BEFORE USING THIS PRODUCT READ THE LABEL CAREFULLY!

GEBRUIKSAANWYSINGS INGESLUIT
Date formulated: **VERWYS NA BESONDERHEDE**
Formuleringsdatum: **GEDRUK OP HOUER/SAK**

DIRECTIONS FOR USE ENCLOSED
Batch number: **REFER TO DETAILS PRINTED**
Lotnommer: **ON CONTAINER/BAG**

Insecticide

TRIMPLE 1110 AL

Reg. No. L 9224 Act/Wet No. 36 of/van 1947

1: 8/5/2013-Jan2017

A flowable fumigant for the control of plant parasitic Nematodes in soil.

'n Vloeibare berokingsmiddel vir die beheer van plantparasitiese Aalwurms in grond.

ACTIVE INGREDIENT / AKTIEWE BESTANDDEEL
1,3 dichloropropene **1110 g/ℓ** 1,3 dichloropropeen

IRAC INSECTICIDE GROUP CODE **8A** IRAC INSEKDODER GROEPKODE

ℓ

villa

Registration holder / Registrasiehouer:
Universal Crop Protection (Pty) Ltd.
Co. Reg. No. / Mpy. Reg. Nr. 1983/008184/07
PO Box / Posbus 801, Kempton Park, 1620
Tel. (011) 396-2233
Website / Webblad: www.villacrop.co.za

UN Number: 2047

TOXIC
GIFTIG

Willow Set & Print 011 394-4486

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UNIVERSAL CROP PROTECTION (PTY) LTD.
Co. Reg. No. 1983/008184/07 Mpy. Reg. Nr.
P.O. Box / Posbus 801
KEMPTON PARK, 1620
Tel. (011) 396 2233

TOXIC GIFTIG

WARNINGS

- Handle with extreme care.
- Irritating to the skin, eyes, nose and mouth.
- Poisonous when absorbed through the skin or swallowed or inhaled.
- Toxic to fish and wild life.
- **Flammable** - do not store near open flames.
- Store in a well-ventilated storeroom in the original container.
- Store under lock and key in a cool place.
- Store away from food, feeds and other chemicals.
- Keep out of reach of children, uninformed persons and animals.
- In case of poisoning, call a doctor and make this label available to him/her.
- Re-entry: Do not enter field within 5 days after application unless wearing protective clothing.

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 pests to the remedy concerned, as well as by the method, time and accuracy of application. The registration holder further 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 in event of any uncertainty.

PRECAUTIONS

- Do not inhale the fumes.
- **Do not** suck this product through a tube by mouth, or use your mouth to blow out clogged lines, nozzles, etc.
- Wear protective clothing: plastic overalls, plastic covered boots, thick plastic gloves and a face shield or respirator.
- Wash contaminated clothing daily.
- Wash with soap and water after use or accidental skin contact.
- Do not eat, drink or smoke whilst mixing and applying or before washing hands and face or change of clothing.
- Clean the application equipment with diesoline or kerosene before using for other remedies and dispose of washing liquid where it will not contaminate crops, grazing, rivers and dams.
- Metal drum disposal:
  - To dispose of container emptied during application operation, remove the two bungs on top of the drum, invert container in the field just treated. Ensure that the container is free of all liquid. Orient container such that ventilation of bung holes on the bottom are not restricted.

- Allow containers to aerate for at least fourteen (14) days. Replace bungs prior to transport. After aerating container for fourteen (14) days, destroy the empty container by perforating and flattening and dispose of in a safe way.
- **Never** re-use empty containers for any other purpose.
- Prevent contamination of food, feeds, drinking water and eating utensils.

SYMPTOMS OF HUMAN POISONING

Irritation of eyes and mucous membranes, irritation or blistering of the skin, nausea, vomiting, increasing stupor, rapid pulse and coma.

FIRST AID TREATMENT

- If inhaled: Remove person to fresh air. If patient is not breathing, give artificial respiration, preferably not mouth-to-mouth. If breathing is difficult, give oxygen, preferably not mouth to mouth. **Call a physician immediately.**
- If on skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If water is not immediately available, remove excess chemical from the skin with adsorbent material such as a towel or dry soil, then proceed at once to a location where water is available and thoroughly wash contaminated skin with plenty of water. **Call a physician.**
- If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes. **Call a physician immediately.**
- If swallowed: **Do not induce vomiting**. Call a physician or the Poison Control Center immediately. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN

- The decision to induce vomiting or not if the product has been inhaled or swallowed and rapid absorption may occur through lungs due to aspiration, causing systemic effects, should be made by a physician.
- Give oxygen and watch for early signs of pulmonary oedema. B.A.L. may be used.
- If the material has been ingested, carefully carry out gastric lavage.
- Do not give fats or oils; rather administer a demulcent like alumina gel.
- Mepiridine and atropine are indicated for control of pain and gastro-intestinal spasm. In severe cases continuous suction by naso-gastric tube should be considered.
- As with the ingestion of all strong local irritants, the possibility of glottic edema should be kept in mind.
- The administration of corticosteroids or ACTH as an aid in the prevention of esophageal stricture is recommended. Other treatment is also symptomatic and supportive and the physician should be guided by clinical signs.
- In cases of inhalation, removal from contamination usually suffices.
- In rare cases of severe over exposure with laryngo- and bronchospasm, inhalation of a spray or aerosol of 1 % epinephrine or 0.25 % isoproterrenol may be helpful.

RESISTANCE WARNING

TRIMPLE 1110 AL is a group code 8A insecticide. Any insect population may contain individuals naturally resistant to **TRIMPLE 1110 AL** and any other group code 8A insecticide. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by **TRIMPLE 1110 AL** or any other group code 8A insecticide.

To delay insecticide resistance:

- avoid exclusive repeated use of insecticides from the same insecticide group code. Alternate or tank mix with products from different insecticide group codes,
- integrate other control methods (chemical, cultural, biological) into insect control programmes.

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

DIRECTIONS FOR USE: Use only as directed.

General Information

- Soil sampling for the species and numbers of Nematodes present is recommended before fumigation. In fields where high Nematode population levels are indicated, eradication of the entire Nematode population cannot be expected. Post-application sampling is thus highly recommended to determine the need for additional Nematode management practices.
- Regardless the dosage applied the effectivity of **TRIMPLE 1110 AL** can be influenced by various factors outside the registration holder's control such as mono-cultural practices, soil type, climatic conditions, Nematode species, re-infestation via infested seed, plants, irrigation water, etc.

- Where abovementioned factors play a role, a degree of Nematode infestation may be expected in susceptible crops such as potatoes, tomatoes, tobacco, etc., and if no additional Nematode control measures are applied, losses can be expected.
- When abnormal cropping systems are followed, or practices that promote an increase in Nematode populations; e.g. where lands are repeatedly planted with highly susceptible crops, or fields with a history of high Nematode populations and susceptible crops, such as potatoes, tomatoes and tobacco, are planted on such fields; fumigation with **TRIMPLE 1110 AL** must be followed by a suitable post-plant nematicide.
- The use of **TRIMPLE 1110 AL** does not guarantee an infestation-free crop at time of harvest. **TRIMPLE 1110 AL** only controls Nematodes present in the soil and does not have a post-treatment residual effect, and will therefore not control or prevent re-infestation after application. Re-infestation of the fumigated area may occur via irrigation water, infested plant material, equipment, movement of the water table, or other sources of contamination, or from surrounding untreated soil such as beneath the fumigated zone or from unfumigated pockets within the fumigated area.

Recontamination prevention of treated areas:
- Prevent re-infestation of treated soil by a possible re-infestation source e.g. infested plant material, irrigation water (overhead or flood), soil, boots, compost, manure or equipment that could carry soil borne pests from an infested land.
- Avoid contamination from moving infested soil onto treated beds through cultivation, movement of untreated soil from below the treated zone. Clean all equipment of soil and crop-remains carefully before entering treated fields.

Compatibility:
Do not mix **TRIMPLE 1110 AL** with any other chemical.

Mixing instructions:
TRIMPLE 1110 AL is applied as a concentrate and is not diluted with water.

Application and soil conditions:
- The use of **TRIMPLE 1110 AL does not guarantee an infestation-free crop at harvest.**
- **TRIMPLE 1110 AL** will only control Nematodes present in the soil. It has no post-treatment residual effect and will not control or prevent re-infestation subsequent to the treatment. Subsequent pest populations may infest the fumigated zone from irrigation water, movement of the water table, infested plant material, equipment, or other sources of contamination. Pest populations may also invade the fumigated zone from surrounding untreated soil such as beneath the fumigated zone or even from unfumigated pockets within the fumigated area.
- Remove root and plant debris left on the field from the previous crops.
- The soil must be moist, in good tilth and free of clods.
- Outlet depth should be at least 30 cm below the final soil surface. For annual crops **TRIMPLE 1110 AL** must not be placed deeper than 40 cm or less than 30 cm from the soil surface. For perennial or deep-rooted crops, attempt not to place **TRIMPLE 1110 AL** less than 40 cm from the soil surface.
- Do not apply to excessively wet soil or when soil temperature is below 6 °C.
- In the case of coarse soils (sand and loamy sand), there must be sufficient moisture to make a weak ball when soil is compressed in the hand and which can be easily broken with little disturbance.
- In loamy, moderately coarse, or medium textured soils (coarse sandy loam, sandy loam and fine sandy loam), a soil sample with the proper moisture content can be formed into a ball which holds together with moderate disturbance, but does not stick between the thumb and forefinger.
- Fine textured soils (clay loam, silty clay loam, sandy clay, silty clay, sandy clay loam and clay) should be pliable and not crumbly:
- Fumigation will be more effective if the soil is sealed by rolling, disking, using a drag iron or a light overall irrigation (10 to 15 mm).
- Buffer zone - do not apply closer than 1.5 m from the roots of actively growing plants.
- When the re-ridging operation takes place, ensure that only treated soil is used for the ridging process.
- Treat soil at least 2 weeks before planting.

Establishment of fruit orchards and vineyards:
To ensure that roots from the previous crop have completely decomposed by the time of fumigation, a minimum of 12 months must elapse between the removal of the previous crop and soil fumigation.

Interactions with fertilizers:

- Fumigation may temporarily raise the levels of ammonia nitrogen and soluble salts in the soil. This is most likely to occur where high rates of fertilizer and fumigant are applied to soils that are either cold, wet, acid or high in organic matter.
- To avoid injury to plant roots, fertilize as indicated by soil tests conducted after fumigation.
- To avoid ammonia injury or nitrate starvation to crops in high organic soils, or both, do not use fertilizers containing ammonium salts. Only use fertilizers containing nitrates, until after the crop is well established and the soil temperature is above 18°C.

Application methods and apparatus:

- General use precautions:
  - As **TRIMPLE 1110 AL** is corrosive under certain conditions, flush all application equipment with diesoline or a similar solvent immediately after use. Fill pumps and meters with new motor oil or a 50 % motor oil/fuel oil (two stroke oil) mixture, before storing. **Do not use water**.
  - Do not use containers, pumps or other transfer equipment made of aluminium, magnesium or their alloys, as under certain conditions **TRIMPLE 1110 AL** may be severely corrosive to such metals.
- For overall fumigation with **TRIMPLE 1110 AL,** a suitable tine or mouldboard plough should be used for application. In order to break-up compacted soil layers, to ensure the even distribution of the fumigant in the soil, the soil must be ripped to the required depth (preferably with a tine implement).
- Where a tine implement is used for application, use a chisel-type plough with a rip-type plough share, to ensure that application is carried out at the correct depth.
- Tines must be spaced 30 cm apart max, whilst the outlet depth should be at least 30 to 40 cm below the soil surface.
- Application with a mouldboard plough may only be considered on shallow soils (soils not deeper than 45 cm). Outlet spacing should not exceed 30 cm and application should not be shallower than 30 to 40 cm below the final soil surface.
- The movement of the fumigant gas may be limited where a hard pan (compaction zone) is present below application depth.

Sealing the soil after application:

- Immediately after application of **TRIMPLE 1110 AL,** the soil must be "sealed" to prevent fumigant loss via chisel and plough traces and therefore ensuring that an effective concentration of the fumigant is maintained within the soil for a period of several days.
- For broadcast treatment (flat fumigation), sealing can be accomplished with equipment that will uniformly mix the soil to a depth of 8 to 10 cm. A tandem, disc, roller, drag iron or similar equipment may be used for this purpose. A light overhead irrigation (10 to 15 mm) may also be carried out to seal the soil.

Row treatment:

- Forming the beds at the time of application should be accomplished in a manner that places the fumigant at least 30 cm from the nearest soil/air interface (e.g. furrow).
- Proper seedbed conditions at the time of application of **TRIMPLE 1110 AL** are important to ensure proper placement of the fumigant and obtaining adequate sealing.

Soil fumigation to planting interval:

- Leave the soil undisturbed and unplanted for at least 2 weeks after application of **TRIMPLE 1110 AL**. A longer undisturbed interval is required if the soil becomes cold or wet.
- To prevent phytotoxicity after the fumigation interval, allow the fumigant to dissipate completely before planting the crop. To hasten dissipation, especially if heavy rains or low temperatures occurred during the treatment period, till the soil to the depth of the fumigant application. Do not till deeper than the fumigation was applied.
- Dissipation is usually complete when the odour of **TRIMPLE 1110 AL** is no longer evident at the application depth. Do not plant if the odour of **TRIMPLE 1110 AL** is present within the fumigation zone.

Buffer zone:

- Do not apply within 1.5 m of any growing root zone of crops or other plants.

Annual crops:

- Soil sampling for the type and number of Nematode pests present before and after fumigation is recommended to determine the infestation levels. The infestation levels will determine the dosage rate for **TRIMPLE 1110 AL** as well as the necessity for additional treatment with a nematicide.
- Optimum water and irrigation management must be followed after application.

Crop Specific Guidelines

Potatoes (Seed and Table):

- Analyse root and soil samples before and after tuber initiation to monitor levels of root and tuber infestations.
- After tuber initiation has started, tuber samples must be inspected at least every 2 weeks for any visual symptoms of Nematode infestation.
- Where soil and root samples indicate high population levels of Nematodes, fumigation alone cannot be expected to eradicate the entire population. Therefore, post-treatment sampling is recommended.
- Where a high Nematode infestation is present, additional control measures must be implemented. If monitoring results indicate possible economic losses, the crop must be harvested early.

The following aspects are important:

- Do not store potatoes with a detectable Nematode infestation.
- Ensure that infested tubers are not planted. In the case of certain Nematode species, tubers may be infested although no visible symptoms are present.
- Be aware of rotational crops. Crops that are hosts of certain Nematodes may cause a build-up of Nematode populations.
- Fumigation must be followed by application of a suitable nematicide.
- To avoid late infestation of tubers, the potatoes should not be left in the soil for more than 120 days after planting. To avoid the risk of tuber damage it is always advisable to lift potatoes as soon as possible after ripening.

Perennial crops:

- To determine infestation levels of Nematodes before establishment or re-establishment of fruit orchards or vineyards, soil and root samples should be analysed before the previous crop is removed. The infestation levels will determine dosage rate for **TRIMPLE 1110 AL** as well as the necessity for additional nematicide treatment.
- To ensure effective Nematode control with fumigation, it is necessary to leave the soil for a period of at least 12 months after the previous crop was removed, so as to ensure that the roots of the previous crop have completely decomposed before fumigation.
- **NOTE**
  Although **TRIMPLE 1110 AL** is very effective in controlling Nematodes in soil, re-plant disease, such as experienced with pome fruit, will not be controlled.
- Fumigate soil at least 21 days before planting.

APPLICATION RATES

Crop / Pest	*Dosage Rate*	*Remarks*
Annual Crops Plant parasitic Nematodes	Apply to the plant row 30 to 40 cm below final soil surface not later than 14 days before planting. Dosage is determined by the Nematode infestation levels. Apply higher rates where nematode infestation is high. Refer to **"DIRECTIONS FOR USE"** above.	
	600 to 1000 mℓ/100 m plant row	**Row treatment:** Apply this rate where single rows are treated.
	60 to 100 ℓ / ha	**Overall treatment:** The outlets (tines) must be placed 30 cm apart and each outlet must deliver 180 to 300 mℓ per 100 metre row length.

Crop / Pest	*Dosage Rate*	*Remarks*
Potatoes (Table and Seed) Plant parasitic Nematodes	Apply to the plant row 30 to 40 cm below final soil surface not later than 14 days before planting. Refer to **"DIRECTIONS FOR USE"** above.	
	1000 mℓ/100 m plant row	**Row treatment:** Apply this rate where single rows are treated.
	100 ℓ / ha	**Overall treatment:** The outlets (tines) must be spaced 30 cm apart with each outlet delivering 300 mℓ per 100 metre row length. **NOTES** i) Fumigation must be followed by a suitable nematicide. ii) Do not leave tubers in soil longer than 120 days after planting.
Perennial crops Pineapples Plant parasitic Nematodes	Eastern Cape Do not exceed 150 litres per hectare. (Refer **"General information"** under **"DIRECTIONS FOR USE"**). The outlets must be spaced 30 cm apart. Seal the soil after application. Allow at least three (3) weeks between application and planting.	
	1.5 ℓ / 100 m planting ridge	**Ridge Treatment:** Apply 2 to 3 evenly spaced rows / ridge. 2 rows / ridge: Rate 750 mℓ / 100 m 3 rows / ridge: Rate 500 mℓ / 100 m
	150 ℓ / ha	**Overall Treatment:** The outlets must be placed 30 cm apart. Each outlet must deliver 450 mℓ per 100 metre row length.
	Kwa-Zulu Natal Do not exceed 225 litres per hectare. (Refer **"General information"** under **"DIRECTIONS FOR USE"**). The outlets must be spaced 30 cm apart. Seal the soil after application. Allow at least three (3) weeks between application and planting.	
	2.25 ℓ / 100 m planting ridge	**Ridge treatment:** Apply 2 to 3 evenly spaced rows / ridge. 2 rows / ridge: Rate 1125 mℓ / 100 m 3 rows / ridge: Rate 750 mℓ / 100 m
	225 ℓ / ha	**Overall treatment:** The outlets must be placed 30 cm apart. Each outlet must deliver 675 mℓ per 100 metre row length. Apply at a depth of 30 to 40 cm below the soil surface, seal the soil after application.