

ARBOREX

Reg. No. / Nr L8777 Act No. 36 of 1947 / Wet Nr 36 van 1947
N-AR 1786

GROUP 2 HERBICIDE

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

A water-soluble concentrate non-selective herbicide for the control of listed invader plants in forestry, grazing and conservation as indicated.

'n Wateroplosbare konsentraat nie-selektiewe onkruiddoder vir die beheer van gelyste indringer plante in bosbou, weiding en Natuurbewaringsgebiede soos aangedui.

Active Ingredient / Aktiewe Bestanddeel

Imazapyr (Imidasolinoon)contains 100 g a.i. per l Imasapir (Imidazolinone)

Hazard Statements

Causes mild skin irritation.
Causes serious eye irritation.

Precautionary Statements

Wear protective gloves / protective clothing /eye protection / face protection.
If skin irritation occurs: Get medical help.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation occurs: Get medical help.



WARNING



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 manufactured/Expiry date: Refer to details printed on container

UN No. / VN Nr. Not regulated

Net volume L Netto Volume

In case of poisoning, call the following numbers:

Poisons Information Helpline: +27 861 555 777
EMERGENCY NUMBER: +27 82 446 8946

WARNINGS

- GHS Hazard statements

Causes skin irritation.
Causes serious eye irritation.

- Keep out of reach of children, uninformed persons, and animals.
- **RE-ENTRY:** Do not enter a treated area within 1 day after treatment 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.
Wash hands thoroughly after handling. Do not touch eyes.
Wear protective gloves/protective clothing/eye protection/face protection.
If skin irritation occurs - Get medical help.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical help.
Dispose of contents/container in accordance with national regulations.

- OPERATOR PROTECTION
 - Handle with care.
 - Do not inhale spray mist or fumes.
 - Wash with soap and water after use and accidental skin contact as well as contact with contaminated clothing.
 - Should eye contact occur, flush the eyes with plenty of clean water for 15 minutes holding eyelids open. Remove contact lenses after 1-2 minutes of irrigation. **Seek medical attention.**
 - Avoid skin and contact with eyes by wearing face shield and rubber gloves when mixing the product.
 - Wash contaminated clothing after use.
 - Do not eat, drink, or smoke while mixing or applying the product or before washing hands and face and changing clothes.

- **ENVIRONMENTAL PROTECTION**
 - Prevent spray drift onto other non-target vegetation, crops, grazing, rivers, dams, or areas not under treatment.
 - Do not contaminate dams, rivers, lakes, or any other water sources.
 - 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.
 - **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.**

RELEVANT SUBSTANCES

Hazardous Ingredients	Concentration (w/v)
Imazapyr as monoisopropanolamine salt	>9.9%
Monoethylene glycol	≤5.5%
Isotridecanol, ethoxylated	≤3%

FIRST AID TREATMENT

If medical advice is needed, have product container or label at hand. Provide medical personnel with the 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 the patient is unconscious or is having convulsions.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). **Seek medical attention.**

Skin contact: Immediately remove contaminated clothing and flush body and clothes with large amounts of soap and water. Rinse skin immediately with plenty of water for 15-20 minutes. Wash contaminated clothing before re-use. **Seek medical attention.**

Eye contact: Flush eyes with plenty of water for at least 15 minutes holding eyelids open. Remove contact lenses if present, after first 1-2 minutes, and then continue rinsing. **Seek medical attention.**

Ingestion: Rinse mouth immediately with clean water and have the patient sip a glass of water if the patient is alert and able. Do NOT induce vomiting unless instructed to do so by a medical professional. Never induce vomiting or give anything by mouth to a victim who is unconscious or is having convulsions. **Seek medical attention.**

Treat symptomatically and supportively.

RESISTANCE MANAGEMENT WARNING STATEMENT

For resistance management, **ARBOREX** is a group code 2 herbicide. Any weed population may contain individuals naturally resistant to **ARBOREX** and other group code 2 herbicides. These resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **ARBOREX** or any other group code 2 herbicide.

To delay herbicide resistance:

- Avoid the 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.
- Integrate other control methods (such as chemical, cultural, biological) into weed control programmes.
- Refer to the Herbicide Resistance Action Committee for information regarding any applicable resistance management of group 2 herbicides at <https://hracglobal.com/> for more information.
- Avoid distribution of the resistant species to adjacent fields 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 **ARBOREX** 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 **ARBOREX** not controlling resistant weeds. Do not apply **ARBOREX** alone in situations where weed resistance has been confirmed. Sub-standard application of **ARBOREX** will lead to inferior weed control and may assist in 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

ARBOREX is a systemic herbicide, absorbed by the foliage and roots, translocated acropetally and basipetally in the phloem and xylem to meristematic regions, where it accumulates. It acts by inhibiting acetolactate synthase, blocking the biosynthesis of the amino acids: valine, leucine, and isoleucine, thereby stopping cell division and growth.

DIRECTIONS FOR USE - Use only as directed.

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 or in any manner contrary to the directions on the label.

WAITING PERIODS: FORESTRY

• **Waiting periods for replant after clear fell *Eucalyptus* cut stump treatments:**

1. *Eucalyptus* spp.

On all soils other than light sandy soils, gums may be planted into treated compartments four months after treatments.

On light sandy soils (e.g., Northern Kwa-Zulu Natal), a waiting period of 12 months is required.

2. Pines

If the pine seedlings are to be planted in the same row as the old stumps, at least 1 month must lapse between stump treatment and planting to avoid possible run-off residues from the treated stumps. Should the pine saplings be planted between the treated stump rows, no waiting period is required.

3. Wattle

No waiting period is required when planting wattles into compartments with stumps treated with **ARBOREX**.

The planting of follow-up crops should always be preceded by a deep ploughing.

The above-mentioned waiting periods are only valid if the correct dosage rate of **ARBOREX** was applied, and normal or above normal rainfall occurred between **ARBOREX** application and planting of new seedlings. With in-compartment weed control operations, **no more than 3 L/ha** should be used. Do not use foliar application of **ARBOREX** in newly established pine and wattle compartments where there is a risk of contact with foliage of young trees. Never use foliar application or stump applications for weed control within *Eucalyptus* spp. compartments.

USE RESTRICTIONS

- Care should be taken when treating the stumps of woody species to avoid unnecessary run-off. Although **ARBOREX** movement in- or on soil is limited, residues in soil may adversely affect sensitive seedlings and established non-target vegetation.
- To avoid potential damage to follow-up crops, the waiting periods indicated must be adhered to following application of **ARBOREX**. A test planting is recommended in all cases.
- Do not apply **ARBOREX** to any situation not mentioned in this instruction leaflet.
- Only apply **ARBOREX** using an accurate and safe application technique.
- If **ARBOREX** is used in a tank mix with other recommended remedies, 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 t/a Carabiner accepts no responsibility for any adverse effects experienced if the instructions on this label are not adhered to 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.
- **Do not use ARBOREX if the above-mentioned use restrictions cannot be adhered to.**

MIXING INSTRUCTIONS

Three-quarter fill the spray tank or knapsack with clean water. Shake the **ARBOREX** container well, measure the required volume and add it to the spray tank. Fill the spray tank with water to the required level while maintaining agitation to ensure thorough mixing. The prepared spray mixture must not be left in the spray tank for any length of time. **ARBOREX** is not compatible with diesel and addition of adjuvants is not necessary. Do not use brackish water. Should tank mixtures with other products be made, follow the respective manufacturer's label recommendations. Ensure continuous agitation throughout the application process.

Tank mixtures must be sprayed out immediately and not 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.

GENERAL INFORMATION

- **ARBOREX** is a non-selective, systemic herbicide for the control of invader plants as listed in forestry grazing and conservation areas and *Eucalyptus* spp. eradication in clear fell forestry operations.
- The product is readily absorbed through foliage, roots and freshly cut sapwood regions and is rapidly translocated to the meristematic regions.
- Plant growth is arrested shortly after application, but the time taken to kill the plant is relative to the sensitivity of the species being treated and the climatic conditions affecting plant vigour.
- Severely malformed re-growth may occur, but further action is not necessary unless healthy shoots develop.
- In multi-stem treatments care should be taken to treat all cut surfaces as individual stumps. Old cut surfaces should be re-cut and treated. Alternatively, the sapwood region can be exposed by a complete frill close to the ground and treated.
- Cut stump treatments are regarded as being more effective than foliar treatments as the herbicide can be placed directly, and accurately, onto the target plant.
- Rain two hours after application will not reduce efficacy.
- Stumps must be cut as close to the soil surface as possible prior to treatment.

APPLICATION INSTRUCTIONS

Ensure that the equipment is correctly calibrated and is checked regularly during application to ensure even and accurate application. Knapsack sprayers or tractor mounted boom sprayers may be used. A spray volume of 200 – 300 l/ha should be used and can be applied via flat fan-type nozzles, preferably the low drift type to avoid fine droplets. **Constant agitation throughout the spray operation is essential.** Only clean water should be used. Prevent overdosing by avoiding overlapping of swaths and closing the nozzles while starting, slow movement, turning and stopping. Do not, under any circumstances allow spray or drift to contact any part of desirable vegetation otherwise severe injury or destruction may result.

APPLICATION RATES

FOLIAR APPLICATION

TABLE 1: INVADER PLANT CONTROL BY FOLIAR APPLICATION

SPECIES	DOSAGE RATE/10 ℓ WATER	REMARKS
Bugweed (<i>Solanum mauritianum</i>)	63 mℓ (0.63% solution)	Apply as a full cover spray to point of run-off to coppice, which should be 0, 5 m – 1, 0 m in height at the time of treatment.
Common reed (<i>Phragmites australis</i>)		Apply as a full cover spray to point of run-off before flowering. Do not apply over water systems which will be used for irrigation.
Lantana (<i>Lantana camara</i>)	200 mℓ (2% solution)	Apply as a full cover spray to point of run-off to coppice, which should be 0, 5 m – 1, 0 m in height at the time of treatment.
Saligna gum (<i>Eucalyptus grandis</i>)	125 mℓ (1.25% solution)	

CUT STUMP APPLICATION

TABLE 2: CONTROL OF WEEDS IN FORESTRY

SPECIES	DOSAGE RATE/10 ℓ WATER	REMARKS
Camden woollybutt (<i>Eucalyptus macarthurii</i>)	750 mℓ (7.5% solution)	As a cut stump treatment: Use only for clear fell operations. Apply the mixture to the sapwood region of freshly cut stump surfaces (i.e., before the surfaces dry) using a low-pressure applicator such as a hand-held sprayer, a calibrated dosing gun or a knapsack sprayer at not less than 10 m ℓ mixture per 100 mm of stump diameter. High pressure applications are not recommended. See also further information under USE RESTRICTIONS and GENERAL INFORMATION above.
Grey ironbark (<i>Eucalyptus paniculata</i>)	1.25 L (12.5% solution)	
Spotted gum (<i>Eucalyptus maculata</i>)		
Saligna gum (<i>Eucalyptus grandis</i>)	500 mℓ (5% solution)	

TABLE 3: GENERAL WOODY WEED CONTROL

SPECIES	DOSAGE	REMARKS
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	RATE/10 ℓ WATER	
Bugweed (<i>Solanum mauritianum</i>)	500 mℓ (5% solution)	As a cut stump treatment in grazing and conservation areas as well as in pine and wattle compartments. Apply the mixture to the sapwood region of freshly cut-stump surfaces (i.e., before the surfaces dry) using a low-pressure applicator such as a hand-held sprayer, a calibrated dosing gun or a knapsack sprayer at not less than 10 mℓ mixture per 100 mm of stump diameter. High pressure applications are not recommended See also USE RESTRICTIONS and GENERAL INFORMATION above.
Camden woollybutt (<i>Eucalyptus macarthurii</i>)	750 mℓ (7.5% solution)	
Grey ironbark (<i>Eucalyptus paniculata</i>)	1.25 L (12.5% solution)	
Grey poplar (<i>Populus canescens</i>)	500 mℓ (5% solution)	
Guava (<i>Psidium guajava</i>)		
Ink berry (<i>Cestrum laevigatum</i>)	200 mℓ (2% solution)	
Jacaranda (<i>Jacaranda mimosifolia</i>)	1 L (10% solution)	
Lantana (<i>Lantana camara</i>)	200 mℓ (2% solution)	
Saligna gum (<i>Eucalyptus grandis</i>)	500 mℓ (5% solution)	
Syringa (<i>Melia azedarach</i>)	300 mℓ (3% solution)	
Spotted gum (<i>Eucalyptus maculata</i>)	1.25 L (12.5% solution)	