



# RANGEFINDER

Reg. No./Nr L9929, Act/Wet No./Nr 36 Of/Van 1947  
N-AR 1787, W 130939

**GROUP C1 + C2 HERBICIDE**

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

A soil applied suspension concentrate herbicide for the control of certain tree and shrub species as listed..

'n Grondtoegediende suspensie konsentraat onkruidodder vir die beheer van sekere boom-en bosspesies soos aangedui.



### WARNING

#### Hazard Statements

- May be corrosive to metals
- Harmful if swallowed
- Causes skin irritation
- May cause an allergic skin reaction
- Causes serious eye irritation
- May cause respiratory irritation
- Suspected of causing cancer
- May cause damage to organs
- Very toxic to aquatic life with long lasting effects

#### Precautionary Statements

- IF SWALLOWED - Get medical help.
- IF ON SKIN - Wash with plenty of water and soap.
- IF INHALED - Remove person to fresh air and keep comfortable for breathing.
- IF IN EYES - Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

#### Active ingredients/Aktiewe bestanddele

250 g/l Bromacil (Substituted uracil) / 250 g/l Bromasil(Gesubstitueerde urasil)

250 g/l Tebuthiuron (Urea compound) / 250 g/l Tebutiuron (Urea verbinding)

Net volume 1 l Netto volume

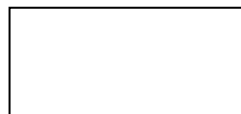
#### REGISTRATION HOLDER / REGISTRASIEHOUER:

Agritech Bioscience (Pty) Ltd / (Edms) Bpk t/a Carabiner  
Reg. No. 2008/004392/07  
PO Box / Posbus 1224  
Isando  
1600  
South Africa / Suid-Afrika

Batch No. ....



Date of Manufacture .....  
Expiry date (< 2 years).....



UN No. 3082

Lot Nr. ....

..... Datum van Vervaardiging  
.....(< 2 jr) Vervaldatum



#### 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

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- Handle with care.
- Poisonous if swallowed.
- May irritate the nose, skin, throat, and eyes.
- Store under lock and key in a cool, well-ventilated place away from food, feed, seed, fertilizers, other agricultural remedies, and consumable products.
- **Store at a temperature not exceeding 32 °C.**
- Keep out of reach of children, animals, and uninformed people.
- Harmful to fish and aquatic organisms.
- **Re-entry:** Do not enter the treated area within 1 day unless wearing protective clothing.

## DISCLAIMER

**Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be effective under all conditions. The activity 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 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 herbicide 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

- 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 instruction.  
Obtain, read, and follow all safety instructions before use.  
Keep only in original container.  
Do not breathe 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.  
IF SWALLOWED - Get medical help.  
IF ON SKIN - Wash with plenty of water and soap.  
IF INHALED - Remove person to fresh air and keep comfortable for breathing.  
IF IN EYES - Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.  
If exposed or concerned, get medical advice.

Get medical help if you feel unwell.  
 Specific treatment (see first aid on this label).  
 Rinse mouth.  
 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.  
 Absorb spillage to prevent material-damage.  
 Collect spillage.  
 Store in a well-ventilated place. Keep container tightly closed.  
 Store locked up.  
 Dispose of contents/container in accordance with local / regional / national / international regulations.

- Do not inhale the spray mist or fumes.
- Avoid contact with skin, eyes and clothes.
- Wear protective clothing (e.g., face shield, rubber gloves and boots) while handling the concentrate and when preparing and applying the spray mixture.
- In the case of contamination, flush immediately with water.
- Wash with soap and water directly after use or skin contact.
- Do not smoke, eat, drink, or use the toilet whilst handling this product or before washing hands and face with soap and water.
- Prevent contamination of food, feed, drinking water as well as eating utensils.
- Wash contaminated clothing daily.
- Do not apply where the roots of any desirable plants may absorb the product.
- Do not apply where the run-off from the treated area will contaminate water or within 10 meters of permanent water.
- Avoid drift or spray onto crops, grazing, rivers, dams, wetlands, or any other areas not under treatment.
- Do not mix or load within 20 meters of any water body.
- Do not mix, clean, or load the spraying equipment within 20 meters of a well or fountain unless on an impervious pad in order to prevent groundwater contamination. Prevent ground water contamination through back-siphoning when filling the spray tank by means of an anti-siphoning device or an air break between the water hose and the spray tank contents.
- Invert the empty container over the spraying or mixing tank and allow it to drain for at least thirty 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 30% of the volume of the container. Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner.
- Destroy the empty container by perforation and flattening after use of the product.
- Dispose of in an approved landfill or preferably in an appropriate pesticide incinerator
- In order to avoid injury to any desirable plants, the spray equipment used must be thoroughly washed and rinsed in the following way: The spray equipment must be drained immediately following application. Thoroughly rinse the sprayer and flush the hoses, boom, and nozzles with clean water. Loosen and physically remove any visible deposits. Remove and clean the nozzles, screens, and strainers. Flush the entire system thoroughly with clean water. Thoroughly clean all other associated application equipment. Dispose of the wash water responsibly in order to prevent contamination of the environment and water sources.

## RELEVANT SUBSTANCES

| Chemical name | Composition | Classification according to Regulation EC 1272/2008 (CLP)   |
|---------------|-------------|---|
| Bromacil      | ≥ 25%       | Acute Oral Tox. 4<br>Skin corrosion / irritation Cat. 2<br>Carcinogen Cat. 2<br>Eye Irrit. Cat. 2A<br>STOT-SE Cat. 3 resp<br>Aquatic Acute 1, M factor 10<br>Aquatic Chronic 1, M factor 10 |

|   |              |   |
|---|--------------|---|
| Tebuthiuron   | ≥ 25%        | Acute Tox. 4<br>Eye Irrit. Cat. 2<br>STOT-RE Cat. 2: Pancreas<br>Aquatic Acute 1,<br>Aquatic Chronic 1, M factor 1  |
| Monoethylene glycol   | ≥ 4% - <5.5% | Acute Toxicity Oral: Cat 4<br>STOT-RE Cat. 2: Kidney, Liver, Central Nervous System.  |
| Dispersing agent containing > 50 - < 60% Proprietary Blend                                      | <3%          | Aquatic Acute Cat. 3<br>Aquatic Chronic Cat. 3  |
| Dispersing and wetting agent containing 25 – 30% Alcohols, C12-16, ethoxylated                  | <3%          | Skin corrosion / irritation Cat. 3b<br>Eye dam. Cat. 1<br>Aquatic Acute Cat. 2.<br>Aquatic Chronic Cat. 3   |
| Silicone/Silicate Defoamer emulsion   | <1%          | Eye Irrit. Cat. 2A<br>Resp. Sens. Cat. 1B   |
| Xanthan gum   | <1%          | Skin corrosion / irritation Cat. 2<br>Eye Irrit. Cat. 2   |
| Antibacterial agent containing 15 – 20% 1,2-Benzisothiazolin-3-one and 5 – 10% Sodium hydroxide | <0.5%        | Corrosive to metals Cat. 1<br>Skin corrosion / irritation Cat. 1<br>Eye dam. Cat. 1<br>Skin sens. Cat. 1B<br>STOT-SE Cat. 3 respiratory tract<br>Aquatic Acute Cat. 3<br>Aquatic Chronic Cat. 3 |

## FIRST AID

Provide medical personnel with the container label, product name 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.

- **Signs and symptoms of poisoning:** Unknown. No cases of human poisoning have been reported.
- **Ingestion:** If patient is conscious, remove by gastric lavage and catharsis. Never give anything by mouth to a victim who is unconscious or is having convulsions. Emesis (vomiting) may be indicated in substantial recent ingestions. Contraindications include Signs of oral, pharyngeal, or oesophageal irritation; a depressed gag reflex; or central nervous system excitation or depression. If these symptoms are present or are likely, **DO NOT INDUCE EMESIS.** Emesis is most effective if it is initiated within 30 minutes of ingestion. **SEEK MEDICAL ATTENTION.**
- **Inhalation:** Remove from the exposure to fresh air. Monitor for respiratory distress. Apply oxygen or artificial respiration if necessary. Keep the patient warm and at rest. Treat symptomatically. Consult a physician after significant exposure.
- **Eye contact:** Flush eyes with plenty of clean, room temperature water for at least 15 minutes holding eyelids open. Remove contact lenses. Call a doctor for treatment advice. Obtain medical attention immediately if irritation persists. If symptoms (e.g., redness, irritation, pain etc) persist after 15 minutes of irrigation, refer the patient to an ophthalmologist for an eye examination.
- **Skin contact:** Immediately remove contaminated clothing and flush body and clothes with large amounts of water. Wash thoroughly with soap and clean running water (including hair, skin and fingernails) for at least 15 minutes. Wash contaminated clothing before re-use. Seek medical assistance if irritation persists. Persons providing first aid must wear gloves to avoid self-contamination.

## NOTICE TO USER

This agricultural remedy is to be used only in accordance with the instructions on this label. It is an offence under the Act to use this product in a manner contrary with the directions on the label.

## RESISTANCE WARNING STATEMENT

For resistance management, **RANGEFINDER** is a group code C1 + C2 herbicide. Any weed population may contain individuals naturally resistant to **RANGEFINDER** and other Group Code C1 + C2 herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **RANGEFINDER** or any other Group Code C1 + C2 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.

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 **RANGEFINDER** not controlling resistant weeds. Do not apply **RANGEFINDER** alone in situations where weed resistance has been confirmed. Sub-standard application of **RANGEFINDER** will lead to inferior weed control and may assist in the development of herbicide resistance. It is of the utmost importance to inspect treated areas at regular intervals in order to identify the occurrence of herbicide-resistant weeds timeously.

## MODE OF ACTION

**RANGEFINDER** is a systemic soil herbicide, absorbed mainly by the roots, with slight absorption through the leaves and stems. It is a photosynthetic electron transport inhibitor at the photosystem II receptor site.

## USE RESTRICTIONS

- **RANGEFINDER** should not be used in areas near trees or other desirable plants, or where their roots are present as **RANGEFINDER** may leach into the root zone of these plants and cause severe injury or death of these plants.
- Do not apply to any crop or situation not mentioned in this label.
- 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. accepts no responsibility for any negative effects experienced if the instructions on this label are not adhered to, unless an Agritech Bioscience representative was consulted beforehand.
- Do not apply on or within 50 meters of desirable plants or trees (e.g., windbreaks, ornamental trees and shrubs along roads) or on areas where their roots may extend, or where the product may be washed or moved into contact with their roots as these plants may be killed or severely damaged.
- Do not use on soils where susceptible crops are to be grown within 5 years.
- Over-application, or any use not in accordance with the directions on this label may cause adverse effects.

## DIRECTIONS FOR USE - Use only as directed.

### A. TREES AND SHRUBS:

- Read all the instructions carefully before application. **RANGEFINDER** is a herbicide with a long residual action. The degree of the control and the duration of the effects will depend on the dosage rate, rainfall and soil type.
- **RANGEFINDER** diluted for use is non-corrosive, non-volatile and non-flammable.

- **RANGEFINDER** treatments will only become effective once sufficient rainfall has occurred to leach the chemical into the root zone, where it can be taken up by the target plant. It is therefore recommended to apply **RANGEFINDER** just before, or at the beginning of the rainy season in order to obtain the best results. Do not apply towards the end of the rainy season.
- **RANGEFINDER** is slow acting and susceptible species may take up to 24 months to die, depending on the soil texture, species, and effective rainfall. During this period the treated plants should show repeated defoliation and re-growth, with progressive dieback until death occurs. Therefore, a second application is not recommended within 24 months or until the symptoms of defoliation no longer occur.
- **Under high rainfall conditions, leaching of this product may occur which may result in product loss and reduced efficacy. RANGEFINDER may cause injury to grasses in the treated area but these should recover and proliferate as the tree and shrub competition is removed and the product leaches deeper into the soil. Heavy rainfall may increase lateral movement of the product in the soil and thus area of grasses affected.**

## MIXING INSTRUCTIONS

The mixture to be used is dependent on the species to be treated. Refer to the recommendations below in order to determine the mixture to be used.

This product must be mixed as follows:

Empty the entire quantity of **RANGEFINDER** to be prepared into a suitable container. Add a small quantity of clean water and stir thoroughly into a smooth cream. Thereafter, add the rest of the clean water while stirring constantly until a lump-free suspension is obtained. Agitate the mixture thoroughly and then pour into the applicator tank and shake the tank frequently while the application is in progress in order to keep the mixture in suspension.

## METHOD OF APPLICATION

- The use of an automatic vaccinator or similar applicator is recommended.
- Applicators with a reasonable squirting distance (1 – 2 metres) greatly facilitate ease of application in areas densely populated with the target species.
- The applicator should be calibrated to deliver 2 ml per single dose.
- Using the mixtures indicated below, as determined by the species and soil type, apply one or more doses to the soil at the base of the target plant.
- **Do not apply onto the stem of the plant or on grass and / or dead leaves at the base of the stem – apply directly onto the soil at a recommended distance of 15 – 30 cm from the base of the stem.**
- When more than one dose is applied, these must be positioned evenly around the base of the stem.

## RECOMMENDATIONS

The recommended application rates below are for soils with a clay content of 10-40%.

Consult your supplier regarding applications on very shallow and gravelly soils. For soils containing less than 10% clay, consult your supplier.

**Table 1: Trees and shrubs**

| Weed species             | Common name    | Mixture of RANGEFINDER and water | Number of doses (2 ml) according to tree height |   |
|--------------------------|----------------|----------------------------------|---|---|
|                          |                |                                  | Seedlings (up to 0.5 m tall)                    | Established trees (taller than 0.5 m)                                     |
| <i>Acacia erubescens</i> | Blue Thorn     | 1.5 l + 8.5 l water              | 1*  | Apply one additional dose for every 0.5 m increase in tree height. Do not |
| <i>Acacia karroo</i>     | Sweet Thorn    |                                  |   |   |
| <i>Acacia mellifera</i>  | Black Thorn    |                                  |   |   |
| <i>Acacia nigrescens</i> | Knob Thorn     |                                  |   |   |
| <i>Acacia nilotica</i>   | Scented Thorn  |                                  |   |   |
| <i>Acacia tortilis</i>   | Umbrella Thorn |                                  |   |   |

|                               |                       |  |  |   |
|-------------------------------|-----------------------|--|--|---|
| <i>*Colophospermum mopane</i> | Mopane                |  |  | exceed 8 doses per tree where trees are growing in relatively close proximity (less than 2 – 3 m apart) |
| <i>Dichrostachys cinerea</i>  | Sickle bush           |  |  |   |
| <i>Terminalis prunoides</i>   | Purple pod terminalia |  |  |   |
| <i>**Grewia bicolour</i>      | White raisin          |  |  |   |
| <i>Grewia flava</i>           | Brandy bush           |  |  |   |
| <i>***Terminalia sericea</i>  | Silver cluster leaf   |  |  |   |

- Multi-stemmed seedlings up to 0.5 m may need 2 dosages in order to obtain adequate control.
  - \* Variable results on sandy soils.
  - \*\* Multi-stemmed plants need one dose per main stem of 20 mm or more.
  - \*\*\* Not recommended on soils with less than 10% clay.

## NOTES

- Multi-stemmed trees require a higher application rate than single-stemmed trees. For multi-stemmed trees apply up to double the number of doses that would be required for a single-stemmed tree of a similar height.
- Solitary large trees may need a higher dosage than those growing in close proximity. In this case apply up to double the number of recommended doses.
- Trees coppicing after cutting or due to injury caused by fire do not display their original (true) height. Consult your supplier for advice in such cases.
- Depending on weather conditions, the accuracy and thoroughness of the application, etc., follow-up applications may be needed after 24 months, or once defoliation symptoms no longer occur.

**RANGEFINDER** controls the above mentioned weed species in the tank mixes as indicated. Other weed species that were not present in the development trials of this product may also be controlled to a certain degree. The registration holder accepts no responsibility for unlisted weeds.