Metribuzin 480 SC
Reg. No.: L6517 Act / Wet No. 36 of van 1947

A herbicide suspension concentrate for the control of a variety of annual broadleaf weeds and grasses in crops listed

HRAC HERBICIDE GROUP CODE: C1

ACTIVE INGREDIENT/ AKTIEWE BESTANDDEEL:
Metribuzin / Metribusin .......................................................................................................................... 480 g/ℓ
[ triazine / triasien]

Registration holder / Registrasiehouer:
Volcano AgroScience (Pty) Ltd trading as ARYSTA LifeScience South Africa (Pty) Ltd
7 Sunbury Office Park,
off Douglas Saunders Drive,
La Lucia Ridge, South Africa, 4019
Tel: 031 514 5600

Batch No. / Lot Nr.:

Date of manufacture: / Datum van vervaardiging:

U.N. No. 3082

READ THE LABEL IN DETAIL BEFORE OPENING THE CONTAINER. / LEES DIE ETIKET VOLLEDIG VOORDAT DIE HOUEER OOPGEMAAK WORD.
For full particulars, see enclosed leaflet. / Vir volledige besonderhede, sien ingeslote pamflet.
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Reg. No.: L6517 Act/Wet No. 36 of/van 1947

A herbicide suspension concentrate for the control of a variety of annual broadleaf weeds and grasses in crops listed.

’n Onkruiddoder suspensiekonsentraat vir die beheer van ’n verskeidenheid eenjarige breëblaaronkruide en grasse in die gewasse soos genome

HRAC HERBICIDE GROUP CODE / HRAC ONKRUIDDODERGROEP KODE:

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CAUTION / VERSIGTIG

WARNINGS:
• Lucerne: Allow a minimum of 25 days after application and before harvesting.
• Keep out of reach of children, uninformed persons and animals.
• Store in a cool place away from food and feeds.
• Re-entry interval: Do not enter treated field within 1 day after application unless wearing protective clothing.
• In case of poisoning call a doctor and show him/her this label.
• Aerial application: Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue necessary warnings. Do not spray over or allow drift to contaminate water or adjacent areas.

Although this remedy has been extensively 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 weed to 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 failure of the user to follow the label instructions or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier or registration holder in the event of any uncertainty.

PRECAUTIONS:
• Do not inhale spray mist.
• Wash after accidental skin contact.
• Wear rubber gloves and a face shield when handling the concentrate.
• Do not eat, drink or smoke whilst applying or mixing.
• Avoid drift onto other edible crops, grazing, rivers or areas not under treatment.
• Clean applicator thoroughly before re-using with other pesticides – dispose of wash water where it will not contaminate crops, grazing or water.
• 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 empty container three times with a volume of water equal to at least one tenth of that of the container and add the rinsings to the contents of the spray tank before disposing of the container.
• Destroy empty container by perforation and flattening and do not re-use for any purpose.
• Prevent contamination of food, feeds, drinking water and eating utensils.
**Symptoms of human poisoning:**
Large ingestions can cause nausea, vomiting, abdominal distress and diarrhoea.

**First aid treatment:**
**Inhalation:** Remove patient from exposure to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention.
**Skin contact:** Wash contaminated skin with cold water.
**Eye contact:** Irrigate with eye wash solution or clean water for at least 15 minutes. Get medical attention.
**Ingestion:** Immediately give 2 glasses of water and induce vomiting. Never give anything by mouth to an unconscious person. Get medical help.

**Note to physician:**
Administer 30 - 60 g activated charcoal in 150 - 300 ml water. If diarrhoea has not already developed, follow charcoal administration in 4 hours with sodium sulphate catharsis: adult dose (over 12 years) 15 g in 180 - 240 ml water; for children under 12 years, 0,2 g / kg in 30 - 180 ml water.

**Use restrictions:**
- Do not plant crops other than potatoes and sugarcane within six months of METRIBUZIN 480 SC application. Crops such as maize, carrots, tomatoes, beetroot, asparagus, turnip and soybeans may be planted six months after METRIBUZIN 480 SC application, while twelve months should elapse before crops such as brassicae, cucurbits, onions, peas, beans, wheat, lettuce, tobacco and strawberries are planted.
- Prior to the planting of subsequent crops, deep and thorough ploughing (not less than 20 cm) with a mouldboard or disc plough is essential.
- The use of poor quality or diseased seed or seedlings may lead to METRIBUZIN 480 SC damage.
- Avoid excessive overlapping of spray swaths and double spraying.
- Over-application, application at the incorrect growth stage, or any other use not in accordance with the directions on this label, may cause stunting of the crops and other adverse effects.
- Do not apply to winter planted potatoes or potatoes that will be under cold stress.

**Resistance warning:**
For resistance management, METRIBUZIN 480 SC is a group code C₁ herbicide. Any weed population may contain individuals naturally resistant toMETRIBUZIN 480 SC and other group code C₁ herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. These resistant weeds may not be controlled by METRIBUZIN 480 SC or any other group code C₁ herbicide.

To delay weed resistance:
- Avoid exclusive repeated use of herbicides from the same herbicide group code. Alternate or tank-mix with products from different herbicide group codes.
- Integrate the control methods (chemical, cultural, biological) into weed control programmes.

For specific information on resistance management contact the registration holder of this product.
DIRECTIONS FOR USE: Use only as directed.

Compatibility:
METRIBUZIN 480 SC is normally compatible with DIURON 800 SC, AMETRYN SC and PARAQUAT SL provided the mixing instructions are strictly adhered to. The quality of the water however, can affect the compatibility. Therefore, a compatibility test should be carried out with the water and the products to be used prior to application.
The restrictions and recommendations on the labels of the products that are mixed should be strictly adhered to.

APPLICATION:

1) Mixing:
a) Half fill the spray tank with water. Pour the required volume of METRIBUZIN 480 SC into the tank. Top up with water while agitating. Keep the herbicide in continuous suspension by means of agitation during spraying.
b) When mixing METRIBUZIN 480 SC with another herbicide establish whether the compounds are compatible in the water that will be used for spraying before application.
c) Ensure thorough agitation of the mixture in the tank during mixing and spraying. Tank mixtures must be sprayed out immediately and not allowed to stand in the spray tank.
2) Best results are obtained when METRIBUZIN 480 SC is applied to a moist soil before weeds emerge, especially grasses, or at the latest when broadleaf weeds are young (not taller than 3-5cm). Climatic conditions should be warm and optimal for weed growth. METRIBUZIN 480 SC should normally control weeds for a period of 8-16 weeks, depending on the rate of application, soil type and rainfall.
3) METRIBUZIN 480 SC should be applied by means of a tractor-mounted boom sprayer or knapsack sprayer equipped with Teejet-type flat fan nozzles, which should deliver 200-300 l spray solution per hectare.
4) In the case of aerial application 30-40 l spray solution per hectare is recommended. See “RECOMMENDATIONS” for dosage rate of METRIBUZIN 480 SC.
5) Ensure that application equipment is correctly calibrated and that only clean water is used.
6) A uniform and even distribution of the spray material over the target area is essential for effective METRIBUZIN 480 SC application. The soil should be moist (not soggy), of a fine texture and without clods.

7) The application rate of METRIBUZIN 480 SC is affected by the soil type, which in turn is determined by the clay content as well as by the silt and the organic matter content. Use the lower rates on lighter soils.

2.) Aerial application:
Aerial application of METRIBUZIN 480 SC may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SABS Code 0118 (Aerial Application of Agricultural Pesticides). Ensure that the spray mixture is distributed evenly over the target area and that the loss of spray material during application is restricted to a minimum. It is therefore essential that the following criteria be met:

- **Volume:** A spray mixture volume of 30 - 40 l / ha is recommended. As this product has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy, or be held responsible for any adverse effects if this product is applied aerially at a lower volume rate than recommended above.
- **Droplet coverage:** 25 - 35 droplets / cm² must be recovered at the target area.
- **Droplet size:** A droplet spectrum with a VMD of 350 - 400 micron is recommended. Limit the production of fine droplets less than 150 micron (high drift and evaporation potential) to a minimum.
- **Flying height:** Maintain the height of the spray boom at 3 - 4 m above the target. Do not spray when aircraft dives, is in a climb or when banking.
• Use suitable atomising equipment that will produce the desired droplet size and coverage, but which will ensure the minimum loss of product. The spraying system must produce a droplet spectrum with the lowest possible Relative Span.
• Position all the atomisers within the inner 60 - 75 % of the wingspan to prevent droplets from entering the wingtip vortices.
• The difference in temperature between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8 °C.
• Stop spraying if the wind speed exceeds 15 km / h.
• Stop spraying under turbulent, unstable and dry conditions during the heat of the day.
• Spraying under temperature inversion conditions (spraying in or above the inversion layer) and/or high humidity conditions (relative humidity 80 % and above) may lead to the following:
  a) reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
  b) damage to other sensitive crops and/or non-target areas through drifting of the suspended spray cloud away from the target field.
• Ensure that the Aerial Spray Operator knows exactly which fields to spray.
• Obtain an assurance from the Aerial Spray Operator that the above requirements will be met and that relevant data will be compiled in a logbook and kept for future reference.

NOTE:

• Climatic conditions affect the efficacy of, as well as crop tolerance to, METRIBUZIN 480 SC. Prior to METRIBUZIN 480 SC application the following should be considered:
• Should circumstances necessitate that METRIBUZIN 480 SC-treated land be replanted to an alternative crop, see “USE RESTRICTIONS”.
• Heavy rains following application will cause leaching of the product and a decrease in efficacy. Plant residues or stubble (mulch) covering the soil may adversely affect the efficacy of METRIBUZIN 480 SC.
• Do not add wetting agents, fertilizers or any other spray materials, except those mentioned on the label, to METRIBUZIN 480 SC spray mixtures.
|----------------------------------------------------|------------------|--------------------------|---------------------|---------------------|---------------------|---------------------|----------------------|---------------------|------------------|----------------|------------------|----------------|---------------------|-----------------------------|------------------------|------------------------|------------------------|-----------------|----------------|-------------------|------------------------|----------------|-------------------|-----------------|--------------------------|----------------|-------------------|-----------------------|---------------------|-----------------|----------------|----------------|---------------------|----------------|-----------------|-----------------|-----------------------|----------------|-----------------|----------------|---------------------|
Grasses:

<table>
<thead>
<tr>
<th>Chloris virgata</th>
<th>Feather-top Chloris</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digitaria sanguinalis</td>
<td>Crab finger-grass</td>
</tr>
<tr>
<td>Echinochloa crus-galli</td>
<td>Barnyard grass</td>
</tr>
<tr>
<td>Ehrharta longiflora</td>
<td>Oat-seed grass</td>
</tr>
<tr>
<td>Eleusine indica</td>
<td>Goose grass</td>
</tr>
<tr>
<td>Eragrostis spp.</td>
<td>Love grass</td>
</tr>
<tr>
<td>Panicum coloratum</td>
<td>Small buffalo grass</td>
</tr>
<tr>
<td>*Panicum maximum</td>
<td>Common buffalo grass</td>
</tr>
<tr>
<td>Panicum schinzii</td>
<td>Sweet buffalo grass</td>
</tr>
<tr>
<td>Setaria verticillata</td>
<td>Sticky bristle grass</td>
</tr>
<tr>
<td>Tragus racemosus</td>
<td>Large carrot-seed grass</td>
</tr>
<tr>
<td>Urochloa panicoides</td>
<td>Herringbone grass</td>
</tr>
<tr>
<td>*Cyperus esculentus</td>
<td>Yellow nutsedge</td>
</tr>
<tr>
<td>*Mariscus macer</td>
<td></td>
</tr>
</tbody>
</table>

*Requires 4.3 l of METRIBUZIN 480 SC / ha for adequate control.

Cyperus rotundus and Solanum nigrum are normally not controlled with METRIBUZIN 480 SC.

This product controls annual broadleaf weeds and grasses. Other annual broadleaf weeds and grasses that were not present during the development trials with the product, may possibly also be controlled to a certain degree. The registration holder does not accept any responsibility for unlisted weeds.

<table>
<thead>
<tr>
<th>CROP</th>
<th>CLAY %</th>
<th>Dosage/ha</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asparagus</td>
<td>&gt; 10%</td>
<td>1.5 l</td>
<td>USE ONLY on transplanted, established plants in summer rainfall areas.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Weeds: Pre-emergence control of annual grasses and broadleaf weeds.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Apply as a full cover spray on a moist soil surface.</td>
</tr>
<tr>
<td>Established Lucerne and Leguminous Pastures</td>
<td>0 - 10</td>
<td>1.1 l</td>
<td>Weeds: Pre-emergence</td>
</tr>
<tr>
<td></td>
<td>11 - 20</td>
<td>1.5 l</td>
<td>Apply as a full cover spray to established, dormant lucerne, prior to</td>
</tr>
<tr>
<td></td>
<td>21 - 35</td>
<td>1.8 - 2.2 l</td>
<td>weed emergence.</td>
</tr>
<tr>
<td>Potatoes</td>
<td>0 - 10</td>
<td>1.1 l</td>
<td>Weeds: Pre-emergence</td>
</tr>
<tr>
<td></td>
<td>11 - 20</td>
<td>1.5 l</td>
<td>Apply after planting until just before crop emergence.</td>
</tr>
<tr>
<td></td>
<td>21 - 35</td>
<td>1.8 - 2.2 l</td>
<td></td>
</tr>
<tr>
<td>Sugarcane: (Plant and ratoon cane).</td>
<td></td>
<td></td>
<td>Not recommended on weak, sandy soils containing less than 6 % clay.</td>
</tr>
<tr>
<td>CROP</td>
<td>CLAY %</td>
<td>Dosage/ha</td>
<td>REMARKS</td>
</tr>
<tr>
<td>-------------------------------</td>
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</tr>
<tr>
<td>Pre-emergence:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light sand to sandy loam</td>
<td>6 - 20 %</td>
<td>3,6 - 4,3 ℓ OR 2,0 - 2,9 ℓ + 2,0 ℓ DIURON 800 SC</td>
<td>Apply uniformly to moist soil surface after planting or harvesting. The high rates will have a suppressing effect on <em>Cyperus esculentus</em>. If <em>Panicum maximum</em> is present the application should be made pre-emergence (or very early post-emergence)</td>
</tr>
<tr>
<td>Loam to sandy clay loam</td>
<td>21 - 35 %</td>
<td>4,3 ℓ OR 2,5 - 2,9 ℓ + 2,0 ℓ DIURON 800 SC</td>
<td></td>
</tr>
<tr>
<td>Early Post-emergence: Light sand to sandy loam</td>
<td>6 - 20 %</td>
<td>3,6 - 4,3 ℓ OR 2,0 - 2,9 ℓ + 2,0 ℓ DIURON 800 SC</td>
<td>Apply before the grass weeds, especially <em>P. maximum</em>, are in the 2-3 leaf stage and broadleaf weeds are in the 4-6 leaf stage. Apply the high rates when <em>Cyperus esculentus</em> is present. The addition of <em>PARAQUAT SL</em> as recommended in plant cane to <em>METRIBUZIN 480 SC + DIURON</em> or to <em>METRIBUZIN 480 SC + AMETRYN SC</em> will enhance the efficacy, particularly where <em>P. maximum</em> is a problem or has developed beyond he 3-leaf stage, but is still in a stage prior to tillering.</td>
</tr>
<tr>
<td>Loam to sandy loam</td>
<td>21 - 35 %</td>
<td>4,3 ℓ OR 2,5 - 2,9 ℓ + 3,0 - 4,0 ℓ AMETRYN SC</td>
<td></td>
</tr>
<tr>
<td>CROP</td>
<td>CLAY %</td>
<td>Dosage/ha</td>
<td>REMARKS</td>
</tr>
<tr>
<td>--------------------------</td>
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<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Aerial application:</td>
<td>6 - 35 %</td>
<td>3,6 ℓ + 2,5 DIURON 800 SC</td>
<td>Apply uniformly in 30 - 40 ℓ spray mixture / ha. See REMARKS above: Early post-emergence.</td>
</tr>
<tr>
<td>Early post-emergence:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light sand to sandy clay loam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tomatoes</td>
<td>0 - 10</td>
<td>1,1 ℓ</td>
<td>Weeds: Early Post-emergence</td>
</tr>
<tr>
<td></td>
<td>11 - 20</td>
<td>1,5 ℓ</td>
<td>Apply 14 days after transplanting as a directed spray between the rows.</td>
</tr>
<tr>
<td></td>
<td>21 - 35</td>
<td>1,8 - 2,2 ℓ</td>
<td></td>
</tr>
</tbody>
</table>