BASF
We create chemistry

Prowl® CS

Reg. No. L9605 **Act No. 36 of 1947**

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

GROUP	3	HERBICIDE

A water based capsule suspension herbicide, for the selective pre-emergent control of certain annual grasses and broadleaf weeds in cotton, groundnuts (spanish type), beans (kidney & field), sunflowers, soya beans, potatoes, tobacco and sugarcane.

'n Waterbasiskapsule suspensie-onkruiddoder, vir die selektiewe voor-opkoms- beheer van sekere grasse en eenjarige breëblaaronkruide in katoen, grondbone (spaanse tipe), nierbone, droëbone, sonneblomme, sojabone, aartappels, tabak en suikerriet.

WARNING

Hazard statements:
Causes mild skin irritation.
May cause an allergic skin reaction.
Toxic to aquatic life with long lasting effects

Precautionary statements:
Avoid breathing mist.
Wear protective gloves/clothing/eye protection.

Active ingredients / Aktiewe bestanddele:
Pendimethalin (dinitroaniline).........455 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

10 ℓ

® = Registered trademark of BASF / Geregistreerde handelsmerk van BASF

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ENGLISH

WARNINGS

Hazard Statements
- Causes mild skin irritation.
- May cause an allergic reaction.
- Toxic to aquatic life with long lasting effects.

- Handle with care.
- Harmful if swallowed.
- Store away from food and feeds.
- Keep out of reach of children, uninformed persons and animals.

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 drift to contaminate water, or adjacent areas.

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.
- Avoid breathing mist.
- Contaminated work clothing should not be allowed out of the workplace.
- Wear protective gloves/clothing/eye protection.
- IF ON SKIN (or hair): Wash with plenty of soap and water.
- If skin irritation or rash occurs: Call a POISON CENTER or physician.
- Take off contaminated clothing and wash it before reuse.
- Collect spillage.
- If skin irritation occurs: Get medical attention.
- Dispose of contents and container to hazardous or special waste collection point.

- Wash thoroughly with soap and water after use.
- Do not eat, drink or smoke whilst applying, or before washing hands and face.
- Avoid drift of spray onto other crops, grazing, rivers, dams and any area not under treatment.
- TRIPLE RINSE empty containers 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 the rinsings to the contents of the spray tank, before destroying the container in the prescribed manner.
- Prevent contamination of food, feeds, drinking water and food utensils.
- Destroy empty container by perforation and flattening and do not use for any other purpose.
- **Re-entry period:** Do not enter treated fields within one day after application, unless wearing protective clothing.

RELEVANT SUBSTANCES

Hazardous ingredients According to UN GHS criteria	**CAS number**	**Concentration (W/W)**
pendimethalin (ISO); N-(1-ethylpropyl)-2,6-dinitro-3,4-xylidine	40487-42-1	38,7 %
2-Methyl-2H-isothiazol-3-one	2682-20-4	< 0,05 %
Magnesium sulphate	10034-99-8	< 20 %

FIRST AID TREATMENT

Remove contaminated clothing.

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

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

RESISTANCE WARNING

For resistance management, Prowl® CS is a HRAC Group Code 3 herbicide. Any weed population may contain individuals, naturally resistant to Prowl® CS and other Group Code 3 herbicides. These resistant individuals, can eventually dominate the weed population, if these herbicides are used repeatedly and exclusively in programmes. These resistant weeds may not be controlled by Prowl® CS, or any other Group Code 3 herbicides.

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.**
- **For tank mixing or alternation with products in other Herbicide Group Codes, refer to applicable individual product labels.**
- **Integrate other control methods (chemical and cultural), into weed control programmes.**

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

DIRECTIONS FOR USE: USE ONLY AS DIRECTED

Prowl® CS herbicide, is a member of the dinitroaniline group of herbicides and provides selective control of most annual grasses and small-seeded broadleaved weeds. **Prowl® CS** inhibits cell division, through the inhibition of the protein tubulin and subsequently inhibits lateral root formation. **Prowl® CS** controls weeds, by arresting seedling development; it will not control established weeds.

Caution:

Prolonged periods of rainfall and / or excessive soil moisture at, or following application, may delay breakdown of Prowl® CS capsules, resulting in reduced weed control.

Mixing instructions:

- **Prowl® CS:**
  Half fill the tank with clean water. Measure the required quantity of **Prowl® CS** and pre-mix this with at least 10 ℓ water. Add this mixture to the water in the spray tank, while agitating the mixture. Fill the spray tank with water, while maintaining agitation, to ensure thorough mixing of the spray mixture, before spraying commences. Maintain agitation during the whole spraying operation. Prepared spray mixture must not be left in the spray tank for any length of time, e.g. overnight.

- **Prowl® CS** as a tank mixture with Diuron 800 SC:
  Half-fill the spray tank with water, while maintaining agitation, and add the required quantity of Diuron 800 SC. Only when the Diuron 800 SC is fully dispersed in the water, can the required quantity of **Prowl® CS** be added. Add the remainder of the water to the spray tank. Agitation must be maintained at all times

Method of Application:

Apply **Prowl® CS** herbicide pre-emergent to weeds. Apply **Prowl® CS** herbicide to a properly prepared soil, i.e. relatively free of clods, with good tilth and free of weeds and stalks, of the previous crop. Apply **Prowl® CS** in sufficient water, to provide good spray coverage, prior to planting the crop.

Ground application:

- Apply in 150 – 250 ℓ water/ha, using conventional sprayers.
- Use spray pressure of at least 210 KPa.
- Use flat fan nozzles.
- Spray equipment should be calibrated and checked frequently, to ensure proper application.

Aerial application:

Aerial application of **Prowl® CS**, 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 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 ℓ/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:** The following number of droplets per cm^2 must be recovered at the target area:
- **Pre-emergent:** 20 – 30 and **Post-emergent:** 35 – 45.
- **Droplet size:** The following droplet spectrum is recommended:
- **Pre-emergent:** VMD of 350 – 400 micron and **Post-emergent:** VMD of 300 – 350 micron. 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 metre, above the target. Do not spray when aircraft dives, is in a climb, or when banking.
- Use suitable <u>atomising equipment</u>, 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 <u>wingtip vortices</u>.
- The difference in <u>temperature</u>, between the wet and dry bulb thermometers, of a whirling hygrometer, should not exceed 8°C.
- Stop spraying, if the <u>wind</u> speed exceeds 15 km/h.
- Stop spraying under <u>turbulent</u>, unstable and dry conditions, during the heat of the day.
- Spraying under temperature <u>inversion conditions</u> (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.
- <u>Take note: In the case of tobacco, application must be carried out before transplanting.</u>

A.Mechanical incorporation:

Prowl® CS herbicide, should be thoroughly mixed into the upper five cm of the soil. This may be done, by using a tandem disc, or rotary hoe, that should be correctly adjusted and operated. Tandem discs should be set to tillage depth of 7 – 10 cm, at 6 – 10 km/hour and the field should be cross disced. Rotary hoes should be set to tillage depth of five cm, operated at 5 – 6 km/hour, in one direction only.

B.Water incorporation:

FOR USE ONLY IN COTTON, TRANSPLANTED TOBACCO AND SUGARCANE. (See under **CROPS AND DIRECTIONS FOR APPLICATIONS**).

Rates of applications

SOIL TYPE	APPLICATION RATE (ℓ/ha)
Light sand to sandy loam (5 – 20% clay)	2.2 ℓ (1.45 ℓ **)
Sandy clay loam (21 – 35% clay)	3.3 ℓ (2.2 ℓ **)
Sandy clay (36 – 50% clay)	4.4 ℓ (2.9 ℓ **)

*** Do not apply the lower rates of Prowl® CS, with aerial application**

** The lower rates, are only to be used where **Prowl® CS** is mechanically incorporated and only control of annual grasses is required.

Crops and remarks

CROPS	DIRECTIONS FOR APPLICATIONS
COTTON	**Mechanical incorporation**: Cotton can be planted after the **Prowl® CS** herbicide incorporation, in un-ridged soil and should be done as soon as possible, in order to obtain maximum period of weed control. When planting in ridges, first prepare the ridges, then apply and incorporate the herbicide, before planting. **Water incorporation**: Incorporation by means of 20 – 50 mm sprinkler irrigation must be carried out, after the cotton has been planted and the herbicide applied.
POTATOES	Apply **Prowl® CS** after planting, to the levelled soil, or pre-made ridges and incorporate mechanically. Prevent direct contact of potato tubers, with treated soil.
SUGARCANE	If **Prowl® CS** is targeted at controlling *Rottboellia cochinchinensis*, the higher rate of 4,4 ℓ/ha is recommended, irrespective of soil type. To control weeds in addition to those claimed with **Prowl® CS**, a tank mixture of 4,4 ℓ **Prowl® CS** and 2,5 ℓ Diuron 800 SC can be applied. When tank mixing **Prowl® CS** with Diuron 800 SC, refer to the weed spectrum, directions, restrictions and warnings on the Diuron 800 SC label. <u>Plant cane:</u> Apply within two days of planting. <u>Ratoon cane:</u> Apply not later than seven days after cutting. **Non-incorporation:** Due to the nature of the encapsulated formulation, **Prowl® CS** does not require immediate incorporation as the encapsulation of the active ingredient provides a degree of protection against adverse environmental conditions. Application of **Prowl® CS** alone, or as a tank mixture, are most effective in controlling weeds when adequate rainfall occurs, or irrigation is applied as soon as possible and within 3 – 5 days after treatment to achieve incorporation. If no rain or irrigation is received within 3 – 5 days, light mechanical incorporation, using the guideline as stated below, is required to optimize weed control. Mix **Prowl® CS** herbicide thoroughly into the upper 5 cm of the soil by using a tandem disc, or rotary hoe, correctly adjusted and operated. Tandem discs should be set to tillage depth of 7 – 10 cm at 6 – 10 km/hour and the field should be cross disced. Rotary hoes should be set to a tillage depth of 5 cm, operated at 5 – 6 km/hour, in one direction only. **Mechanical incorporation**: Sugarcane can be planted after the **Prowl® CS** herbicide incorporation. **Water incorporation:** Incorporation, by means of 20 – 50 mm sprinkler irrigation, must be carried out after the sugarcane has been planted and the herbicide applied.
SUNFLOWERS **GROUNDNUTS** (Spanish type) **DRY BEANS** **(***Phaseolus* spp.) **KIDNEY BEANS** **SOYA BEANS**	NOT SUITABLE FOR USE IN SUNFLOWER PLANTED ON SOILS WITH LESS THAN 20% CLAY. Seeding can be done immediately after incorporation of the **Prowl® CS** herbicide and should be done as soon as possible, in order to obtain maximum period of weed control. If it is necessary to cultivate, following application and incorporation either before, or after planting and do not work the soil deeper than the depth to which the **Prowl® CS**, was incorporated.

CROPS	DIRECTIONS FOR APPLICATIONS
TRANSPLANTED TOBACCO	**Mechanical incorporation**: Transplanting can commence after the **Prowl® CS** herbicide application and incorporation, in un-ridged soil, or pre-made ridges. DO NOT PREPARE PLANTING HOLES BEFORE APPLYING THE HERBICIDE. When transplanting, the tobacco roots should be placed under the herbicide treated layer. Do not use tobacco seedlings from seedling trays and seedlings whose roots have been cut. **Water incorporation:** Incorporation by means of 20 – 50 mm sprinkler irrigation must be carried out, BEFORE TRANSPLANTING. DO NOT PREPARE PLANTING HOLES BEFORE APPLYING THE HERBICIDE.

NOTE: The period of grass weed control obtained with water incorporation of **Prowl® CS**, will be shorter than that obtained by mechanical incorporation.

Weeds controlled

The following weed species are normally controlled by a pre-emergent application of **Prowl® CS**, at the dosage rates indicated.

ANNUAL GRASSES

Scientific name	Common name	Scientific name	Common name
Brachiara brizantha	Bread Signal grass	*Eragrostis spp.*	Love grass
Chloris gayana	Rhodes grass	*Gisekia pharnacioides*	Gisekia
Chloris virgata	Feather-top chloris	*Panicum schinzii*	Sweet buffalo grass
Chloris pycnothrix	Spiderweb chloris	*Panicum maximum*	Guineagrass
Dactyloctenium aegyptium	Crowfoot grass	*Rottboellia cochinchinensis*	Guinea-fowl grass
Digitaria sanguinalis	Crab finger grass	*Setaria verticillata*	Sticky bristle grass
Echinochloa colona	Marsh grass	*Tragus berteronianus*	Small carrotseed grass
Echinochloa crus-galli	Barnyard grass	*Tragus racemosus*	Large carrotseed grass
Eleusine corocana	Goosegrass	*Urochloa panicoides*	Herringbone grass

ANNUAL BROADLEAF WEEDS

Scientific name	Common name	Scientific name	Common name
Amaranthus hybridus	Common pigweed	*Chenopodium album*	White goosefoot
Amaranthus spinosus	Thorny pigweed	*Portulaca oleracea*	Common purslane
Amaranthus thunbergii	Red pigweed	*Richardia brasiliensis*	Tropical richardia

At the lower rates, the above annual grasses will be controlled and variable control of the annual broadleaf weeds, will be obtained.

Follow-up crops: Do not plant, or replant, any crop other than cotton, soya beans, groundnuts, beans (*Phaseolus* spp.), sugarcane or sunflowers, for a period of one year, after application of **Prowl® CS** herbicide.

Diuron 800 SC is a registered product of Dow AgroSciences S. A (Pty) Ltd.

WAARSKUWINGS

Gevaarverklarings
- Veroorsaak geringe velirritasie.
- Mag allergiese velreaksie veroorsaak.
- Giftig vir waterlewende organismes met langdurige gevolge.

- Hanteer versigtig.
- Giftig wanneer ingeneem.
- Stoor weg van voedsel en voer.
- Hou buite bereik van kinders, oningeligte persone en diere.

Lugtoediening:
Stel alle inwoners in die onmiddellike omgewing van die gebied wat gespuit sal word in kennis en reik die nodige waarskuwings uit. Moenie oor die water of aangrensende gebiede spuit, of spuitstof daarheen laat wegdryf nie.

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

Gevaarverklarings
- Veroorsaak geringe velirritasie.
- Mag allergiese velreaksie veroorsaak.
- Giftig vir waterlewende organismes met langdurige gevolge.

- Was deeglik met seep en water, na gebruik.
- Moenie eet, drink of rook, tydens toediening, of voordat hande en gesig gewas is nie.
- Voorkom oorwaai van spuitstof op ander gewasse, weiding, riviere, damme en enige ander gebied wat nie behandel moet word nie.

- Leë houers moet DRIE KEER UITGESPOEL word soos volg. Keer die leë 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 spoelwater by die inhoud van die spuittenk, voordat die houer op die voorgeskrewe wyse vernietig word.
- Voorkom besoedeling van voedsel, voer, drinkwater en eetgerei.
- Vernietig leë houer deur gate in te kap en plat te slaan en moet nooit vir enige ander doel hergebruik nie.
- **Herbetredingsperiode:** Moenie in behandelde lande ingaan binne een dag na bespuiting nie, tensy beskermende oorklere gedra word nie.

RELEVANTE BESTANDDELE

Gevaarlike bestanddele Volgens UN GHS kriteria	**CAS nommer**	**Konsentrasie (W/W)**
pendimethalin (ISO); N-(1-ethylpropyl)-2,6-dinitro-3,4-xylidine	40487-42-1	38,7 %
2-Methyl-2H-isothiazol-3-one	2682-20-4	< 0,05 %
Magnesium sulphate	10034-99-8	< 20 %

NOODHULPBEHANDELING

Verwyder besoedelde klere.

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

Behandeling: Behandel simptomaties (reinig, belangrikste funksies), daar is geen spesifieke teenmiddel ni

WAARSKUWING TEEN WEERSTAND

Prowl® CS is 'n HRAC Groepkode 3 onkruiddoder. Enige populasie van 'n spesifieke onkruid, mag individue insluit wat 'n natuurlike weerstand teen Prowl® CS, of enige ander Groepkode 3 onkruiddoder het. Indien hierdie onkruiddoders in herhaaldelike en eksklusiewe programme aangewend word, kan die weerstandbiedende individue uiteindelik die onkruidpopulasie oorheers. Hierdie weerstandbiedende onkruide, sal waarskynlik nie deur Prowl® CS, of enige ander Groepkode 3 onkruiddoder, beheer word nie.

Om weerstand teen onkruiddoders te vertraag:

- **Vermy die eksklusiewe herhaaldelike gebruik van onkruiddoders, in dieselfde Onkruiddodergroepkode. Wissel af met, of gebruik tenkmengels van, produkte in verskillende Onkruiddodergroepkodes.**
- **Sien toepaslike individuele produketikette wanneer daar afgewissel word, of tenkmengsels gebruik word, met produkte in ander Onkruiddodergroepkodes.**
- **Integreer ander beheermaatreëls (chemies en verbouing), in onkruiddoderprogramme.**

VIR SPESIFIEKE INLIGTING OOR WEERSTANDSBESTUUR, KONTAK DIE REGISTRASIEHOUER, BASF SA (Edms) Bpk.

GEBRUIKSAANWYSINGS: GEBRUIK SLEGS SOOS VOORGESKRYF

Prowl® CS behoort aan die dinitroaniline groep onkkruiddoders en het selektiewe beheer van die meeste grasse en klein-saad breëblaaronkruide. **Prowl® CS** inhibeer selverdeling, deur die proteien-tubulien vorming en gevolglik ook die laterale wortelvorming. **Prowl® CS** beheer onkruide, deur saailingbelemmering; dit sal egter nie gevestigde onkruide, beheer nie.

<u>Waarskuwing:</u>

Uitgerekte reënvalperiodes en / of uitermatige grondvog met, of net na toediening, mag die afbraak van die Prowl® CS kapsules vertraag, wat gevolglike verlaagde onkruidbeheer veroorsaak.

Menginstruksies:

- **Prowl® CS**

  Maak die spuittenk halfvol met skoon water. Meet die benodigde hoeveelheid **Prowl® CS** af en meng dit vooraf met minstens 10 ℓ water. Voeg hierdie mengsel by die water in die spuittenk, terwyl die mengsel geroer word. Vul die spuittenk met water, terwyl daar nog steeds geroer word, ten einde deeglike vermenging van die spuitmengsel te verseker, alvorens daar begin word met bespuiting. Handhaaf roering gedurende die hele spuitproses. Aangemaakte spuitmengsel moenie in die spuittenk gelaat word vir enige bepaalde tydperk, bv. oornag, nie.

- **Prowl® CS** in 'n tenkmengsel met Diuron 800 SC:

  Maak die spuittenk halfvol met skoon water, terwyl die mengsel geroer word en voeg die benodigde hoeveelheid Diuron 800 SC by. Slegs wanner die Diuron 800 SC ten volle opgelos is in die water, kan die benodigde hoeveelheid van Maak die spuittenk halfvol met skoon water, terwyl die mengsel geroer word en voeg die benodigde hoeveelheid Diuron 800 SC by. Slegs wanner die Diuron 800 SC ten volle opgelos is in die water, kan die benodigde hoeveelheid van **Prowl® CS** bygevoeg word. Vul die spuittenk dan met water, terwyl daar nog steeds geroer word.

Metode van Toediening:
Dien **Prowl® CS** onkruiddoder as 'n voor-opkomsbehandeling op die onkruide. Dien **Prowl® CS** onkruiddoder toe, op deeglik voorbereide grond, d.i. betreklik vry van kluite, goeie tekstuur, vry van onkruide en reste, van die vorige oes. Dien **Prowl® CS** in genoeg water toe, om deeglik spuitbedekking te verseker, voor die aanplant van die gewas.

Grondtoediening:
- Deur gebruik te maak van konvensionele spuittoerusting, dien in 150 – 250 ℓ water/ha, toe.
- Gebruik 'n spuitdruk van ten minste 210 KPa.
- Gebruik platwaaiertipe spuitkoppe.
- Spuittoerusting moet gekalibreer word en dikwels nagegaan word, om behoorlike toediening te verseker

Vliegtuigbespuiting:
Prowl® CS kan slegs deur 'n geregistreerde lugbespuitingsperateur, met 'n korrek gekalibreerde, geregistreerde vliegtuig, volgens die instruksies van SANS 10118 (Aerial Application of Agricultural Pesticides), uit die lug bespuit word. Verseker dat die spuitmengsel eweredig oor die teikenarea versprei word, en die verlies aan spuitmengsel tydens toediening, tot 'n minimum beperk word. Dit is daarom belangrik om aan die volgende vereistes te voldoen:
- **Volume:** 'n Spuitmengselvolume van 30 ℓ/ha word aanbeveel. Hierdie produk is nie teen 'n verlaagde volume getoets nie. Die registrasiehouer kan nie effektiwiteit waarborg, of verantwoordelik gehou word, vir enige nadelige effekte, indien hierdie produk teen 'n laer volume, as hierbo aanbeveel, toegedien word nie.
- **Druppelbedekking**: Die volgende aantal druppels per cm^2, moet op die teikenarea herwin word:
- **Voor– opkoms:** 20 – 30 en **Na– opkoms:** 35 – 45.
- **Druppelgrootte**: Die volgende druppelspektrum word aanbeveel:
- **Voor– opkoms:** 'n VMD van 350 – 400 mikron en **Na– opkoms**: 'n VMD van 300 – 350 mikron. Beperk die produksie van druppels, kleiner as 150 mikron (hoë drywing en verdampingspotensiaal), tot 'n minimum.
- **Vlieghoogte:** Handhaaf die hoogte van die spuitbalk bo die teiken op 3 – 4 meter. Moenie spuit wanneer die vliegtuig duik, uitklim, of draai nie.
- Gebruik geskikte atomiseringsapparaat, wat die vereiste druppelgrootte en bedekking sal produseer, maar die minste verlies van produk, verseker. Die spuitstelsel moet 'n druppelspektrum met die kleinste moontlike Relatiewe Span, produseer.
- Plaas al die atomiseerders in die binneste 60 – 75% van die vlerkspan, om te verhoed dat druppels binne– in die vlerkpuntvorteks beweeg.
- Die verskil in temperatuur, tussen die nat– en droëboltermometer van 'n swaaihigrometer, moenie
- 8°C oorskry nie.
- Stop bespuiting, indien die windspoed 15 km/uur, oorskry.
- Stop bespuiting tydens turbulente, onstabiele en droë toestande, gedurende die hitte van die dag.
- Bespuiting onder temperatuur inversie toestande (deur bo of binne die inversie laag te spuit) en / of hoë lugvog toestande (relatiewe humiditeit 80% en meer), mag tot volgende probleme aanleiding gee:

- – Verlaagde effektiwiteit aangesien die druppels as ‘n wolk in die lug bly hang en moontlik verdamp (onvoldoende bedekking op teiken).
  – Skade aan nie– teiken gewasse of sensitiewe areas as gevolg van wegdrywing van die spuitwolk na nie– teiken area.
- Verseker dat die lugbespuitingsoperateur presies weet, watter lande bespuit moet word.
- Dit is noodsaaklik om ‘n versekering van die lugbespuitingsoperateur te verkry, dat aan al die bogenoemde vereistes voldoen sal word en dat data van belang in ‘n logboek saamgevat is, vir toekomstige verwysing.
- Neem kennis: In die geval van tabak, moet bespuiting voor uitplanting geskied.

A. Meganiese inwerking:

Prowl® CS onkruiddoder, moet deeglik met die boonste vyf cm grond, vermeng word. Dit kan gedoen word deur gebruik te maak van ‘n tandemskotteleg, of rolkapploeg, maar moet korrek ingestel en hanteer word.

‘n Tandem– skotteleg moet gestel word op ‘n werkdiepte van 7 – 10 cm en die land moet kruisbewerk word, teen ‘n snelheid van 6 – 10 km/h. Rolkapploeë moet gestel word tot ‘n werkdiepte van 5 cm en moet teen 5 – 6 km/h, in een rigting bewerk word.

B. Inwerking deur middel van besproeiing:

Vir gebruik slegs op katoen, uitgeplante tabak en suikerriet. (Kyk **GEWASSE EN GEBRUIKSAANWYSINGS**).

Toedieningshoeveelhede

GRONDTIPE	TOEDIENINGSHOEVEELHEID (ℓ/h)
Ligte sand– sanderige leem (5 – 20% klei)	2.2 ℓ (1.45 ℓ **)
Sanderige kleileem (21 – 35% klei)	3.3 ℓ (2.2 ℓ **)
Sanderige klei (36 – 50% klei)	4.4 ℓ (2.9 ℓ **)

Moenie die lae dosisse van Prowl® CS, met vliegtuigbespuiting, toedien nie.

** Die laer toedieningshoeveelhede, is slegs vir gebruik waar **Prowl® CS** meganies ingewerk word en slegs beheer van eenjarige grasse, verlang word.

Gewasse en opmerkings

GEWAS	GEBRUIKSAANWYSINGS
AARTAPPELS	**Prowl® CS** moet ná plant op die gelykoppervlakke of voorbereide riwwe toegedien en meganies ingewerk, word. Verhoed kontak van moere met behandelde grond.
KATOEN	**Meganiese inwerking:** Katoen kan in gelyk grond geplant word, na toediening van **Prowl® CS.** Dit is raadsaam om so gou moontlik na toediening te plant, om sodoende die maksimum tydperk van onkruidbeheer, te verkry. Wanneer in riwwe plant, moet die riwwe eers voorberei word, voor die **Prowl® CS** onkruiddoder toegedien en ingewerk word. **Inwerking deur middel van sprinkelbesproeiing**: 20 – 50 mm besproeiing moet geskied nadat die katoen geplant en die onkruiddoder toegedien is.

GEWAS	GEBRUIKSAANWYSINGS
SONNEBLOMME **GRONDBONE** (Spaanse tipe) **DROËBONE (***Phaseolus* spp.) **NIERBONE** **SOJABONE**	NIE GESKIK VIR GEBRUIK, WAAR SONNEBLOM IN GRONDE MET MINDER AS 20% KLEI, GEPLANT IS NIE. Daar kan onmiddellik na inwerking van die **Prowl® CS** onkruiddoder, geplant word. Dit is raadsaam om so gou moontlik na toediening te plant, om sodoende die maksimum tydperk van onkruidbeheer, te verkry. Dit is nodig om te bewerk, na toediening en inwerking, óf voor– , óf na plant en moenie die grond dieper bewerk as wat die **Prowl® CS**, ingewerk is nie.
SUIKERRIET	As *Rottboellia cochinchinensis* geteiken word, word die hoër dosis van 4,4 ℓ aanbeveel, ongeag die grondtipe. Wanneer addisionele onkruide beheer wil word as wat op die **Prowl® CS** etiket is, moet 'n tenkmengsel van 4,4 ℓ **Prowl® CS** en 2,5 ℓ Diuron 800 SC toegedien word. Verwys na die onkruidspektrum, aanwysings, beperkings en waarskuwings op die Diuron 800 SC etiket, wanneer 'n tenkmengsel van **Prowl® CS** en Diuron 800 SC, gemaak word. <u>Aangeplanteriet</u>: Dien toe, binne twee dae van aanplant. <u>Oorstaanriet:</u> Moenie later as sewe dae na kap, toedien nie. **Nie– inwerking:** As gevolg van die eienskappe van die ge– enkapsuleerde formulasie, word dit nie vereis dat **Prowl® CS** onmiddellik meganies ingewerk word nie. Die ge– enkapsuleerde formulasie van die aktiewe bestanddeel verleen 'n mate van beskerming teen ongunstige omgewingstoestande. Toediening van **Prowl® CS** op sy eie, of as 'n tenkmengsel, is baie effektief in onkruidbeheer wanneer genoegsame reënval voorkom, of besproeiing word toegedien so gou as moontlik en wel binne 3 – 5 dae na toediening om inkorporasie te bewerkstellig. Indien geen reën of besproeiing binne 3 – 5 dae plaasvind nie, word 'n ligte inkorporasie, soos aangedui hier onder, aanbeveel om optimale onkruidbeheer te verkry: **Prowl® CS** onkruiddoder moet deeglik met die boonste 5 cm grond vermeng word. Dit kan gedoen word deur gebruik te maak van 'n tandemskotteleg, of rolkapploeg, maar moet korrek ingestel en hanteer word. 'n Tandem– skotteleg moet gestel word op 'n werkdiepte van 7 – 10 cm en die land moet kruisbewerk word teen 'n snelheid van 6 – 10 km/uur. Rolkapploeë moet gestel word tot 'n werkdiepte van vyf cm en moet teen 5 – 6 km/uur in een rigting bewerk word. **Meganiese inwerking:** Suikerriet kan, na toediening van **Prowl® CS**, geplant word. **Inwerking deur middel van sprinkelbesproeiing:** 20 – 50 mm besproeiing moet geskied nadat die suikerriet geplant en die onkruiddoder toegedien is.

GEWAS	GEBRUIKSAANWYSINGS
UITGEPLANTE TABAK	**Meganiese inwerking:** Uitplanting kan geskied na **Prowl® CS** toediening en voorbereiding, in gelykgrond of voorbereide riwwe. MOENIE PLANTGATE VOORBEREI, VOOR TOEDIENING VAN DIE ONKRUIDDODER NIE. Tydens uitplanting moet seker gemaak word dat die tabakwortels onder the **Prowl® CS** onkruiddoder behandelde laag, geplaas word. Tabakplantjies uit saailaaie en plantjies waarvan die wortels geknip is, moenie gebruik word nie. **Inwerking deur middel van sprinkelbesproeiing:** Inwerking van die onkruiddoder moet geskied VOOR UITPLANTING, deur middel van 20 – 50 mm besproeiing. MOENIE PLANTGATE VOORBEREI, VOOR TOEDIENING VAN DIE ONKRUIDDODER NIE.

NOTA: Die periode van grasbeheer verkry, wanneer inwerking deur middel van sprinkelbesproeiing geskied, sal korter wees as dié wanneer **Prowl® CS** meganies ingewerk word.

Onkruide wat beheer word

Die volgende onkruide word deur **Prowl® CS** onkruiddoder beheer, as 'n voor-opkomstoediening, teen die aanbevole dosisse.

EENJARIGE GRASSE

WETENSKAPLIKE NAAM	GEWONE NAAM	WETENSKAPLIKE NAAM	GEWONE NAAM
Brachiara brizantha	Broodsinjaalgras	*Eragrostis spp.*	Oulandsgras
Chloris gayana	Rhodesgras	*Gisekia pharnacioides*	Gisekia
Chloris pycnothrix	Spinnerakchloris	*Panicum schinzii*	Soet buffelsgras
Chloris virgata	Witpluim-chloris	*Panicum maximum*	Gewone buffelsgras
Dactyloctenium aegyptium	Hoenderspoor	*Rottboellia cochinchinensis*	Tarentaalgras
Digitaria sanguinalis	Kruisvingergras	*Setaria verticillata*	Klitsborselgras
Echinochloa colona	Kleinwatergras	*Tragus berteronianus*	Kleinwortelsaadgras
Echinochloa crus-galli	Hanepootmanna	*Tragus racemosus*	Grootwortelsaadgras
Eleusine corocana	Jongosgras	*Urochloa panicoides*	Beesgras

EENJARIGE BREËBLAARONKRUIDE

WETENSKAPLIKE NAAM	GEWONE NAAM	WETENSKAPLIKE NAAM	GEWONE NAAM
Amaranthus hybridus	Gewone misbredie	*Chenopodium album*	Withondebossie
Amaranthus spinosus	Doringmisbredie	*Portulaca oleracae*	Gewone porselein
Amaranthus thunbergii	Rooimisbredie	*Richardia brasiliensis*	Tropiese richardia

Teen die laer toedieningshoeveelhede, sal die bogenoemde eenjarige grasse beheer word en wisselvallige beheer van die eenjarige breëblaaronkruide, sal verkry word.

Opvolggewasse:

Moenie enige gewas, behalwe katoen, sojabone, grondbone, sonneblom, suikerriet of boontjies (*Phaseolus* spp.), binne 'n tydperk van een jaar plant of verplant, na die toediening van **Prowl® CS** onkruiddoder nie.

Diuron 800 SC is 'n geregistreerde produk van Dow AgroSciences S. A. (Edms) Bpk.

BASF
We create chemistry

Prowl® CS

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GROUP	3	HERBICIDE

A water based capsule suspension herbicide, for the selective pre-emergent control of certain annual grasses and broadleaf weeds in cotton, groundnuts (spanish type), beans (kidney & field), sunflowers, soya beans, potatoes, tobacco and sugarcane.

'n Waterbasiskapsule suspensie-onkruiddoder, vir die selektiewe voor-opkoms- beheer van sekere grasse en eenjarige breëblaaronkruide in katoen, grondbone (spaanse tipe), nierbone, droëbone, sonneblomme, sojabone, aartappels, tabak en suikerriet.

WARNING

Hazard statements:
Causes mild skin irritation.
May cause an allergic skin reaction.
Toxic to aquatic life with long lasting effects
Precautionary statements:
Avoid breathing mist.
Wear protective gloves/clothing/eye protection.

Active ingredients / Aktiewe bestanddele:
Pendimethalin (dinitroaniline).........455 g/ℓ

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