



**Clearfield®**  
Production System

**BASF**  
We create chemistry

# Euro-Lightning®

Reg. No. L8436

Act No. 36 of 1947

**READ ATTACHED PACKAGE OR LEAFLET BEFORE USE**  
**KEEP OUT OF REACH OF CHILDREN AND ANIMALS**

| GROUP | 2 | HERBICIDE |
|-------|---|-----------|
|-------|---|-----------|

A water soluble post-emergent herbicide for the control of annual broadleaf- and grass weeds in Clearfield® and Clearfield® Plus Sunflowers.

'n Wateroplosbare na-opkoms onkruidodder vir die beheer van sekere eenjarige breëblaar- en grasonkruide in Clearfield® en Clearfield® Plus Sonneblom.

**Hazard statements:**

Suspected of damaging the unborn child.  
Very toxic to aquatic life with long lasting effects.

**Precautionary statements:**

Wear protective gloves, protective clothing and eye protection or face protection.  
IF exposed or concerned: Get medical attention.

**Active ingredients / Aktiewe bestanddele:**

Imazapyr (imidazolinone).....15 g/l  
Imazamox (imidazolinone).....33 g/l

**Registered by:**

BASF South Africa (Pty) Ltd  
Co. Reg. No. 66/10235/07  
852 Sixteenth Road  
P.O. Box 2801  
Halfway House 1685  
+27 11 203 2400

**Batch No. & Date manufactured:** Refer to details printed on container  
**Lotnommer & Datum vervaardig:** Verwys na besonderhede gedruk op houer

**UN-No. / VN-Nr:** 3082

**EMERGENCY NUMBERS** +27 82 446 8946 or +27 11 203 2420

**In case of poisoning, call the following number:** +27 82 446 8946



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## WARNINGS

### Hazard Statements

- Suspected of damaging the unborn child.
- Very toxic to aquatic life with long lasting effects

### WITHHOLDING PERIOD:

**ALLOW THE FOLLOWING MINIMUM NUMBER OF DAYS BETWEEN APPLICATION AND HARVEST:**

| CROP                                                       | Days |
|------------------------------------------------------------|------|
| • <b>Clearfield®</b> and <b>Clearfield® Plus</b> Sunflower | 70   |

- Handle with care
- Store in a cool place away from food, feeds and seed.
- Keep out of reach of children, uninformed persons and animals.
- To avoid injury to other crops, spray equipment used for **Euro-Lightning®** applications must be drained after use and thoroughly cleaned with water before being used to apply other products to crops.
- Use only on qualified **Clearfield®** and **Clearfield® Plus** Sunflower varieties as registered by the relevant seed companies.

**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

### 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.
  - Wear protective gloves, protective clothing and eye protection or face protection.
  - Obtain special instructions before use.
  - Do not handle until all safety precautions have been read and understood.
  - Collect spillage.
  - IF exposed or concerned: Get medical attention.
  - Store locked up.
  - Dispose of contents and container to hazardous or special waste collection point.
- 
- Do not inhale fumes or spray mist.
  - Wash with soap and water after use and accidental skin contact.
  - Do not eat, drink or smoke while mixing or spraying unless having washed hands and face.
  - Avoid spray drift onto other crops, grazing, rivers, dams and any area not under treatment.
  - Thoroughly wash and rinse spray equipment after use and dispose of wash water where it will not contaminate crops, grazing, rivers and dams.
  - Do not apply where the roots of desirable plants can absorb the chemical.
  - TRIPLE RINSE empty container in the following manner: Invert the empty container over the spray or mixing tank and allow 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 a minimum of 10 % of that of the container. Add these rinsings to the contents of the spray tank before destroying the container in the prescribed manner.
  - Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and dispose of it in a safe way.
  - Prevent contamination of food, feedstuffs, drinking water and eating utensils.

### FIRST AID TREATMENT

Remove contaminated clothing.

|                              |                                                                                        |
|------------------------------|----------------------------------------------------------------------------------------|
| <b>ON CONTACT WITH EYES:</b> | Wash affected eyes for at least 15 minutes under running water with eyelids held open. |
| <b>ON INGESTION:</b>         | Immediately rinse mouth and then drink 200 – 300 ml water, seek medical attention.     |
| <b>ON SKIN CONTACT:</b>      | Wash thoroughly with soap and water.                                                   |
| <b>IF INHALED:</b>           | Keep patient calm, remove to fresh air, seek medical attention.                        |

TREATMENT: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

## RELEVANT SUBSTANCES

| Hazardous ingredients<br>According to UN GHS criteria                                                    | CAS number  | Concentration<br>(W/W) |
|----------------------------------------------------------------------------------------------------------|-------------|------------------------|
| imazamox (ISO); (RS)-2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-5-methoxymethylnicotinic acid      | 114311-32-9 | 3,12 %                 |
| imazapyr (ISO); 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridine carboxylate | 81334-34-1  | 1,38 %                 |
| Ammonium hydroxide ((NH <sub>4</sub> )(OH))                                                              | 1336-21-6   | < 1 %                  |
| 1,2-Benzisothiazol-3(2H)-one                                                                             | 2634-33-5   | < 0,05 %               |
| Propane-1,2-diol                                                                                         | 57-55-6     | < 15 %                 |

## RESISTANCE WARNING

**Euro-Lightning®** is of the Group Code 2 herbicides, belonging to the Imidazolinone group of herbicides. The product has the acetolactate-synthase (ALS) inhibitor mode of action. In any weed population there are certain weed biotypes that are naturally resistant to herbicides with specific modes of action. The repeated and possibly uninterrupted use of herbicides with the same mode of action, cause these naturally occurring biotypes to become dominant in numbers over time. These resistant weeds are not controlled and the result is experienced as poor weed control, although the herbicide may have been applied at the correct dosage rate and timing. This is also true for Euro-Lightning® and other ALS-inhibiting herbicides. Therefore, BASF SA (Pty) Ltd cannot be held responsible for poor control of such resistant weeds, or any losses that may result from the use of Euro-Lightning®. The following actions are recommended to delay the selection of resistant weeds:

- It is important to understand and know the modes of action of the different herbicides available.
- Apply only one application of Euro-Lightning® per season.
- If any further herbicide applications are required during this season on this land, use herbicides with a different mode of action.

**FOR SPECIFIC INFORMATION ON RESISTANCE MANAGEMENT CONTACT THE REGISTRATION HOLDER, BASF SA (Pty) Ltd.**

## USE RESTRICTIONS

- **Euro-Lightning®** can only be used on **Clearfield®** and **Clearfield® Plus** Sunflower hybrids. Non-**Clearfield®** hybrids of sunflower are fully susceptible to the herbicidal action of **Euro-Lightning®** and will be damaged beyond recovery if treated with **Euro-Lightning®**. [For information on where to obtain **Clearfield®** and **Clearfield® Plus** Sunflower, please contact your Crop Protection Distributor or nearest BASF SA (Pty) Ltd office].
- Avoid the application of **Euro-Lightning®** to soils with pH (KCl) below 4,5 or above 7,2.
- Avoid overlaps when spraying.

- Do not apply if rain is expected within two hours of application.
- **DO NOT** use any additional wetters, spreaders or other adjuvants as **Euro-Lightning®** has already been formulated with optimised amounts of surfactants. The only exception is the addition of a flowable (50 %) high quality ammonium sulphate, see under **General information** below.
- Do not apply when wind velocity exceeds 15 km / h, when temperature inversion conditions exist, or when the spray mist may drift onto sensitive crops. Ideally a buffer zone should be established between the area to be sprayed and sensitive crops.
- Sensitive crops include, but are not limited to, vegetable crops, cereal and other grain crops and sunflower varieties other than **Clearfield®** or **Clearfield® Plus** sunflower.
- To avoid damage to follow-up crops, the following waiting periods must be taken into consideration after the application of **Euro-Lightning®**. A test planting is nevertheless recommended.

## WAITING PERIODS FOR FOLLOW-UP CROPS

- The waiting periods are dependent on the following conditions:
- The recommended application rate of **Euro-Lightning®** has not been exceeded.
- Average or above average rainfall (with a minimum of 350 mm) between application and planting of the following crop has been recorded. When the minimum rainfall, as indicated above, has not been recorded for the season of application, extend the period above by an extra 12 months. Consult the supplier in the event of any uncertainty.
- **Euro-Lightning®** was applied as single swaths without overlaps.
- **Euro-Lightning®**, like all other imidazolinone herbicides, is broken down in the soil by microbes in wet, aerobic conditions. Under conditions that DO NOT favour breakdown, such as impoverished soils low in organic matter, non-wetting sands, anaerobic situations such as waterlogging, and prolonged dry periods, soil residues will persist longer and may affect susceptible follow-up crops. Otherwise, normally safe residue levels may still affect follow-up crops, growing under stressful conditions, such as when soil nutrition is low or marginal, or when drought conditions or cold and very wet soil conditions prevail, or when soil pathogens or nematodes are present, as these situations will add stress to the crops. As environmental and agronomic factors make it impossible to eliminate all risks associated with this product, rotational crop injury is always possible. A test planting with the follow-up crop is therefore recommended. Consult your local BASF representative for advice, should you have any concerns.

| CROP                                                     | WAITING PERIOD |
|----------------------------------------------------------|----------------|
| <b>Clearfield®</b> and <b>Clearfield® Plus</b> sunflower | None           |
| Conventional sunflower                                   | 36 weeks       |
| Cruciferous crops                                        | 36 weeks       |
| Dry beans                                                | 20 weeks       |
| Groundnuts                                               | 36 weeks       |
| Maize [all maize producing areas (including irrigation)] | 36 weeks       |

| CROP            | WAITING PERIOD |
|-----------------|----------------|
| Soya beans      | 16 weeks       |
| Sorghum         | 16 weeks       |
| Wheat           | 16 weeks       |
| All other crops | 20 months      |

## DIRECTIONS FOR USE: USE ONLY AS DIRECTED

### General Information:

- **Clearfield®** is an internationally registered trademark belonging to BASF and appears in a registered logo including the words “**Clearfield® Production System**”.
- The “**Clearfield® Production System**” is a combination of agronomical advanced seeds (natural selection) and custom designed herbicides. The **Clearfield®** name and logo link the seed and herbicide together. **Clearfield®** and **Clearfield® Plus Sunflower varieties are selected and bred with conventional breeding techniques and are non-GMO.**
- The mode of action of **Euro-Lightning®** involves the uptake by the plant foliage, which is followed by translocation to the growth points. After **Euro-Lightning®** application, susceptible weeds may show yellowing and weed growth will stop. Susceptible weeds stop growing and either die, or are not competitive with the crop.
- **Euro-Lightning®** must only be applied to **Clearfield®** and **Clearfield® Plus** sunflower after the 2-leaf stage of the crop (ideally at four leaves). However, do not apply when the leaf canopy of the crop is too large as this could intercept the spray and prevent the herbicide from reaching the targeted weeds.
- Application should be completed by 32 days after planting.
- The weeds must be between the 2- and 6-leaf stage at application and must be actively growing. They should not be under stress (e.g., drought, waterlogged or nutrient imbalances) during application as this can limit the uptake and translocation of the product resulting in poor weed control.
- Adequate soil moisture is important for optimum **Euro-Lightning®** activity.
- In regions where water quality is known to be poor, a flowable (50 %) high quality ammonium sulphate, at a 2 % dilution can be used, to ameliorate the water before adding **Euro-Lightning®**.
- Ensure thorough coverage and wetting of the weeds.
- **IMPORTANT:** Only one application of **Euro-Lightning®** may be made per growing season. In the situation where **Clearfield®** and **Clearfield® Plus** sunflowers are replanted for any reason, and where **Euro-Lightning®** was applied to the first planting, **DO NOT** re-apply **Euro-Lightning®** to the second planting! A shallow cultivation of the soil, to no deeper than 5 cm is suggested, so that the option of a pre-emergent grass herbicide can be used at re-planting (refer to the appropriate labels for full recommendations).

- A transient yellowing of crop plants (so-called “yellow flash”) or shortening of the internodes, may occur 5 – 8 days following a **Euro-Lightning®** application to **Clearfield®** sunflower. However, no adverse effects on yield will occur. These effects can be more pronounced if a flowable (50 %) high quality ammonium sulphate has been included in the tank mixture and if crops are growing under stressful environmental conditions. Therefore, ensure that the best agronomic practices are followed, including soil preparation, adequate fertilization, and disease control in the seedling phase. The “yellow flash” will be absent or significantly reduced in **Clearfield® Plus** sunflower varieties.

#### **Compatibility:**

**Euro-Lightning®** is compatible with a flowable (50 %) high quality ammonium sulphate. Do not mix **Euro-Lightning®** with any organophosphate or carbamate insecticides.

#### **Mixing instructions:**

Three-quarter fill the spray tank with clean water. Measure the required volume of **Euro-Lightning®** and pre-mix this with at least 10 ℓ water before adding to the spray tank. If any other product is to be mixed with **Euro-Lightning®**, pre-mix the required volume of product in similar fashion. Agitate the water in the spray tank and, if necessary, add a flowable (50 %) high quality ammonium sulphate first, allowing for sufficient mixing before adding the **Euro-Lightning®**. Fill the spray tank with water to the required level, while maintaining agitation, to ensure thorough mixing of the spray mixture, before spraying commences. Maintain agitation while spraying. The prepared spray mixture must not be left in the spray tank for any length of time, e.g., overnight.

All spray applications must be made with suitable equipment that is in good working order and correctly calibrated to give the desired coverage for that particular method of application.

| CROP                                                                  | DOSAGE ℓ / HA | DIRECTIONS FOR APPLICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Clearfield® SUNFLOWER</b><br><br><b>Clearfield® Plus SUNFLOWER</b> | 1 ℓ           | <p><b>Euro-Lightning® SHOULD ALWAYS BE PART OF A COMPLETE WEED CONTROL PROGRAMME. It is advisable</b> to apply a suitable pre-emergent grass herbicide such as Dual® Gold (L5749) or Metagan® Gold (L5748).</p> <p><b>Post-emergent application</b></p> <p><b>Euro-Lightning®</b> must be applied at the 2 – 6 leaf stage of the weeds. Any grass weeds must be treated before tillering starts. The sunflower seedlings must be between the 2- and 6-leaf stages. It is therefore important to apply when most weeds have emerged together with consideration of the crop stage, but do not delay application beyond this time as reduced efficacy can be expected for older weeds. THE TIMING OF THIS APPLICATION SHOULD BE COMPLETED BY 32 DAYS AFTER PLANTING.</p> <p><b>Ground application:</b> Apply <b>Euro-Lightning®</b> in 150 – 250 ℓ water / ha.</p> <p><b>Aerial application is not recommended</b></p> |

TABLE 1

**WEEDS CONTROLLED BY Euro-Lightning® WHEN APPLIED FOLLOWING THE USE OF A PRE-EMERGENT GRASS CONTROL PRODUCT NAMELY DUAL® GOLD OR METAGAN® GOLD.**

| GRASSES                             |                   | BROAD LEAVES                  |                       |
|-------------------------------------|-------------------|-------------------------------|-----------------------|
| SCIENTIFIC NAME                     | COMMON NAME       | SCIENTIFIC NAME               | COMMON NAME           |
| <i>Digitaria sanguinalis</i>        | Crab finger grass | <i>Amaranthus hybridus</i>    | Common pigweed        |
| <i>Dinebra retroflexa</i>           | Cat's tail grass  | <i>Amaranthus viridus</i>     | Slender Amaranthus    |
| <i>Dactyloctenium aegyptium</i>     | Crow foot grass   | <i>Chenopodium album</i>      | White goosefoot       |
| <i>Eleusine indica ss africanum</i> | Goose grass       | <i>Chenopodium carinatum</i>  | Green goosefoot       |
|                                     |                   | <i>Chenopodium pumilio</i>    | Clammy goosefoot      |
|                                     |                   | <i>Commelina benghalensis</i> | Wandering jew         |
|                                     |                   | <i>Convolvulus sagittatus</i> | Bind weed             |
|                                     |                   | <i>Cucumis myriocarpus</i>    | Striped wild cucumber |
|                                     |                   | <i>Datura ferox</i>           | Large thorn apple     |
|                                     |                   | <i>Datura stramonium</i>      | Common thorn apple    |
|                                     |                   | <i>Euphorbia helioscopia</i>  | Umbrella milkweed     |
|                                     |                   | <i>Euphorbia heterophylla</i> | Painted euphorbia     |
|                                     |                   | <i>Hibiscus trionum</i>       | Bladder hibiscus      |
|                                     |                   | <i>Portulaca oleracea</i>     | Purslane              |
|                                     |                   | <i>Richardia brasiliensis</i> | Mexican Richardia     |
|                                     |                   | <i>Tagetes minuta</i>         | Tall khaki weed       |
|                                     |                   | <i>Tribulus terrestris</i>    | Devil thorn           |

Also refer to the spectrum of weeds controlled by the pre-emergent grass control herbicides, mentioned above. Weed species such as *Bidens* spp., *Datura* spp., *Tagetes minuta*, *Xanthium strumarium* and some others that germinate erratically, even during the latter part of the season, may not be effectively controlled up to harvest.

TABLE 2

**SUPPRESSION OF BETWEEN 60 – 90% OF THE FOLLOWING WEEDS WILL BE ACHIEVED WITH Euro-Lightning® FOLLOWING THE USE OF THE REGISTERED PRE-EMERGENT GRASS HERBICIDES NAMELY DUAL® GOLD OR METAGAN® GOLD.**

| GRASSES                 |                     | BROAD LEAVES                   |                  |
|-------------------------|---------------------|--------------------------------|------------------|
| SCIENTIFIC NAME         | COMMON NAME         | SCIENTIFIC NAME                | COMMON NAME      |
| <i>Panicum schinzii</i> | Sweet buffalo grass | <i>Acanthospermum hispidum</i> | Upright starbur  |
| <i>Zea Maize</i>        | Volunteer maize     | <i>Bidens pilosa</i>           | Blackjack        |
|                         |                     | <i>Bidens formosa</i>          | Cosmos           |
|                         |                     | <i>Crotalaria sphaerocarpa</i> | Wild lucerne     |
|                         |                     | <i>Ipomoea purpurea</i>        | Morning glory    |
|                         |                     | <i>Schkurhia pinnata</i>       | Dwarf marigold   |
|                         |                     | <i>Xanthium strumarium</i>     | Large cockle bur |

**Clearfield®** and **Clearfield® Plus** are Registered Trademarks of BASF.

Dual® Gold and Metagan® Gold are Registered Trademarks of Syngenta SA (Pty) Ltd.

## WAARSKUWINGS

**Gevaarstellings:**

- Mag skadelik wees vir die ongebore kind
- Baie giftig vir waterlewende organismes met langdurige gevolge

**ONTHOUDINGSPERIODE:**

**LAAT DIE VOLGENDE MINIMUM AANTAL DAE TOE TUSSEN DIE LAASTE TOEDIENING EN OES:**

| GEWAS                                            | Dae |
|--------------------------------------------------|-----|
| <b>Clearfield® en Clearfield® Plus</b> Sonneblom | 70  |

- Hanteer versigtig.
- Bêre in 'n koel plek weg van voedsel, voer en saad.
- Hou buite bereik van kinders, oningeligte persone en diere.
- Om skade op ander gewasse te vermy, moet die spuitapparaat, gebruik vir **Euro-Lightning®**-toediening, deeglik uitgewas word voordat dit gebruik word vir bespuiting met ander produkte.
- Gebruik alleenlik op die goedgekeurde **Clearfield®** en **Clearfield® Plus** Sonneblom variëteite soos deur die toepaslike saadmaatskappye geregistreer.

Alhoewel hierdie middel onder 'n groot verskeidenheid toestande getoets is, waarborg die registrasiehouer nie dat dit onder alle toestande doeltreffend sal wees nie, aangesien die werking en effek daarvan, deur faktore soos abnormale grond-, klimaats- en bergingstoestande, kwaliteit van verdunningswater, verenigbaarheid met ander stowwe wat nie op die etiket aangedui is nie, en die voorkoms van weerstand by onkruide teen die betrokke middel beïnvloed kan word, die metode, tyd en akkuraatheid van toediening kan ook die werking en doeltreffendheid van die middel beïnvloed. Verder aanvaar die registrasiehouer nie verantwoordelikheid vir skade aan gewasse, plantegroei en die omgewing nie, of vir nadelige effek op mens of dier nie, of vir onvoldoende prestasie van die betrokke middel weens die versuim van die gebruiker om etiketaanwysings na te kom nie, of weens toestande wat nie kragtens die registrasie voorsien kon word nie. Raadpleeg die verskaffer in geval van enige onsekerheid.

## VOORSORGMAATREËLS

### Voorsorgstellings

- Indien mediese advies nodig is, hou die produkhouer of etiket byderhand
  - Hou buite bereik van kinders
  - Lees etiket noukeurig en volg alle instruksies
  - Dra beskermende handskoene, beskermende klere en beskerming vir oë of gesig.
  - Verkry spesiale instruksies voor gebruik
  - Moenie hanteer voordat alle voorsorgmaatreëls gelees en verstaan is nie.
  - Maak stortsel bymekaar.
  - Indien blootgestel of besorgd, verkry mediese hulp
  - Berg agter slot en grendel.
  - Raak ontslae van inhoud en houer deur na 'n gevaarlike- of spesiale-afval insamelsplek te besorg.
- 
- Moenie dampe of sproei newel inasem nie.
  - Was met seep en water na gebruik of indien dit per ongeluk op die vel beland.
  - Moenie eet, rook of drink terwyl gemeng of gespuit word nie alvorens die hande en gesig nie gewas is nie.
  - Verhoed die oorwaai van spuitnewel na ander gewasse weiding, riviere en damme of gebiede wat nie behandel moet word nie.
  - Maak die spuittoediener deeglik skoon voordat ander middels daarmee toegedien word en doen weg met die waswater sodat dit nie gewasse, weiding, riviere of damme sal besoedel nie.
  - Moenie toedien waar wortels van gewenste plantegroei die middel kan opneem nie.
  - Lê houters moet DRIE KEER UITGESPOEL word soos volg: Keer die lê houer om oor die spuittenk of mengbak en dreineer vir minstens 30 sekondes nadat die vloei tot 'n gedrup verminder het. Spoel die houer daarna drie keer uit met 'n volume water gelykstaande aan 'n minimum van 10 % van die houer. Gooi die speelwater by die inhoud van die spuittenk voordat die houer op die voorgeskrewe wyse vernietig word.
  - Moet nooit die lê houer vir enige ander doel hergebruik nie maar vernietig dit deur te perforeer, plat te druk en raak op 'n veilige manier daarvan ontslae.
  - Voorkom die besoedeling van voedsel, voer, drinkwater en eetgerei.

### NOODHULPBEHANDELING

Verwyder besmette klere.

|                           |                                                                                                   |
|---------------------------|---------------------------------------------------------------------------------------------------|
| <b>INDIEN IN DIE OË:</b>  | Spoel aangetaste oë vir ten minste 15 minute met lopende water, terwyl die ooglede oopgehou word. |
| <b>INDIEN INGESLUK:</b>   | Spoel mond uit en drink 200 – 300 ml water, verkry mediese hulp.                                  |
| <b>INDIEN OP DIE VEL:</b> | Was aangetaste area deeglik met seep en water.                                                    |
| <b>INDIEN INGEASEM:</b>   | Hou pasiënt kalm en verwyder na vars lug.                                                         |

Indikasie van enige onmiddellike mediese aandag en spesiale behandeling nodig

Behandeling: Behandel simptome (reinig, belangrikste funksies). Daar is geen spesifieke teenmiddel nie.

## RELEVANTE BESTANDEDELE

| <b>Gevaarlike Bestanddele</b><br>Volgens UN GHS kriteria                                                 | <b>CAS nommer</b> | <b>Konsentrasie (W/W)</b> |
|----------------------------------------------------------------------------------------------------------|-------------------|---------------------------|
| imazamox (ISO); (RS)-2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-5-methoxymethylnicotinic acid      | 114311-32-9       | 3,12 %                    |
| imazapyr (ISO); 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridine carboxylate | 81334-34-1        | 1,38 %                    |
| Ammonium hydroxide ((NH <sub>4</sub> )(OH))                                                              | 1336-21-6         | < 1 %                     |
| 1,2-Benzisothiazol-3(2H)-one                                                                             | 2634-33-5         | < 0,05 %                  |
| Propane-1,2-diol                                                                                         | 57-55-6           | < 15 %                    |

## WAARSKUWING TEEN WEERSTAND

**Euro-Lightning®** is 'n Groepkode 2 onkruidodder en behoort aan die Imidasolinoon-groep onkruidodders. Die produk besit die aseto-laktaatsintese onderdrukkende (ALS) meganisme van werking. In enige onkruidpopulasie is daar sekere onkruidbiotipes wat 'n natuurlike weerstandbiedendheid teen onkruidodders met 'n spesifieke meganisme van werking het. Die herhaaldelike en moontlik ononderbroke gebruik van onkruidodders met dieselfde meganisme van werking, mag veroorsaak dat die voorkoms van hierdie natuurlike biotipes dominant kan raak oor 'n periode van tyd. Hierdie bestande onkruid word nie beheer nie en die gevolg is swak algehele onkruidbeheer, alhoewel die onkruidodder teen die korrekte dosis en tydsbestek toegedien is. Dit is ook waar vir **Euro-Lightning®** en ander ALS-onderdrukkende onkruidodders. Daarom kan BASF (Edms) Bpk nie verantwoordelik gehou word vir die swak beheer van sulke bestande onkruid nie, of enige verliese gelyk as gevolg van die onsuksesvolle gebruik van **Euro-Lightning®** nie. Die volgende aksies word aanbeveel om die seleksiedruk van weerstandbiedende onkruid te voorkom:

- Dit is noodsaaklik om die metode van werking van die verskillende beskikbare onkruidodders te verstaan.
- Dien slegs een **Euro-Lightning®** behandeling per seisoen toe.
- Indien verdere onkruidodertoedienings vereis word, moet 'n onkruidodder van 'n ander meganisme van werking gebruik word.

**VIR SPESIEKE INLIGTING OOR WEERSTANDBESTUUR KONTAK DIE REGISTRASIEHOUER, BASF SA (Edms) Bpk.**

## GEBRUIKSBEPERKINGS

- **Euro-Lightning®** kan slegs op goedgekeurde **Clearfield®** en **Clearfield® Plus** Sonneblomvariëteite gebruik word. Nie-**Clearfield®** Sonneblomvariëteite is totaal vatbaar vir die onkruidodende werking van **Euro-Lightning®** en sal permanent beskadig word vrek, indien dit met **Euro-Lightning®** bespuit word. [Vir inligting rakende die verkryging van **Clearfield®** of **Clearfield® Plus** Sonneblomsaad, skakel gerus u Agent Gewasbeskerming Verspreider of naaste BASF SA (Edms) Bpk kantoor].
- Vermoed die toediening van **Euro-Lightning®** op gronde met pH (KCl) onder 4,5 of bo 7,2.
- Voorkom oorvleueling van spuitbane, tydens toediening.
- Moenie toedien, indien reën binne twee ure voor bespuiting, verwag word nie.
- **MOENIE** addisionele benatters, verspreiders of ander byvoegmiddels saam met **Euro-Lightning®** gebruik nie, siende dat dit reeds met die optimale hoeveelheid byvoegmiddels geformuleer is. Die enigste uitsondering is 'n vloeibare (50 %) hoë kwaliteit ammoniumsulfaat teen 'n 2 % oplossing, kyk onder **Algemene inligting** hieronder.
- Toediening moet gestaak word, indien windsnelheid 15 km / h oorskry, wanneer temperatuurinversies voorkom, of wanneer toestande die oorwaai van spuitnewel na gevoelige gewasse, sal begunstig. 'n Buffersone moet verkieslik gelaat word tussen die gebied wat behandel moet word en gevoelige gewasse.
- Gevoelige gewasse sluit in, maar is nie beperk tot, groentegewasse, graangewasse en sonneblomvariëteite wat nie as **Clearfield®** of **Clearfield® Plus** Sonneblom gemerk is nie.
- Om skade aan opvolggewasse te voorkom, moet die volgende wagperiodes (kyk hieronder) in ag geneem word nadat **Euro-Lightning®** toegedien is. 'n Toetsaanplanting word nogtans aanbeveel.

## WAGPERIODES VIR OPVOLGGEWASSE

- Hierdie wagperiodes geld slegs, indien die volgende voorwaardes nagekom word:
- Die voorgestelde dosis van **Euro-Lightning®**, is nie oorskry nie.
- Gemiddelde of bo-gemiddelde reënval ('n minimum van 350 mm), tussen toediening en die aanplant van die opvolggewas is gemeet. Indien die minimum reënval, soos hierbo aangedui, nie in die groeiseisoen van die sonneblomgewas val nie, moet die wagperiode verleng word na 'n addisionele 12 maande. Raadpleeg die verskaffer indien onseker.
- **Euro-Lightning®** is as enkel spuitbane toegedien, sonder oorvleueling.
- **Euro-Lightning®**, soos alle ander imidazolinone onkruidodders, word afgebreek in die grond deur mikrobe, in nat aerobiese toestande. Toestande wat NIE afbraak bevorder nie – soos verarmde grond wat lae organiese materiaal bevat, verdig gronde, anaerobiese situasies soos soos versuip-toestande, uitgerekte droë toestande – sal grondresidue vir langer periodes volhard, wat die vatbare opvolggewasse sal affekteer. Alhoewel die residue van **Euro-Lightning®** afgebreek het in die grond, kan die volgende situasies nog steeds die opvolggewasse affekteer: stresvol toestande, swak voedingstowwe in die grond, droogte, versuip-toestande en grondgedraagde siektes en nematodes. Omdat omgewingstoestande dit onmoontlik maak, dat alle risiko's uitgesluit kan word, wat met **Euro-Lightning®** toediening geassosieer word, is daar altyd die moontlikheid dat opvolggewasse beskadig kan word. Raadpleeg u naaste BASF verteenwoordiger vir advies, in geval van onsekerheid.

| GEWAS                                                          | WAGPERIODE |
|----------------------------------------------------------------|------------|
| <b>Clearfield® and Clearfield Plus®</b> Sonneblom              | Geen       |
| Sonneblom                                                      | 36 weke    |
| Koolgewasse                                                    | 36 weke    |
| Droë bone                                                      | 20 weke    |
| Grondbone                                                      | 36 weke    |
| Mielies [(alle mielie produksie areas (besproeiing ingesluit)] | 36 weke    |
| Soyabone                                                       | 16 weke    |
| Sorgum                                                         | 16 weke    |
| Koring                                                         | 16 weke    |
| Alle ander gewasse                                             | 20 maande  |

## GEBRUIKSAANWYSINGS: GEBRUIK SLEGS SOOS VOORGESKRYF

### Algemene inligting:

- **Clearfield®** is 'n internasionaal Geregistreerde Handelsmerk wat aan BASF behoort. Dit verskyn as 'n geregistreerde logo en sluit die woorde “**Clearfield® Production System**” in.
- Die “**Clearfield® Production System**” is 'n kombinasie van landboukundig gevorderde saad (natuurlike seleksie) en tegnologies ontwikkelde onkruidodders. Die naam **Clearfield®** word gebruik om die saad en onkruidodder as 'n eenheid te sien. **Clearfield®** en **Clearfield® Plus** sonneblom variëteite, is geselekteer en geteel met konvensionele telingstegnieke. Hierdie plante is nie 'n **GGO (GMO)** nie.
- Die meganisme van werking van **Euro-Lightning®** behels die opname deur die blare en translokasie na die groeipunte. Na die **Euro-Lightning®** toediening, sal die vatbare onkruidde verkleur, die groeiproses word gestaak en die onkruidde sal óf doodgaan óf nie verder kompetisie vir die gewas wees nie.
- **Euro-Lightning®** moet net op **Clearfield®** en **Clearfield® Plus** Sonneblom gebruik word, na die 2-blaarstadium (4-blaar stadium is ideaal). Moenie te laat toedien nie. As die gewas se blare te groot is, sal 'n afskermingseffek suksesvolle onkruidbeheer verhoed.
- Toediening moet voltooi wees binne 32 dae na aanplanting.
- Die onkruidde moet tussen die 2- en 6-blaar stadium wees tydens toediening en moet aktiefgroeënd wees. Die onkruidde moet onder geen stremming verkeer tydens die toediening nie (bv. droogte, versuip of voedingswanbalanse), aangesien dit die opname en translokasie van die produk kan benadeel en die onkruidde sodoende nie effektief beheer kan word nie.
- Voldoende grondvog moet teenwoordig wees vir die optimale werking van **Euro-Lightning®**.

- In gebiede waar swak waterkwaliteit ervaar word, moet 'n vloeibare (50 %) hoë kwaliteit ammoniumsulfaat gebruik word as 'n versagter van die water, voordat die **Euro-Lightning®** bygevoeg word. Gebruik 'n vloeibare (50 %) hoë kwaliteit ammoniumsulfaat, teen 'n 2 % oplossing (verwys na die toepaslike etiket).
- Verseker deeglike benutting van die onkruid
- **BELANGRIK:** Slegs een toediening **Euro-Lightning®** mag per groeiseisoen toegedien word. In die geval van 'n heraanplanting, vir enige rede, van **Clearfield®** en **Clearfield® Plus** Sonneblom waar **Euro-Lightning®** alreeds met die eerste aanplanting gespuit is, mag **Euro-Lightning®** nie weer toegedien word nie. 'n Vlak herbewerking van die grond, nie dieper as 5 cm nie, word voorgestel, sodat die opsie van 'n voor-opkomsgrasonkruidodder met die her-aanplanting weer toegedien kan word (verwys na die toepaslike etikette vir aanwysings).
- 'n Verbygaande vergeling van die gewas (genaamd "yellow flash"), of verkorting van die internodes mag voorkom, 5 – 8 dae na die **Euro-Lightning®** toediening op **Clearfield®** Sonneblom. Geen nadelige oesopbrengs sal egter ervaar word nie. Hierdie simptome mag meer prominent wees wanneer 'n vloeibare (50 %) hoë kwaliteit ammoniumsulfaat ingesluit is in die tenkmengsel, of wanneer die gewas onder stremming verkeer, as gevolg van omgewingstoestande. Verseker dus dat die beste landboukundigepraktyk gevolg word, insluitende grondbewerking, genoegsame kunsmis and siektebeheer in die saailingstadium.

#### **Verenigbaarheid:**

**Euro-Lightning®** is verenigbaar met 'n vloeibare (50 %) hoë kwaliteit ammoniumsulfaat. Moenie met 'n organofosfaat of karbamaat meng nie.

#### **Menginstruksies:**

Maak die spuittenk driekwart vol met skoon water. Meet die benodigde volume **Euro-Lightning®** af en meng dit vooraf met minstens 10 l water, voordat dit by die tenk gevoeg word. Indien enige ander produk met **Euro-Lightning®** gemeng word, moet die benodigde volume van hierdie produk op soortgelyke wyse eers vooraf gemeng word. Roer die water in die spuittenk en voeg eers 'n vloeibare, (50 %) hoë kwaliteit ammoniumsulfaat by en dan die produk. Vul die spuittenk met water tot by die verlangde vlak, terwyl daar voortdurend geroer word, om deeglike vermenging te verseker, alvorens daar met toediening begin word. Handhaaf roering gedurende toediening. Aangemaakte spuitmengsels moenie in die spuittenk gelaat word vir 'n onbepaalde tyd, bv. oornag nie.

Alle toedienings moet gemaak word met geskikte toerusting, wat in goeie werkende toestand en korrek gekalibreer is, ten einde die verlangde bedekking te gee vir die betrokke toedieningsmetode.

| GEWAS                                                         | DOSIS ℓ /HA | GEBRUIKSAANBEVELINGS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Clearfield®<br>SONNEBLOM<br><br>Clearfield® Plus<br>SONNEBLOM | 1 ℓ         | <p><b>Euro-Lightning® MOET ALTYD IN 'N VOLLEDIGE ONKRUIDBEHEERPROGRAM TOEGEDIEN WORD.</b><br/>Dit word aanbeveel dat 'n geskikte voor-opkomsgrasonkruidodder naamlik Dual® Gold (L5749) of Metagan® Gold (L5748) toegedien word.</p> <p><b>Na-opkomstoediening:</b> Euro-Lightning® moet tydens die 2 – 6-blaarstadium van die onkruid toegeedien word. Enige grasonkruid moet behandel word voor die uitstoelstadium bereik word. Die sonneblomsaailinge moet tussen die 2- en 6-blaarstadium wees. Dit is daarom belangrik dat toediening geskied wanneer die meeste onkruid reeds opgekom het, inagneming van die gewasstadium, maar dat toediening nie te laat is, sodat die ouer onkruid nie meer beheer sal word nie.</p> <p><b>DIE TYDSBESTEK VAN DIE TOEDIENING MOET VOLTOOI WEES TEEN 32 DAE NA PLANT.</b></p> <p><b>Grondtoediening:</b> Dien Euro-Lightning® in 150 – 250 ℓ water / ha toe.</p> <p><b>Lugtoediening word nie aanbeveel nie.</b></p> |

**TABEL 1**

**ONKRUIDE WAT DEUR Euro-Lightning® BEHEER WORD NA DIE TOEDIENING VAN 'N GEREISTREERDE VOOR-OPKOMSGRASONKRUIDDODER NAAMLIK DUAL® GOLD OF METAGAN® GOLD.**

| GRASSE                              |                 | BRĖBLARE                      |                       |
|-------------------------------------|-----------------|-------------------------------|-----------------------|
| WETENSKAPLIKE NAAM                  | GEWONE NAAM     | WETENSKAPLIKE NAAM            | GEWONE NAAM           |
| <i>Digitaria sanguinalis</i>        | Kruisvingergras | <i>Amaranthus hybridus</i>    | Kaapse misbredie      |
| <i>Dinebra retroflexa</i>           | Katstert        | <i>Amaranthus viridis</i>     | Skraalmisbredie       |
| <i>Dactyloctenium aegyptium</i>     | Hoenderspoor    | <i>Chenopodium album</i>      | Wit hondebossie       |
| <i>Eleusine indica ss africanum</i> | Jongosgras      | <i>Chenopodium carinatum</i>  | Groen hondebossie     |
|                                     |                 | <i>Chenopodium pumilio</i>    | Gekleurde melkkruid   |
|                                     |                 | <i>Commelina benghalensis</i> | Wandelende jood       |
|                                     |                 | <i>Convolvulus sagittatus</i> | Bobbejaantou          |
|                                     |                 | <i>Cucumis myriocarpus</i>    | Wildekomkommer        |
|                                     |                 | <i>Datura ferox</i>           | Groot stinkblaar      |
|                                     |                 | <i>Datura stramonium</i>      | Gewone stinkblaar     |
|                                     |                 | <i>Euphorbia helioscopia</i>  | Sambreelmelkkruid     |
|                                     |                 | <i>Euphorbia heterophylla</i> | Gekleurdemelkkruid    |
|                                     |                 | <i>Hibiscus trionum</i>       | Terblansbossie        |
|                                     |                 | <i>Portulaca oleracea</i>     | Gewone porslein       |
|                                     |                 | <i>Richardia brasiliensis</i> | Meksikaanse Richardia |
|                                     |                 | <i>Tagetes minuta</i>         | Lang kakiebos         |
|                                     |                 | <i>Tribulus terrestris</i>    | Gewone dubbeltjie     |

Verwys ook na die spektrum van onkruid wat beheer word deur die voor-opkomsgrasonkruidodders wat hierbo genoem word.

Die volgende onkruidspesies, *Bidens* spp., *Datura* spp., *Tagetes minuta*, *Xanthium strumarium* en sommige ander wat wisselvallig opkom, selfs gedurende die laaste deel van die seisoen, mag nie effektief beheer word tot en met oes nie.

**TABEL 2**

**ONDERDRUKKING VAN TUSSEN 60 – 90% VAN DIE VOLGENDE ONKRUIDE SAL BEREIK WORD MET Euro-Lightning® IN KOMBINASIE MET DIE TOEDIENING VAN 'n GEREISTREERDE VOOR-OPKOMSGRASONKRUIDDODER NAAMLIK DUAL® GOLD OF METAGAN® GOLD.**

| GRASSE                  |                  | BREËBLARE                      |                    |
|-------------------------|------------------|--------------------------------|--------------------|
| WETENSKAPLIKE NAAM      | GEWONE NAAM      | WETENSKAPLIKE NAAM             | GEWONE NAAM        |
| <i>Panicum schinzii</i> | Soet buffelsgras | <i>Acanthospermum hispidum</i> | Regopsterklits     |
| <i>Zea maize</i>        | Opslag mielies   | <i>Bidens pilosa</i>           | Gewone knapsekêrel |
|                         |                  | <i>Bidens formosa</i>          | Kosmos             |
|                         |                  | <i>Crotalaria sphaerocarpa</i> | Mielie-Crotalaria  |
|                         |                  | <i>Ipomoea purpurea</i>        | Purperwinde        |
|                         |                  | <i>Schurhia pinnata</i>        | Kleinkakiebos      |
|                         |                  | <i>Xanthium strumarium</i>     | Kankerroos         |

**Clearfield®** en **Clearfield® Plus** is Gereistreeerde Handelsmerke van BASF.

Dual® Gold en Metagan® Gold is Gereistreeerde Handelsmerke van Syngenta SA (Pty) Ltd.



**Clearfield**  
Production System

**BASF**  
We create chemistry

# Euro-Lightning®

Reg. No. L8436

Act No. 36 of 1947

**READ ATTACHED PACKAGE OR LEAFLET BEFORE USE**  
**KEEP OUT OF REACH OF CHILDREN AND ANIMALS**

| GROUP | 2 | HERBICIDE |
|-------|---|-----------|
|-------|---|-----------|

A water soluble post-emergent herbicide for the control of annual broadleaf- and grass weeds in Clearfield® and Clearfield® Plus Sunflowers.

'n Wateroplosbare na-opkoms onkruidodder vir die beheer van sekere eenjarige breëblaar- en grasonkruid in Clearfield® en Clearfield® Plus Sonneblom.

**Hazard statements:**

Suspected of damaging the unborn child.

Very toxic to aquatic life with long lasting effects.

**Precautionary statements:**

Wear protective gloves, protective clothing and eye protection or face protection.

IF exposed or concerned: Get medical attention.

**Active ingredients / Aktiewe bestanddele:**

Imazapyr (imidazolinone).....15 g/l

Imazamox (imidazolinone).....33 g/l

**Registered by:**

BASF South Africa (Pty) Ltd

Co. Reg. No. 66/10235/07

852 Sixteenth Road

P.O. Box 2801

Halfway House 1685

+27 11 203 2400



**Batch No. & Date manufactured:** Refer to details printed on container

**Lotnommer & Datum vervaardig:** Verwys na besonderhede gedruk op houer

**UN-No. / VN-Nr:** 3082

**EMERGENCY NUMBERS** +27 82 446 8946 or +27 11 203 2420

**In case of poisoning, call the following number:** +27 82 446 8946

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