READ THE LABEL (AND LEAFLET) BEFORE USE
KEEP LOCKED AWAY AND OUT OF REACH OF CHILDREN

Topik®

syngenta

Reg. No. **L4250** Act No. 36 of 1947 **N-AR 0720** (Namibia)

An emulsifiable concentrate herbicide for the selective post-emergence control of annual grasses in wheat in the Western and Eastern Cape and in dryland and irrigated areas of the summer rainfall region.

GROUP	1	HERBICIDE

Active Ingredient:
clodinafop-propargyl (piridinyl-oxyphenoxy)..... 240 g/ℓ

DANGER

Hazard statements: May be fatal if swallowed and enters airways. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long-lasting effects.
Precautionary statements: Keep out of reach of children. **Prevention:** Do not breathe mist or vapours. Wear protective gloves/eye protection/face protection. Avoid release to the environment. **Response:** If swallowed, immediately call a POISON CENTRE/ doctor. Get medical advice/attention if you feel unwell. Do NOT induce vomiting. Collect spillage. **Storage:** Store locked-up. **Disposal:** Dispose of contents/ container to an approved waste disposal plant.

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UN 3082

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1. WARNINGS:

Hazard statements: May be fatal if swallowed and enters airways. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long-lasting effects.

- Poisonous if swallowed.
- Avoid skin contact.
- Toxic to fish.
- **Flammable:** Keep away from flames.
- Store in a cool place.
- Store away from food and feed.
- Keep out of reach of children, uninformed persons and animals.
- **Re-entry:** Do not enter treated area until spray deposit has dried 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 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 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 and the environment, or harm to people or animals 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, that could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

2. PRECAUTIONS:

Precautionary statements: Keep out of reach of children. **Prevention:** Do not breathe mist or vapours. Wear protective gloves/eye protection/face protection. Avoid release to the environment. **Response:** If swallowed, immediately call a POISON CENTRE/doctor. Get medical advice/attention if you feel unwell. Do NOT induce vomiting. Collect spillage. **Storage:** Store locked-up. **Disposal:** Dispose of contents/ container to an approved waste disposal plant.

- Do not inhale the spray mist.
- Avoid skin contact.
- Wash with soap and water after use.
- Wash contaminated clothing after use.
- Do not eat, drink, or smoke while mixing or applying the product, or before washing hands and face.
- Avoid drift of spray onto other crops especially oats, grazing, rivers, dams and areas not under treatment.
- Clean applicator after use. Dispose of rinsate where it will not contaminate crops, grazing, rivers, dams and boreholes.
- Prevent contamination of food, feed, drinking water and eating utensils.
- Rinse the empty container three (3) times with a volume of clean water equal to a minimum of 10% of the container. Add the rinsate to the contents of the spray tank before destroying the container in the prescribed manner.
- Do not use the empty container for any other purpose.

3. RELEVANT SUBSTANCES:

Chemical name	
hydrocarbons, C10-C13, aromatics, <1% naphthalene	
Classification	**Concentration (% w/w)**
Asp. Tox. 1; H304 Aquatic Chronic 2; H411	≥ 50 - < 7
Chemical name	
clodinafop-propargyl (ISO)	
Classification	**Concentration (% w/w)**
Acute Tox. 4; H302 Skin Sens. 1; H317 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	≥ 20 - < 25

4. RESISTANCE MANAGEMENT:

TOPIK is a group code 1 herbicide. Any weed population may contain individuals naturally resistant to **TOPIK** and other group code 1 herbicides. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly and exclusively in programs. These resistant weeds may not be controlled by **TOPIK** or any other group code 1 herbicides which inhibits acetyl-Coenzyme A (acetyl-CoA) carboxylase.

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 group codes.
- Integrate other control methods (chemical, cultural, biological) into weed control programs.
- Maintain herbicide use records for each field.
- Prevent movement of resistant weed seeds and vegetative material to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- Inspect each land annually in order to identify the development of resistance early.
- The occurrence of resistant weeds are difficult to detect prior to use. If the above measures are not strictly adhered to Syngenta cannot accept responsibility for any losses that may result from the failure of **TOPIK** to control resistant weeds.

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

5. USE RESTRICTIONS:

Do not apply **TOPIK:**

- To wheat fields where confirmed or suspected herbicide resistance of any kind exist.
- Weeds under drought or nutrient stress condition.
- Waterlogged soils.
- Weeds under cold stress.
- In barley.
- In a tank mixture with sulfonylureas other than PEAK for the control of Italian ryegrass *(Lolium multiflorum*) - see compatibility.
- Over or allow spray drift to come in contact with neighbouring oats fields.

5.1 Minimum re-cropping intervals and crop rotation guidelines

TOPIK is quickly inactivated in soil and offers full-rotational flexibility for crops.

6. WEEDS CONTROLLED:

The following weed species are normally controlled by **TOPIK** at the dosage rates indicated below:

Avena spp.	-	**wild oats**
Lolium multiflorum	-	**Italian ryegrass**
Panicum schinzii	-	**sweet buffalo grass**
Phalaris minor	-	**little seeded canary grass**
Zea mays	-	**volunteer maize**

Resistance to the **piridinyl-oxyphenoxygroup** of herbicides might occur in some of these populations. Do not apply **TOPIK** to these populations.

7. DIRECTIONS FOR USE: Use only as indicated.

7.1 Compatibility

The compatibility of **TOPIK** with other products may be influenced by the formulation of the products involved as well as the quality of the water. Since the formulation of other products may change without the knowledge of Syngenta and the quality of water may vary from farm to farm, a physical compatibility test should always be carried out prior to application.

TOPIK when used for the control of **wild oats** is compatible with CAMPATOP® 225 EC (L3850), CAMPATOP® 225 EC plus 0.5 ℓ/ha MCPA, PEAK (L5705), GLEAN® (L1672), GRANSTAR® (L3630), HARMONY M® (L3840), LOGRAN® (L3600), LOGRAN® plus CAMPATOP® 225 EC, PUNCH C® (L3626), TILT® (L1048), parathion, PERFEKTHION® EC (L304), copper oxychloride, manganese sulphate and zinc oxide.

If **TOPIK** is applied at 150 mℓ/ha, tank mixtures with MCPA may lead to antagonism under certain conditions.

TOPIK when used for the control of **Italian ryegrass** is compatible with CAMPATOP 225 EC, PEAK, CAMPATOP 225 EC plus 0.5 ℓ/ha MCPA, PUNCH C, TILT, parathion, PERFEKTHION EC, copper oxychloride, manganese sulphate and zinc oxide.

TOPIK when used for the control of **little seeded canary grass** is compatible with CAMPATOP 225 EC, CAMPATOP 225 EC plus 0.5 ℓ/ha MCPA, PEAK, GLEAN, HARMONY M, LOGRAN, PUNCH C, TILT, parathion, PERFEKTHION 400 EC, copper oxychloride, manganese sulphate and zinc oxide.

Multiple combinations of the above mentioned compounds have not been tested. Inferior control may be expected where **TOPIK** is mixed with any compound other than those mentioned above.

7.2 Mixing Instructions

Replace cap after use.

- Half-fill the spray tank with water and pour the required amount of **TOPIK** into the spray tank while the water is being stirred.
- Top-up with water to the final volume required.
- When **TOPIK** is tank mixed with other herbicides, insecticides and fungicides these must be added first, well-mixed and in suspension before **TOPIK** is added.
- Finally COMPLEMENT SUPER should be added.

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.

7.3 Application Techniques

Apply **TOPIK** only to young actively growing weeds, i.e., weeds growing in moist soil. It is essential that all parts of the weeds are thoroughly covered by the herbicide spray to ensure effective control. **TOPIK** should be applied prior to crop growth reaching a density, which would inhibit effective coverage of the weeds. In order to achieve this the following application instructions must be adhered to:

7.3.1 Ground application

TOPIK alone, or in mixtures with other herbicides may be applied with any medium or high volume sprayer equipped with an efficient agitation mechanism, provided that adequate coverage and even distribution is obtained. Ensure thorough coverage of the weeds by using not less than 200 ℓ/ha spray mixture.

6.3.2 Aerial application

Aerial application of this product may only be done by a registered aerial application operator using a correctly calibrated, registered aircraft according to the instructions of SANS 10118 (Aerial Application of Agricultural Remedies). It is important to 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 are met:

a) Application parameters:

- **Volume:** A volume of 35 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 the product is applied aerially at a lower volume rate than recommended above.
- **Droplet coverage:** A droplet coverage of 30 - 45 droplets per cm^2 must be recovered at the target.
- **Droplet size:** A droplet spectrum with a VMD of 300 - 350 microns is recommended. Ensure that the production of fine droplets (less than 150 microns - high drift and evaporation potential) is restricted to a minimum.
- **Flying height:** The height of the spray boom should be maintained at 3 - 4 metres above the target. Do not spray when aircraft is in a climb, at the top, during a dive, or when banking.

b) Equipment:

- Use suitable atomising equipment (hydraulic nozzles or rotary atomisers) that will produce the desired droplet size and coverage but which will ensure the minimum loss of product either through endodrift (within target field) or exodrift (outside target field).
- The operator must use a set-up that will produce a droplet spectrum with the lowest possible relative span.
- All nozzles/atomisers should be positioned within the inner 60 - 75% of the wingspan to prevent droplets from entering the wingtip vortices.

c) Meteorological conditions:

- The difference in temperature between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8°C. The addition of a suitable anti-evaporant is recommended if the VMD of the droplets is less than 200 - 250 microns.
- Stop spraying if the wind speed exceeds 15 km/h.
- Aerial application of this product must not be done under turbulent, unstable conditions during the heat of the day when rising thermals and downdraughts occur.
- Also note that the application of this product under temperature inversion conditions (spraying in or above the inversion layer) 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 the movement of the suspended spray cloud away from the target field.

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

Important

Weeds that are overshadowed by other weeds or the crop may not be controlled due to insufficient coverage. This aspect must be considered in timing application.

7.4 Application Rates

TOPIK must at all times be tank mixed with either COMPLEMENT SUPER (L8169) at 100 mℓ/ha or BREAK-THRU (L6764) at 50 mℓ/100 ℓ spray mixture.

TABLE 1: APPLICATION RATES OF TOPIK IN THE WESTERN AND EASTERN CAPE

WEED	WEED STAGE	TOPIK mℓ/ha	
		GROUND	AERIAL
Wild oats* (*Avena fatua*)	3 - 4-leaf	150*	165*
Wild oats (*Avena fatua*)	3 - 4-leaf	200	220
Little seeded canary grass *(Phalaris minor)*	3 - 4-leaf	200	220
Wild oats (*Avena fatua*)	3 - 4-leaf	250	275
Little seeded canary grass (*P. minor*)	3 - 4-leaf		
Italian ryegrass (*Lolium multiflorum*)	2 - 3-leaf		

Remarks:

- The application of **TOPIK** prior to the 3 - 4-leaf stage of **wild oats** and **little seeded canary grass** may result in re-germination.
- Although **TOPIK** will control **wild oats** up to the flag leaf stage, a delay in application until after the 3 - 4-leaf stage of the weed may result in severe yield losses due to weed competition.
- Inferior control of **Italian ryegrass** may be expected when the weed stage exceeds the 2 - 3-leaf stage at the time of application.
- If **TOPIK** is applied at 150 mℓ/ha for the control of wild oats, tank mixtures with MCPA may lead to antagonism under certain conditions.

TABLE 2: APPLICATION RATE OF TOPIK IN IRRIGATED WHEAT IN THE SUMMER RAINFALL REGION

WEED	WEED STAGE	TOPIK mℓ/ha	
		GROUND	AERIAL
Wild oats* (*Avena fatua*)	3 - 4-leaf	250	275

Remarks:

- Apply **TOPIK** to actively growing weeds, preferably 1 - 2 days after irrigation.
- The control of **wild oats** after the 3 - 4 leaf stage may be too late and result in yield losses due to weed competition.

TABLE 3: APPLICATION OF TOPIK IN DRYLAND WHEAT IN THE SUMMER RAINFALL REGION

WEED	WEED STAGE	TOPIK mℓ/ha	
		GROUND	AERIAL
Volunteer maize (*Zea mays*) **Wild oats** (*Avena fatua*)	3 - 4-leaf	335	380
Sweet buffalo grass (*Panicum schinzii*)	3 - 4-leaf	200	225

- Apply **TOPIK** from early September after good spring rains provided the mean temperature over a 24-hour period exceeds 10°C for three consecutive days.
- If **wild oats** has reached the 4 - 5-leaf stage before the above-mentioned requirements can be met, **TOPIK** must be applied to minimise yield losses due to weed competition. Weed control could however be poorer. In such a case apply **TOPIK** as a follow-up at 250 mℓ/ha plus 100 mℓ COMPLEMENT SUPER/ha.

General

- Weeds which have not germinated at the time of application will not be controlled.
- Ensure thorough coverage of the weeds.
- Poor weed control may result if **TOPIK** is applied when weeds are under moisture or other stress conditions.
- Apply only during favourable climatic conditions when the weeds are actively growing.
- Exceptionally cold weather after the application of **TOPIK** may result in poor weed control.
- **TOPIK** rapidly inhibits growth of susceptible weeds. However, visible symptoms of dying weeds may not be noticeable for 1 - 3 weeks after application depending on growing conditions and weed susceptibility.
- **TOPIK** is selective in wheat and can be applied to any cultivar provided it has reached the 3-leaf stage.

SA Reg.: 2009-07-08