Read the label before opening the container. For full particulars, see enclosed leaflet.

KEEP OUT OF REACH OF CHILDREN AND ANIMALS

META 960

South Africa Reg. No: L7823 Act No. 36 of 1947

HRAC HERBICIDE GROUP CODE: K3

An emulsifiable concentrate herbicide for pre-emergence control of annual grasses and, under certain conditions, also yellow nutsedge, in Eucalyptus and Pine plantations, sugarcane, beans, potatoes, sunflower and post-emergence in maize.

ACTIVE INGREDIENT:

Metolachlor (chloro-acetanilde).....960g/ℓ

Product Information: 072 678 8226
In case of poisoning: 082 446 8946

HAZARD STATEMENTS

- Causes skin irritation.
- May cause an allergic skin reaction.
- Causes serious eye damage.
- Harmful if inhaled.
- May cause damage to organs through prolonged or repeated exposure.
- Very toxic to aquatic life with long lasting effects.



DANGER

PRECAUTIONARY STATEMENTS

- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.

enviro™ bio-chem

Registration holder: Erintrade cc t/a RT Chemicals
Co. Reg. No: CK2001/036403/23
44 Kerk Street, Lichtenburg NW, South-Africa
Tel: +27 12 006 0063 | Fax: +27 86 541 7948
Web: www.envirobiochem.co.za

Expiry Date:
Batch No:
Date of Manufacture:

UN No. 3082

WARNINGS:

- Causes skin irritation.
- May cause an allergic skin reaction.
- Causes serious eye damage.
- Harmful if inhaled.
- May cause damage to organs through prolonged or repeated exposure.
- Very toxic to aquatic life with long lasting effects.
- Keep out of reach of children, uninformed persons and animals.
- Store in the original container under lock and key, in a cool place, away from food and feedstuffs.
- Toxic to fish. Prevent contamination of dams and rivers.
- Re-entry: Do not enter treated field within 1 day after application unless wearing protective clothing.
- Aerial application: Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. Do not spray over or allow the drift to contaminate water or adjacent areas.

Although this herbicide 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 effected 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 pest against the remedy concerned as well as by the method, time and accuracy of the application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal or for lack of performance of the herbicide concerned due to failure 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 in event of any uncertainty.

PRECAUTIONS:

- Avoid breathing mists, vapours or spray.
- Wash hands, forearms, and face thoroughly after handling
- Do not eat, drink, or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.
- Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
- Take off contaminated clothing and wash before reuse.
- If in eyes: Immediately call a POISON CENTER or doctor/physician.
- Prevent contamination of food, feedstuff, eating utensils and drinking water.
- Prevent drift of spray mist onto other crops, grazing, rivers, dams or areas not under treatment.
- Clean the applicator after use. Dispose of rinsate where it will not contaminate crops, grazing or any water body.
- 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 empty container three times with a volume of water equal to a minimum of 10% of that of the container. Add the rinsings to the content of the spray tank. Empty containers should be taken for local recycling or waste disposal. Do not re-use empty containers.

RELEVANT SUBSTANCES:

Metolachlor 89%
Calcium dodecylbenzenesulfonate <10%
Xylene <3%

FIRST AID TREATMENT:

INHALATION: Remove person to fresh air and keep comfortable for breathing.
INGESTION: Immediately call a POISON CENTER or doctor/physician.
SKIN CONTACT: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.

EYE CONTACT: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do continue rinsing.

RESISTANCE WARNING:

For resistance management, **META 960** is a **group code K3** herbicide. Any weed population may contain individuals naturally resistant to **META 960** and other **group code K3** herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly. **META 960** or any other **group code K3** herbicide may not control these resistant weeds.
To delay herbicide resistance:

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

For specific information on resistance management contact the registration holder of this product.

DIRECTIONS FOR USE: Use only as directed.

Compatibility:
Important: Where other herbicides are used in combination with **META 960** the directions for use on the label of the herbicide concerned must be adhered to.

META 960 is compatible with **PARAQUAT 200** (Reg. No. L11172), **AMETRYN 500 SC** (Reg. No. L8219), atrazine 500 SC, atrazine + terbuthylazine 600 SC, diuron 800 SC, **KLEEN UP** (Reg. No. L5853, glyphosate), hexazinone 75 WG, **MILANO (Reg. No:** L8252, METRIBUZIN 480C) and MSMA 720 SL (Reg. No. L8463). Thorough agitation during mixing and spraying is necessary. When mixing **META 960** it should be added last. When **KLEEN UP** or **PARAQUAT 200** is included it should be added last.

Mixing Instructions:
Always replace the cap after use. Half-fill the spray tank with clean water, then add the required amount of META 960 into the spray tank while the water is being agitated. Fill with water to the final volume required.

When **META 960** is tank mixed with **MILANO (Reg. No:** L8252, METRIBUZIN 480C), hexazinone 75 WG or **AMETRYN 500 SC** (Reg. No. L8219) or diuron 800 SC or 2.4 - D amine or MCPA as recommended below, these compounds should be added to the water first.

META 960 should be added last, just before the required volume is reached.
When P**ARAQUAT 200** (Reg. No. L11172) or glyphosate is included in a tank mixture it should be added last, only after all the other products have been added and properly mixed, just prior to the final volume being obtained.
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.

Application Techniques:
Ground Application
META 960 may be applied with any medium or high volume sprayer properly calibrated and which is equipped with an efficient agitation mechanism. Choice and arrangement of fan type spray nozzles should be such as to ensure even distribution and optimal recovery of the herbicide. The recommended amount of **META 960** should be applied in at least 200ℓ water/ha.

Aerial Application
Aerial application of **META 960** and **META 960** plus **AMETRYN 500 SC** (Reg. No. L8219) may only be done by a registered Aerial Application Operator using a correctly calibrated, registered aircraft according to the instructions of SABS Code 10118 (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 30ℓ per hectare 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: 20 to 30 droplets per cm² must be recovered at the target area.
- Droplet size: A droplet spectrum with a VMD of 350 to 400 microns is recommended. Limit the production of fine droplets less than 150 microns (high drift and evaporation potential) to a minimum.
- Flying height: Maintain the height of the spray boom at 3 to 4 metres 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 to 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 15km/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:
  - reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
  - 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.

It is essential to obtain an assurance from the aerial spray operator that the above requirements are met.

APPLICATION RATES:

1. SUGARCANE:

Pre-Emergence Application:

Apply 1.5 to 2.5ℓ/ha **META 960** on as a pre-emergence treatment.
Use 1 to 1.6ℓ/ha on light soils under 35% clay.
The higher rates (up to 2.5ℓ/ha) are recommended on soils with more than 35% clay and on all soil types where *P. maximum* is a problem and/or for improved control of *C. Esculentus* and/or for longer residual control.

Apply **META 960** at 3ℓ/ha if the soil organic matter content exceeds 1% and the clay content exceeds 35%.
Because it is not always possible to apply the herbicide prior to weed emergence, it is recommended to add 1.5ℓ **PARAQUAT 200** (Reg. No. L11172)/ha to the above-mentioned **META 960** spray mixture where weeds have started to emerge.

To obtain good broadleaf weed control, it is recommended to add **AMETRYN 500 SC** (Reg. No. L8219) at a rate of 2 to 3ℓ/ha to the **META 960**.
The lower rate (2ℓ/ha) is recommended for light to medium soils and the higher rate (3ℓ/ha) for medium to heavy soils.
Good control of broadleaf weeds can also be obtained by adding hexazinone 75 WG to **META 960** at the following rates:
- 0.6kg/ha (5 - 15% clay),
- 0.7kg/ha (16 - 35% clay) and
- 0.8kg/ha (>35% clay).

This combination will only provide good weed control when applied and followed by good rain or irrigation prior to weed emergence.
Use hexazinone 75 DF on ratoon cane only - Do not use hexazinone 75 WG on plant cane.
For full particulars regarding hexazinone 75 WG, consult the relevant label.

Alternatively, the broadleaf weeds can be controlled post-emergence with MCPA or 2.4-D amine.
For full particulars consult the respective labels.

Post-Emergence Application:
Since **META 960** has no post-emergence activity it will not control emerged weeds. It may, however, be applied post-emergence provided it is applied in mixture with a suitable post-emergence herbicide that will kill the emerged weeds.
Use 1 to 1.6ℓ/ha on light soils under 35% clay and the higher rates (up to 2.5ℓ/ha) on soils with more than 35% clay. Such treatments are recommended below:

- **META 960 plus AMETRYN 500 SC plus PARAQUAT 200**:
  Apply 1.5 to 2.5ℓ **META 960** in tank mix with 2 to 3ℓ **AMETRYN 500 SC** plus 1.5ℓ **PARAQUAT 200** per hectare.
  Do not add a surfactant to this treatment.
- **META 960 plus AMETRYN 500 SC:**
  Apply 1.5 to 2.5ℓ **META 960** in tank mix with 6ℓ **AMETRYN 500 SC** per hectare.
  Add a nonionic surfactant at a rate of 0.2% by volume.
- **META 960 plus AMETRYN 500 SC plus MCPA or 2.4 -D amine:**
  Apply 1.5 to 2.5ℓ **META 960** in tank mix with 4 to 5ℓ **AMETRYN 500 SC** plus 3.5ℓ MCPA (potassium salt) 400 SL or 3ℓ 2.4-D amine 480 SL per hectare. Add a non-ionic surfactant at a rate of 0.2% by volume.
- **META 960 plus Diuron 800 SC plus PARAQUAT 200:**
  Apply 1.5 to 2.5ℓ **META 960** in tank mix with 2 to 2.5ℓ diuron 800 SC plus 1.5ℓ **PARAQUAT 200** (Reg. No. L11172) per hectare.
  Do not add a surfactant to this treatment.
- **META 960 plus MILANO plus PARAQUAT 200:**
  Apply 1.5 to 2.5ℓ **META 960** in tank mix with 2ℓ **MILANO** plus 1.5ℓ **PARAQUAT 200** per hectare.
  Do not add a surfactant to this treatment. **MILANO** should only be used on soils of between 6% to 35% clay.

IMPORTANT:
- All above-mentioned post-emergence treatments should be applied not later than the 3-leaf stage of the grass weeds.
- Treatments that contain **PARAQUAT 200** (Reg. No. L11172) may be applied up to the 3-leaf stage of the crop.
- The treatment that contains only **META 960** and **AMETRYN 500 SC** (Reg. No. L8219) may be made by means of an overhead application up to the 5-leaf stage of the crop. After the 5-leaf stage the spray must be directed between the sugarcane rows.
- The treatments that contains either MCPA or 2.4 -D amine should be directed between the sugarcane rows. After the 5-leaf stage of the crop the spray must be directed between the sugarcane rows.
- The rate of **META 960** in all above-mentioned treatments and the rates of **AMETRYN 500 SC** (Reg. No. L8219) should be selected according to the soil type as indicated.
- The post-emerge rate of **AMETRYN 500 SC** (Reg. No. L8219) should be selected according to the density of the grass infestation and the prevailing climatic conditions as indicated on the label.
- Treatments of **META 960** plus **AMETRYN 500 SC** (Reg. No. L8219) or plus MCPA or 2.4 -D amine may not always give satisfactory control of *P. Maximum*.
- Use the higher dosage rate of diuron 800 SC for longer residual control.
- Apply **META 960** at 2ℓ/ha if the soil organic matter content exceeds 1% and the clay content exceeds 35%.

2. EUCALYPTUS SPECIES AND PINE PLANTATIONS:
META 960 can be applied immediately after transplanting of the young trees on a well prepared weed-free soil surface.

Should weeds have emerged at the time of planting it is recommended that a tank mix of **META 960** and **KLEEN UP** (Reg. No. L 5853) or **PARAQUAT 200** (Reg. No. L11172) be applied before planting. Apply **KLEEN UP** (Reg. No. L 5853) or PARAQUAT 200 (Reg. No. L11172) at the rates as recommended on the labels. The **KLEEN UP** (Reg. No. L 5853) or **PARAQUAT 200** (Reg. No. L11172) will kill the emerged weeds and create a pre-emergence situation for **META 960** to act effectively.

If grass weeds have emerged after the trees have been planted, the **META 960** application may be followed one week later by **FLUZADE** (fluazifop-P-butyl 125g/ℓ EC; Reg. No. L7775) or similar compound as recommended by the manufacturer, to kill the emerged grasses. The following META 960 rates are recommended:

% CLAY	META 960 (ℓ/ha)
0 - 20	1.5
21 - 30	2
>30	2 - 3 *

*Use the higher rate where the soil organic matter content exceeds 1%.

3. GREEN BEANS, GROUNDNUTS, DRY BEANS, KIDNEY BEANS, SOY BEANS:
The following application rates of **META 960** are recommended for the different crops on various soil types for the control of weeds as listed.

% CLAY	META 960 (ℓ/ha)
0 - 20	0.75 - 1.25
21 - 30	1.25 - 1.5
>30	1.5 - 2

Use the higher application rate of **META 960** for improved control of yellow nutsedge (*C. Esculentus*) or where heavy infestations of crab finger grass (*D. Sanguinalis*) exist or where the organic matter in the soil exceeds 1%.

Tank Mixtures with MILANO on Soy Beans Only:
The following application rates as tank mixtures of **META 960** plus **MILANO (Reg. No: L8252, METRIBUZIN 480C)** are recommended on soy beans on various soil types and for the control of certain weeds as indicated on the **MILANO (Reg. No: L8252, METRIBUZIN 480C)** label, additional to that controlled by **META 960**.

% CLAY	META 960 (ℓ/ha)	MILANO (ℓ/ha)
0 - 10	NOT RECOMMENDED	
11 - 20	0.9 - 1.2	0.54
21 - 35	1.2 - 1.5	0.7
>35	NOT RECOMMENDED	

- Use the higher application rate of **META 960** to improve the control of yellow nutsedge (*C. Esculentus*) or where heavy infestations of crab finger-grass (*D. sanguinalis*) exist.
- Use the **META 960** plus **MILANO (Reg. No:** L8252, METRIBUZIN 480C) mixture only on soils with more than 1% organic matter.
- See the **MILANO (Reg. No:** L8252, METRIBUZIN 480C) label for cultivar restrictions and application details.
- Do not apply **META 960** plus **MILANO (Reg. No:** L8252, METRIBUZIN 480C) on soybeans that are planted on soils with low or high water pH values (pH lower than 4.5 and higher than 7), or on soils with mineral deficiencies, or on waterlogged soils, as injury might occur.
- The application of **META 960** plus **MILANO (Reg. No:** L8252, METRIBUZIN 480C) on light soils early in the season under conditions of low night temperatures may cause injury.

- Over-application, application at the incorrect growth stage, or any other use not in accordance with the directions on the **META 960** and **MILANO (Reg. No:** L8252, METRIBUZIN 480C) labels, may cause stunting of the crop and other adverse effects.

4. POTATOES (Summer Rainfall Region Only):
Apply 1.8ℓ/ha **META 960** on all soil types.
Add 1.1ℓ **METRIBUZIN 480**/ha to **META 960** for broadleaf weed control.
Use **META 960** at 1.5ℓ/ha in combination with **MILANO** where potatoes are planted during the rainy season or under irrigation. Where potatoes are planted on dry land, prior to the start of the rainy season, the high rate of **META 960** should be applied even when used in combination with **MILANO**.
The restrictions with regard to **MILANO** as indicated on the label must be observed.

RIDGING:
After herbicide application, ridging should be delayed as long as possible since untreated soil is brought to the surface by this operation, which may result in a new flush of weed growth.
META 960 can be applied post-emergence to the potatoes after ridging. Under these circumstances a directed inter-row application is preferable although not essential.

5. MAIZE:
Residual grass control after a pre-emergence application of **ACETOSAFE** (Reg. No. L 7820) or **BRUTUS** (metolachlor 915g/ℓ EC; Reg. No. L 7993) may be prolonged with a post-emergence application of **META 960**. Any existing weeds must be destroyed by cultivation or with a registered post-emerge treatment before the **META 960** application.

META 960 applied as an inter-row directed post-emergence spray on maize

% CLAY	META 960 (ℓ/ha)
0 - 10	0.35
11 - 20	0.5
21 - 30	0.55
31 - 40	0.55 - 0.75
41 - 50	0.55 - 0.75

COMMENTS:
- If the **ACETOSAFE** (Reg. No. L7820) or **BRUTUS** (Reg. No. L7993) followed by **META 960** split treatment is selected on soils containing more than 30% clay, the rate of **META 960** may be varied according to the degree of pre-emergence control achieved and the prevailing weather conditions.
- The higher dosage rate of **META 960** may be used if grass weeds have started to emerge at the time of the post-emergence application.
- In order to control broadleaf weeds effectively atrazine + terbuthylazine 600 SC can be added to the above recommended rates of **META 960**. Consult the atrazine + terbuthylazine 600 EC label. Do not apply 2.4-D amine in tank mixture with **META 960** on maize.

6. SUNFLOWER:

Apply **META 960** within 3 days of planting.

% CLAY	META 960 (ℓ/ha)
0 - 20	0.9 - 1.2
21 - 30	1.2 - 1.5
>30	1.5 - 2

WEEDS CONTROLLED	
The following weed species are normally controlled by a preemergenceapplication of **META 960** at the dosage rates indicated below:	
BOTANICAL NAME	**COMMON NAME**
Brachiaria Eruciformis	Sweet Signal Grass
Chloris Virgata	Feathertop Chloris
Dactyloctenium Aegyptium	Crowfoot
Digitaria Sanguinalis	Crab Finger Grass
Echinochloa Crus-Galli	Barnyard Grass
Eleusine Indica	Goose Grass
Panicum Maximum	Common Buffalo Grass
Panicum Schinzii	Sweet Buffalo Grass
Pseudobrachiaria Deflexa	False Signal Grass
BOTANICAL NAME	**COMMON NAME**
Setaria Pallide-Fusca	Red Bristle Grass
Setaria Verticillata	Sticky Bristle Grass
Sorghum Verticilliflorum	Common Wild Sorghum
Tragus Berteronianus	Small Carrotseed Grass
Tragus Racemosus	Large Carrotseed Grass
Urochloa Mosambicensis	Bushveld Herringbone Grass
Urochloa Panicoides	Herringbone Grass

CONTROL OF THE FOLLOWING WEEDS IS VARIABLE	
BOTANICAL NAME	COMMON NAME
Amaranthus Hybridus	Common Pigweed
Amaranthus Spinosus	Thorny Pigweed
Amaranthus Thunbergii	Red Pigweed
Chenopodium Carinatum	Green Goosefoot
Cleome Monophylla	Spindlepod
Commelina Benghalensis	Bengal Wandering Jew
Cyperus Esculentus	Yellow Nutsedge
Datura Ferox	Large Thorn Apple
Datura Stramonium	Thorn Apple
Galinsoga Parviflora	Gallant Soldier
Nicandra Physaloides	Apple Of Peru
Portulaca Oleracea	Purslane

Control Of Yellow Nutsedge (*Cyperus Esculentus*):

The control of *C. Esculentus* can be improved provided the following conditions are met;

- Thorough ploughing with a mouldboard plough immediately proceeds planting.
- A relatively fine, even and firm seedbed is prepared.
- Herbicide application is followed by at least 10 to 20mm of soft penetrating rain (or irrigation) to leach the herbicide into the soil prior to the emergence of *C. Esculentus*, which is normally 7 to 10 days after ploughing. These conditions are more likely to occur during the latter half of the planting season (November). More rain is required on heavier soils to obtain good results. This is the reason for the very poor control sometimes obtained on turf soils.
- Rainfall following herbicide application but before emergence of C. Esculentus is necessary for optimum *C. Esculentus* control. For this reason application of **META 960** should be made at or immediately after planting into moist soil.
- When planting into dry soil (insufficient moisture for *C. Esculentus* germination) application should be timed as close as possible to, but definitely before the first rains.