

Agri
NOVAGENIX
OXYFLO

Reg. No. / Nr L11913 Act No. 36 of 1947 / Wet Nr 36 van 1947

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

GROUP

14

HERBICIDE

A suspension concentrate herbicide for the control of annual broadleaf weeds in crops and orchards as listed.

‘n Suspensie konsentraat onkruidodder vir die beheer van eenjarige breëblaaronkruid in gewasse en boorde soos aangedui.

WARNING



Hazard statements

Causes mild skin irritation.

May cause an allergic skin reaction.

May cause damage to organs through prolonged or repeated exposure.

Very toxic to aquatic life with long lasting effects.

In case of poisoning, call the following number: Poisons Information Helpline: +27 861 555 777

EMERGENCY NUMBER: +27 82 446 8946

Precautionary statements

IF ON SKIN: Wash with plenty of water.

If skin irritation or rash occurs: Get medical help.

Take off contaminated clothing and wash it before reuse.

Collect spillage.

Active Ingredient / Aktiewe Bestanddeel

Oxyfluorfen (diphenyl ether).....contains 480 g a.i. per l.....Oksifluorfen (difeniel eter)

Net volume l Netto volume

Batch No./Date manufactured/Expiry date: Refer to details printed on container.

UN No. / VN Nr. 3082

REGISTRATION HOLDER / REGISTRASIEHOUER:

Novagen Innovations (Pty) Ltd / (Edms) Bpk t/a Agri Novagenix

Reg. No. 2020/891524/07

6 Antwerp Street, Apex, Benoni, 1540, South Africa / Suid-Afrika



WARNINGS

- GHS Hazard statements

- Causes mild skin irritation.
- May cause an allergic skin reaction.
- May cause damage to organs through prolonged repeated exposure.
- Very toxic to aquatic life with long lasting effects.

- May be harmful if swallowed.
- Toxic to aquatic invertebrates and algae.
- **Re-entry:** Do not enter a treated area within 1 day after treatment unless wearing protective clothing.
- **OXYFLO** has been tested on some of the most important commercial cultivars without any phytotoxic effects. More susceptible cultivars may be released in the future which will need to be tested. For this, apply **OXYFLO** to a limited test area before any commercial applications are made.
- **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.
- Do not breathe dust/fumes/gas/mist/vapours/spray.
- Avoid breathing dust/fumes/gas/mist/vapours/spray.
- Contaminated work clothing should not be allowed out of the workplace.
- Wear protective gloves.
- Avoid release to the environment.
- Get medical help if you feel unwell.
- If skin irritation occurs: Get medical help.
- IF ON SKIN: Wash with plenty of water.
- If skin irritation or rash occurs: Get medical help.
- Specific treatment (see FIRST AID TREATMENT on this label).
- If skin irritation or rash occurs: Get medical help.
- Take off contaminated clothing and wash it before reuse.
- Collect spillage.
- 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 five minutes of irrigation. Seek medical attention.
 - Avoid skin and eye contact by wearing protective clothing 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.
- **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, well-ventilated 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 Ingredients	Concentration (w/v)
Oxyfluorfen	48%
Ethylene glycol	>1-<10%
Sodium salt of naphthalene condensed	>1-<10%

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 the patient is unconscious or is having convulsions. No cases of human poisoning are known. No clinical

symptoms of poisoning were shown by test animals during chronic feeding studies.

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: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Suitable emergency safety shower facility should be available in work area. **Seek medical attention.**

Eye contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Suitable emergency eye wash facility should be available in work area. **Seek medical attention.**

Ingestion: Do not induce vomiting. Wash out the patient's mouth and give the patient water to drink if the patient is alert and able. **Seek medical attention.**

No specific antidote known. Careful gastric lavage and general decontamination should be sufficient. 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, **OXYFLO** is a group code 14 herbicide. Any weed population may contain individuals naturally resistant to **OXYFLO** and other group code 14 herbicides. These resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by **OXYFLO** or any other group code 14 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 14 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 **OXYFLO** 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 **OXYFLO** not controlling resistant weeds. Do not apply **OXYFLO** alone in situations where weed resistance has been confirmed.

Sub-standard application of **OXYFLO** or other group code 14 herbicides will lead to inferior weed control and may assist in development of herbicide resistance.

MODE OF ACTION

Oxyfluorfen has an extremely low water solubility. Following application, it binds rapidly and tightly to clay particles and organic matter in the surface soil layer. The active ingredient thus does not leach in the soil and is not absorbed by roots. Following application, **OXYFLO** forms a thin layer or barrier on the soil surface when activated by the presence of moisture. Here the activated oxyfluorfen kills weeds through contact activity on the shoots of germinating seeds or young seedlings. Following application of **OXYFLO** the treated soil surface must not be cultivated or disturbed as disturbing the herbicide layer on the soil surface will adversely affect weed control. Since **OXYFLO** becomes activated by soil moisture, application to damp, stabilized soil and a minimum of 5 mm rain or irrigation within 7 days after application is essential for effective weed control. To stabilise the soil prior to **OXYFLO** application a light irrigation of 5 -10 mm may be applied. Optimum residual effect may be obtained if soil is not allowed to dry out completely at any stage.

Oxyfluorfen is a selective, systemic herbicide which causes membrane disruption via lipid peroxidation, resulting in necrosis of the leaves and stems.

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 in any manner contrary to the directions on the label.

WAITING PERIOD FOR FOLLOW-UP CROPS:

Before planting any follow up crops on soil previously treated with **OXYFLO** thorough and deep ploughing is recommended. **A period of two months for each 500 ml of OXYFLO previously applied per hectare, should be allowed to elapse before planting follow up annual crops.** Direct seeded crops sown on soil that has been treated with **OXYFLO** within the preceding eighteen months must not be treated with acetamide herbicides. Crops not listed on this label that are planted nearby or between trees or vines, may be injured by **OXYFLO**.

USE RESTRICTIONS

- Do not apply **OXYFLO** at all in nurseries, nor onto or over or in the vicinity of nursery plant material.
- **OXYFLO** has both post-emergence and residual action on both broadleaf and grass weeds. Post-emergence action is, however, limited to seedlings. For optimum residual effect **OXYFLO** should be applied prior to the emergence of weeds.
- **OXYFLO** should preferably not be applied to unstabilized soil (dry, dusty, freshly cultivated soil). For optimal efficacy of and crop tolerance to oxyfluorfen, it is important that the application should have been preceded by a light irrigation or rain. A follow-up irrigation or rainfall within 7 days after application of **OXYFLO** is equally important.
- **OXYFLO** should not be applied to an organic mulch of more than 30 % coverage as a high presence of organic material on the soil surface will adversely affect results obtained. Remove excessive coverage of dead plant material (organic material) from the surface to be sprayed.
- **OXYFLO** should not be applied to crops where drip irrigation is practiced as poor, or variable weed control may occur because of inadequate moisture at the soil surface to activate the **OXYFLO** in areas outside the immediate area of the dripper.

- Unless specifically recommended on this label, **OXYFLO** must in no case be used in conjunction with any other weed killing compound in a specific season as injury to the crop may result. Crops not listed on this label that are planted nearby or between trees or vines, may be injured by **OXYFLO**.
- Do not apply **OXYFLO** to any crop or situation not mentioned in this instruction leaflet.
- Only apply **OXYFLO** using an accurate and safe application technique.
- If **OXYFLO** 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. Novagen Innovations (Pty) Ltd t/a Agri Novagenix accepts no responsibility for any negative effects experienced if the instructions on this label are not adhered to, unless an Agri Novagenix 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. Novagen Innovations (Pty) Ltd 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.

CROP SAFETY

It is important to note that the application of **OXYFLO** differs entirely from crop to crop and the specific directions for each crop should be adhered to closely. After application **OXYFLO** is held in a thin layer at the soil surface with the result that it can be splashed by rain or irrigation onto leaves of crops close to the ground. Because of its highly active contact action this may result in leaf scorching. During cool (1– 15 °C), wet, wind-still conditions, with high levels of soil and atmospheric moisture, co-distillation of **OXYFLO** may occur and the vapour may then be absorbed by crop leaves, which may also result in leaf scorching.

The usage of OXYFLO on deciduous fruit tree orchards:

With fruit trees, because of the highly active contact action of **OXYFLO** small spray droplets that may drift up into fruit trees may cause leaf burn of immature leaves as well as small burn spots on young fruitlets. Scar tissue then develops around the burn spots that may leave the mature fruit with an unacceptable appearance for export. **For this reason, it is recommended that OXYFLO must be applied at least 4 weeks prior to expected bud burst of these crops.**

The usage of OXYFLO on Onions and similar crops:

- **OXYFLO** must be applied as a pre-emergence or early post-emergence treatment after transplanting or emergence of onion crops.
- Refer to recommendation tables for directions for use with the different planting techniques and crop stages.
- Slight scorching or pig tailing of leaves may occur shortly after application of **OXYFLO** but this is normally of a temporary nature and full recovery takes place within a few weeks.

- **OXYFLO** should only be applied to plants that have reached the 2 – 3 true leaf growth stage. Weak plants may be adversely affected by **OXYFLO**.
- Unless specifically stated otherwise, all applications of **OXYFLO** on transplanted onions should be applied on damp, stabilized soil and should be followed immediately by a thorough irrigation.

The usage of OXYFLO on brassica crops:

- **OXYFLO** should be used as a pre-plant overall treatment for fields into which brassica crops are to be transplanted, prior to any transplanting.
- The soil surface to be treated should be well prepared with no large soil clods. A light irrigation of the prepared soil is recommended prior to application of **OXYFLO**.
- Transplant brassica crops into the treated soil only 7 – 10 days after application of **OXYFLO**. The plants must be planted as erect as possible and soil disturbance must be kept to the minimum.
- Irrigate immediately after transplanting to prevent excessive wilting and lodging of the transplanted plants. A slight degree of leaf scorch may occur. This scorch normally is of a temporary nature and plants normally recover within a short period. New growth, under normal conditions, is not affected.
- **Do not apply OXYFLO after transplanting. Direct contact of OXYFLO with these crops will lead to severe damage.**
- **OXYFLO** is not recommended where a machine is used to do transplanting. This normally leads to excessive soil disturbance and breaks up the herbicidal layer, with resultant poor weed control.
- Heavy irrigation or rain with large droplets shortly after transplanting may splash **OXYFLO** – containing soil particles onto young leaves with resultant leaf scorching of the crop.
- Cool (1 – 15 °C), wet, windless conditions with concomitant high humidity which promotes co-distillation of **OXYFLO**, occurring shortly after transplanting of brassica plants, may cause injury to brassica crops that may lead to yield reduction.
- Waterlogging conditions resulting from extended rainfall and/or irrigation causing wet, saturated soil conditions will result in plants not growing actively and crop injury where **OXYFLO** is applied may result.
- Favourable growing conditions after transplanting will promote rapid wax layer development of the leaves which will reduce the risk of the above-mentioned injuries.
- Untimely plantings of brassica crops which could possibly be exposed to the above-mentioned adverse climatic conditions must not be treated with **OXYFLO**.
- **OXYFLO** has only been tested on the following brassica crop cultivars and the safety for use on other cultivars is unknown. **Contact your seed supplier or product dealer representative if necessary.**
 - **Cauliflower:** Snowking, Snowcrown, Snow February, Snowcap, Couchamp, Igloo.
 - **Cabbage:** Gloria Osená, NS Cross, Hercules, Bonanza, Drum Head, Green Coronette, Cape Spitz, Glory of Enkhuizen, Rolan, Shamrock, Rodelle.
 - **Brussel Sprouts:** Long Island, Jade Cross
 - **Broccoli:** Green Sprouting Calabrese, Late Corona.

Crop Safety regarding perennial crops such as fruit trees and vines:

OXYFLO may be used on fruit trees of all ages, provided the following guidelines are adhered to:

- Do not apply **OXYFLO** at all in nurseries, nor onto or over or in the vicinity of nursery plant material.
- Limit the use of **OXYFLO** to crops listed on the label. Only apply by directed application and avoid leaf contact with **OXYFLO** for all crops in this group.

- **Citrus:** Do not apply **OXYFLO** during the period of 3 weeks before blossoming till 3 weeks after fruit set.
- Do not use where drip irrigation is practiced. Drip irrigation does not activate the **OXYFLO** at the soil surface. Sub-surface moisture may promote weed germination, but a lack of surface moisture will lead to poor weed control.

MIXING INSTRUCTIONS

Half-fill the spray tank with suitable water. Make a premix by carefully measuring out the required amount of **OXYFLO** and mixing it with at least 10 l of water. Add this premix to the tank while agitating continuously. Rinse the container used for pre-mixing and add the rinsate to the spray tank. Fill the spray tank to the required volume with suitable water while maintaining agitation. 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 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

OXYFLO should be applied by tractor-mounted boom sprayer or knapsack sprayer equipped with Tee jet flat fan-nozzles which should deliver the indicated volume of spray mixture per hectare at a pressure of 100 – 200 kPa. Ensure that the spray apparatus is correctly calibrated and that only clean water is used. The spray mixture must be continuously well agitated.

APPLICATION RATES

CROP / SITUATION	DOSAGE	REMARKS
A. ANNUAL CROPS		
Onions		
1. Transplanted onions		See notes under "USE RESTRICTIONS" above.
1.1. Long Season Cultivars	1.5 l / ha OR 750 ml / ha + 750 ml / ha	Irrigate lightly directly after transplanting to stabilize the soil. Application must be done immediately thereafter in 300 – 400 l water per ha. Follow-up with irrigation. Apply first application of 750 ml /ha immediately after transplanting and light irrigation as mentioned above. Follow-up with a further application at the same rate after one month in 300 – 400 l water/ha.
1.2. Short Season cultivars	500 ml / ha + 500 ml / ha	Where only broadleaf weeds are a problem do the first application immediately after transplanting and light irrigation. Follow again as soon as possible with a

2. Transplanted onions for seed production	OR 750 ml / ha + 750 ml / ha	normal irrigation. Follow-up with a further application at the same rate after 1 month. Apply in 300 – 400 l water/ha. Where grasses and broadleaf weeds are a problem do the first application immediately after transplanting and light irrigation. Follow again as soon as possible with a normal irrigation. Follow up with a further application at the same rate after one month. Apply in 300 – 400 l water/ha.
	1.5 l / ha	
	OR 750 ml / ha + 750 ml / ha	Apply immediately after transplanting of female bulbs and light irrigation. Follow again as soon as possible with a normal irrigation. Injury symptoms as mentioned above under “The usage of OXYFLO on Onions and similar crops” may be more evident on male than on female plants. Apply in 300 – 400 l water/ha.
	1.5 l / ha	Do the first application immediately after transplanting and light irrigation. Follow as soon as possible after application with a normal irrigation. Follow up with a further application at the same rate after one month. Apply in 300 – 400 l water/ha.
3. Direct seeded onions (Karoo region)		Use only on Caledon Globe and Australian Brown cultivars. Apply in the 3 to 4 leaf stage of the onions (approximately 2 - 3 months after sowing). If weed development is slow, application may be delayed a further month after the 3-leaf stage. The OXYFLO application may be preceded by a hand weeding immediately prior to the OXYFLO application. Follow-up with normal irrigation as soon as possible after application. For optimum results the OXYFLO should be applied to a weed free surface. Apply in 300 – 400 l water/ha.
4. Direct seeded onions (Summer rainfall regions) Post-emergence	500 - 750 ml / ha	Application of OXYFLO should only be initiated on direct seeded onions after the seedlings have developed two fully expanded leaves. Weeds should not be more advanced than the 2-3 leaf stage. Larger weeds and weeds under stress from drought, frost or other climatic extremes may not be satisfactorily controlled. Depending on weed pressure a further application of 750 ml per ha of OXYFLO 4-6 weeks later may be necessary. The lower OXYFLO rate should be used for applications on less hardy onion cultivars. Apply in 300 – 400 l water/ha.
Brassica crops	1.0 - 1.5 l / ha	OXYFLO must be applied as a pre-plant surface treatment to lands on which brassica crops are to be transplanted. Apply a light irrigation prior to application of OXYFLO to stabilize the soil. Allow 7 – 10 days to lapse after the herbicide application before the brassica

		plants are planted into the treated soil. Do not plant sooner than 7 – 10 days after herbicide application or serious crop injury may result. If the soil should have dried out a light irrigation should be done prior to transplanting and again after transplanting. Apply in 300 – 400 ℓ water/ha. See notes under “USE RESTRICTIONS” above. OXYFLO MUST NOT BE APPLIED AFTER TRANSPLANTING OF BRASSICA CROPS. DIRECT CONTACT OF OXYFLO WITH THE LEAVES OF THESE CROPS WILL LEAD TO SEVERE DAMAGE.
B. PERENNIAL CROPS		See notes under “USE RESTRICTIONS” above. Avoid leaf contact of OXYFLO with all crops in this group except where otherwise recommended.
CITRUS	1.5 - 2.0 ℓ / ha	For use in Citrus Orchards of all ages. Apply as a directed spray after all new foliage has fully expanded and hardened off. Do not apply during the periods of 3 weeks before flowering till 3 weeks after fruit set, or during periods of new foliage growth. Use 1.5 ℓ/ha where broadleaf weeds are the main problem. Apply in 400 – 600 ℓ water/ha.

WEEDS CONTROLLED:

Scientific name	Common name
Annual Broadleaf Weeds	
<i>Amaranthus hybridus</i>	Common pigweed
<i>Arctotheca calendula</i>	Cape marigold
<i>Bidens pilosa</i>	Blackjack
<i>Chenopodium album</i>	White goosefoot
<i>Emex australis</i>	Spiny emex

Weed species that were not present during the development trials of this product could possibly also be controlled to a greater or lesser degree. The registration holder does not accept any responsibility for unlisted weeds.