghum* spp. grass weeds will be obtained at a dosage of 1.2 litres per ha.

ACKNOWLEDGEMENT OF TRADEMARKS

ZAP (L6912)
H&R Crop oil (L6802)
Methos (L11114)

Rolfes Agri (Pty) Ltd
H&R South Africa (Pty) Ltd
Agritech Bioscience (Pty) Ltd t/a Carabiner