Laflexa™

Green Chemistry Insecticide

Reg. No. L 8548 Act No. 36 of 1947 / Reg. Nr. L 8548 Wet Nr. 36 van 1947

READ THE LABEL BEFORE USE
KEEP OUT OF REACH OF CHILDREN AND ANIMALS

Group/Groep	3A	Insecticide/Insekdodder

AN EMULSION OIL IN WATER CONTACT AND STOMACH CONTACT INSECTICIDE FOR THE CONTROL OF INSECTS ON CROPS AS LISTED.

'N EMULSIE OILIE IN WATER KONTAK EN MAAGDODER VIR DIE BEHEER VAN INSEKPLAE OP GEWASSE SOOS AANGEDUI OP DIE ETIKET.

Warning

Hazard Statements:
- Flammable liquid and vapour.
- May cause an allergic skin reaction.
- Very toxic to aquatic life with long lasting effects.

Precautionary Statements:
- Avoid breathing fume/spray.
- Avoid release to the environment.
- Wear protective gloves, protective clothing, eye protection and face protection.

Active Ingredient / Aktiewe Bestanddeel:

Natural Pyrethrin ....50 g/L ....Natuurlike Piretrien

S.G (at 20°C): 0.92

UN 3082

Net Volume:
1 L

LABORATORIES
Biotechnology & Chemistry Excellence

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Registration Holder / Registrasiehouer: N Laboratories PTY (LTD) • Reg No. 2015/165672/07
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P.O. Box 1137, Delmas, Mpumalanga, 2210 • Email: orders@mbfi.co.za • Web: www.mbfi.co.za

IN CASE OF POISONING, CALL THE FOLLOWING EMERGENCY NUMBER / IN GEVAL VAN VERGIFTIGING, SKAKEL DIE VOLGENDE NOODNOMMER 082 446 8946 / 0861 555777

ZAR 002

Laflexa™ is a trademark of N Laboratories (PTY) LTD / Laflexa™ is 'n handelsmerk van N Laboratories (EDMS) BPK.

WARNINGS:

- **GHS Hazard Statements:**

Pictograms and Signal word	Hazard Statements	
Warning	H226	Flammable liquid and vapour.
	H317	May cause an allergic skin reaction.
	H410	Very toxic to aquatic life with long-lasting effects.

- **Relevant Substance:**

Name	CAS No.	Weight (%)
Ethanol	64-17-5	20
Natural pyrethrin	121-29-9	5

Withholding period - Minimum time between last application and harvest:
Berry, Canola, Cruciferae, Stone Fruit, Tomato...1 day

Re-entry interval: Do not enter treated area until spray deposit has dried unless wearing protective clothing.

Beneficial Insects - Moderately Toxic to Bees.

- This product can be toxic to bees when exposed to direct spray, or sprayed flowering crops before spray deposit is dry.
- Do not apply directly to foraging bees, or bee colonies.
- Apply only at night when crop is flowering or other foraging vegetation is within 500 m from the spraying area.
- Allow at least 3 hours between application and foraging period of bees.

In this regard co-ordinate with neighbours, beekeepers and local extension services when applying in the vicinity of crops in flower.

* Laflexa™ does not have a long persistence in the field and the effect on the beneficial insects should be of short duration.

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 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 application. Furthermore, the registration holder, 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 the event of any uncertainty.

PRECAUTIONS:

• GHS Precautionary Statements:

P261	Avoid breathing fume/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P302 P352	IF ON SKIN: Wash with plenty of water.
P333 P313	If skin irritation or rash occurs: Get medical advice/attention.
P362	Take off contaminated clothing.
P391	Collect spillage.

- Store in the original labelled container only.
- Avoid spray drift onto adjacent crops, grazing, rivers and dams.
- Clean applicators before using for other remedies and dispose of wash water where it will not contaminate crops, grazing, rivers, dams and water sources.
- Prevent contamination of food, feedstuffs, drinking water and eating utensils by handling, storage or disposal.
- Triple rinse the empty container as follows: Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter, rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages.

DIRECTIONS FOR USE:

- SHAKE BEFORE USING.
- Use only as indicated on this label.

Laflexa™ is an emulsion oil in water liquid, which should be mixed with water and applied as a foliar spray with equipment equipped for conventional insecticide application.

Insecticide Resistance Management (IRM)

The classification schemes of insecticides are based on 'mode of action'; Laflexa™ is classified as a Botanical insecticide. Natural pyrethrin disrupts the normal nerves impulse transmission, causing virtually instant paralysis in insects.

Any insect population may contain individuals naturally resistant to Laflexa™ and other pyrethrins. The resistant individuals will eventually dominate the insect population if these insecticides are used repeatedly over long periods or to consecutive generations. Laflexa™ or other pyrethrin insecticides may not control these resistant insects. Local experts should be consulted for resistance strategies and specific recommendations. It is recognized that resistance of insects and mites to insecticides and acaricides can also result from enhanced metabolism, reduced penetration or behavioural changes that are not linked to any site of action classification but are specific for individual chemicals or chemical groupings. Alternation of compounds from different chemical classes remains a viable anti-resistance management technique.

To delay insecticide resistance

- Avoid the repeated use of insecticides from the same chemical subgroup.
- Do not use less than recommended label rates.
- Target applications preferably against early instar larvae and eggs of the pest whenever possible.
- Include proven cultural and biological control practices within an Integrated Pest Management Program.

Integrated Pest Management (IPM) Program

Laflexa™ is recommended for IPM programs. Ideally, Laflexa™ should be applied when field scouting indicates target pest densities have reached the economic threshold, but it may be used in a set (calendar) spray program. Laflexa™ used under GAP, does not have a significant impact on most beneficial insects and mites (including ladybirds, lacewings, assassin bugs, predatory mites). Other than the consequential reduction of beneficial populations because of the reduction in pest numbers (i.e. reduction in food availability), these beneficial arthropods will remain in the vicinity and thereby reduce the likelihood of secondary pest outbreaks. This will obviate the necessity for additional insecticide treatments.

Mixing: Fill the spray tank with water to about half of the total spray volume required. Start agitation and add the required amount of acidifier/buffer to stabilize the pH of the solution between the pH of 4-5. Secondly add the correct amount of Twister at 25-50 ml/100 L to the tank mix. Then add the required amount of Laflexa™ to the spray tank. Continue mixing and agitation while filling the spray tank to the required spray volume. Maintain sufficient agitation during application to ensure uniformity of the spray mix. Do not allow water or spray mixture to back-siphon into the water source.

If spraying and agitation must be stopped before the spray tank is empty, settled materials must be re-suspended before spraying is resumed. A back flow sparger agitator at the bottom of the tank is particularly useful for this purpose.

Application: Proper application techniques help ensure thorough spray coverage and the correct dosage necessary to obtain optimum control of insect pests. The following recommendations are provided for effective application of Laflexa™. To ensure adequate spray coverage, attention should be given to ground speed and calibration, wind speed and foliar canopy.

Application for Row Crops: Use conventional ground spray equipment calibrated to provide thorough coverage of the target crop. Align the boom and nozzles to obtain uniform coverage of the target crop. Under certain conditions, nozzles on drop arms may be required to obtain uniform crop coverage. Use hollow cone nozzles suitable for insecticide spraying. Follow manufacturer's recommendations for ideal nozzle spacing, pressure, and boom height.

Twister (L9666 – 700 g/L Methylated vegetable oil) is a registered trademark of N Laboratories (PTY) LTD and registered under Act No. 36 of 1947.

CERES INPUTS

Product approved for the use in organic farming according to Reg. (EC) 889/2008. Annex II; Pyrethrin) and JAS: Not. 1605, Table 2 by CERES GmbH

Crop and Pest	Dosage/100 L Water	Remarks
Berry: Blackberry, Blueberry, Boysenberry, Cranberry, Currants, Gooseberry, Grapes, Raspberry, Strawberry Red spider mite *Tetranychus urticae*	100 ml Min 500 ml/ha	Start application when the pest is first noticed and repeat application every 3-7 days depending on pest pressure. The volume of spray mixture to be applied/ha depends on the plant size and plant density. Start with a min of 500 L/ha spray mixture on young plants and increase volume up to 1000 L/ha as plant size increases.
Canola: Diamondback moth *Plutella xylostella*	50 ml Min 200 ml/ha	Start application when the pest is first noticed and repeat applications at 7 day intervals depending on pest pressure.
Cruciferae: Diamondback moth and larvae *Plutella xylostella* Aphids *Brevicoryne brassicae,* *Lipaphis erysimi,* *Myzus persicae*	150 ml (450-900 ml/ha)	Apply as a portion of a spray program as a full cover spray at a min of 300-600 L/ha spray mixture. Can be applied every 7 days. Apply a min of 2 consecutive Laflexa™ sprays to ensure effective control of the pest. Start application when the pest is first noticed. Alternatively apply as a follow-up application in a spray program as required in anti-resistant programs. The volume of spray mixture to be applied/ha depends on the plant size and plant density. Start with a min of 300 L/ha spray mixture on young plants and increase volume up to 600 L/ha as plant size increases.
Stone Fruit: Apricot, Cherry, Nectarine, Peach, Plum, Prune False codling moth *Thaumatotibia leucotreta*	50-100 ml	Apply as a full cover spray with contact of pest for desired max effect. Apply when moth activity peaks or eggs or larvae are first noted. Repeat application every 7-14 days or use an IPM program. The higher rate is preferred on larger trees, higher spray volume applications or when pest severity is high.
Tomato: Whitefly *Bemisia tabaci*	100 ml Min 500 ml/ha	Start application when the pest is first noticed and repeat application every 3-7 days depending on pest pressure. The volume of spray mixture to be applied/ha depends on the plant size and plant density. Start with a min of 500 L/ha spray mixture on young plants and increase volume up to 1000 L/ha as plant size increases.

WAARSKUWINGS:

- **GHS-Gevaarstellings:**

Piktogramme en Seinwoord	Gevaarstellings	
Waarskuwing	H226	Vlambare vloeistof en dampe.
	H317	Mag ‘n allergiese velreaksie veroorsaak.
	H410	Baie giftig vir waterlewe met langdurige effekte.

- **Relevante Bestandele:**

Naam	CAS Nr.	Gewig (%)
Etanol	64-17-5	20
Natuurlike piretrien	121-29-9	5

Weerhoudingsperiode - Minimum tyd tussen laaste aanwending en oestyd:
Bessie, Kanola, Koolgewasse, Steenvrugte, Tamatie.......................................1 dag

Wagperiode: Moenie behandelde area binnegaan totdat spuitstof droog is nie behalwe as beskermende klere gedra word.

Voordelige Insekte - Matige giftigheid vir bye.

- Hierdie produk kan giftig wees vir bye indien hulle in direkte kontak kom met die spuitstof, of die blomme voor die spuitstof droog is.
- Moenie die produk toedien direk op bye of hulle kolonies nie.
- Dien toe slegs gedurende nie nag indien die gewas in blom is of indien die gewas ten minste 500 m weg is van enige ander kos bron vir die bye.
- Laat minstens 3 ure toe tussen toediening en die tyd wat bye aktief is.

Koördineer in hierdie verband met bure, byeboere en plaaslike voorligtingsdienste wanneer toegedien word in die omgewing van gewasse in blom.

* Laflexa™ het nie 'n lang volharding in die veld nie en die effek op die voordelige insekte behoort van korte duur te wees.

Alhoewel hierdie middel aan uitgebreide toetse onder ‘n verskeidenheid van toestande onderwerp is, kan die registrasiehouer nie waarborg dat dit effektief sal wees onder alle omstandighede nie, omdat die werking en effek daarvan beïnvloed kan word deur faktore soos abnormale klimaats- en bergingstoestande; kwaliteit van verdunningswater; verenigbaarheid met ander stowwe nie aangedui op die etiket nie en die weerstand van die plaag teen die betrokke middel asook die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer ook nie verantwoordelikheid vir enige skade aan gewasse, plantegroei, die omgewing of die nadelige uitwerking op mens of dier nie, of vir die onvermoë van die betrokke middel om te presteer nie, as gevolg van die gebruiker se versuim om die etiket se aanwysings te volg of vir die voorkoms van toestande wat nie voorsien kon word in terme van die registrasie nie. Raadpleeg die verskaffer indien daar enige onsekerheid is.

VOORSORGMAATREËLS:

• **GHS-Voorsorgverklarings:**

P261	Vermy inaseming van dampe/sproei.
P272	Besoedelde werksklere moet nie uit die werkplek toegelaat word nie.
P273	Vermy vrystelling na die omgewing.
P280	Dra beskermende handskoene, klere, oogbeskerming en gesigbeskerming.
P302 P352	INDIEN OP DIE VEL: Was met baie water.
P333 P313	Indien velirritasie of uitslag voorkom: Kry mediese advies/aandag.
P362	Trek besoedelde klere uit.
P391	Versamel storting.

- Berg slegs in oorspronklike gemerkte houer.
- Verseker dat sproei nie wegdryf na aangrensende gewasse, weiding, riviere of damme nie.
- Was toerusting voordat dit gebruik word vir ander middels en verseker dat die waswater wat weggegooi word nie gewasse, weiding, riviere, damme of waterbronne besoedel nie.
- Voorkom die besoedeling van kos, voer, drinkwater en eetgerei tydens hantering, berging en vernietiging.
- Spoel leë houer drie keer as volg: Keer die leë houer oor die spuit- of mengtenk om en dreineer vir minstens 30 sekondes nadat die vloei tot 'n gedrup verminder het. Spoel daarna die leë houer drie keer na mekaar met een kwart van die houervolume vars water en giet die spoelwater in die spuittenk of mengtenk oor. Kap gate in die drie-keer gespoelde houer waarna dit aan ‘n goedgekeurde versamelaar of verwerker oorhandig moet word (www.croplife.co.za). Moet nie die houer begrawe, verbrand of aan enige ander partye skenk wat dit as houer vir voedsel of drinkgoed mag gebruik nie.

GEBRUIKSAANWYSINGS:

- SKUD VOOR GEBRUIK.
- Gebruik slegs soos aangedui op hierdie etiket.

Laflexa™ is ‘n emulsie, olie in water vloeistof wat gemeng moet word met water en aangewend word as ‘n blaarbedekking met konvensionele insekdoder toerusting.

Insekdoder Weerstandsbestuur (IWB)

Die klassifikasie skemas van insekdoders is gebaseer op hul werkingswyse “metode van aksie” Laflexa™ word geklassifiseer as ‘n Botaniese insekdoder. Natuurlike piretrien onderbreek die die normale stuur van senuwee-impulse wat feitlik onmiddelike verlamming in insekte veroorsaak.

Enige insekpopulasie mag ‘n paar individue bevat wat ‘n natuurlike weerstand het teen Laflexa™ en ander piretriene. Die weerstandbiedende individue sal uiteindelik die insekpopulasie domineer as hierdie insekdoders gereeld oor lang tydperkte gebruik word, of teen opeenvolgende generasies van insekte. Laflexa™ of ander piretrien insekdoders mag dalk nie hierdie weerstandbediende insekte beheer nie. Plaaslike kenners behoort geraadpleeg te word vir weerstandbediende strategieë en spesiale aanbevelings. Daar word herken dat die weerstand van insekte en myte teen insek- en mytdoders ook die gevolg kan wees van verhoogte metabolisme, verlaagte penetrasie of gedragsveranderings wat nie verband hou met enige werkingswyse klassifikasie nie maar wat spesifiek is tot individuele chemikalieë of chemiese groeperings. Afwisseling van middels uit verskillende chemiese klasse bly ‘n lewensvatbare anti-weerstandsbestuurstegniek.

Hoe om weerstand teen insekdoders te vertraag

- Vermy die herhaaldelike gebruik van insekdoders van dieselfde chemiese subgroep.
- Moenie minder gebruik as die aanbevole dosis op die etiket nie.
- Mik toedienings verkieslik teen jonger larwes en eiers van die plaag waar moontlik.
- Sluit beproefde landboukundige en biologiese kontrole praktyke in binne 'n Geïntegreerde Plaagbestuursprogram.

Geïntegreerde Plaagbestuursprogram (GPB)

Laflexa™ word aanbeveel vir GPB programme. Onder ideale omstandighede moet Laflexa™ aangewend word wanneer veldinspeksie aandui dat die plaagdigtheid waarteen gemik word die ekonomiesdrumpel bereik het, maar dit kan ook gebruik word in 'n vasgestelde (kalender) spuitprogram. Laflexa™ wat gebruik word onder GLP, het nie 'n betekenisvolle impak op die meeste voordelige insekte of myte nie (insluitend skilpadkewers, goudogies, roofwantse en predatoriese myte). Behalwe die gevolglike vermindering van voordelige populasies as gevolg van die vermindering in plaaggetalle (d.w.s. die vermindering in voedselbeskikbaarheid) sal hierdie voordelige insekte in die omgewing bly en daardeur die moontlikheid verminder van 'n uitbreek van sekondêre plae. Dit sal die noodsaaklikheid vir addisionele insekdoderbehandelings verhoed.

Meng: Vul die spuittenk met water tot omtrent die helfde van die totale spuitvolume wat benodig word. Begin roer en voeg die nodigde hoeveelheid versuurder/buffer by om die pH van die mengsel te stabiliseer tussen 'n pH van 4-5. Tweedens voeg die korrekte hoeveelheid Twister teen 25-50 ml/100 L by die tenkmengsel. Voeg dan vereiste hoeveelhede Laflexa™ by die spuittenk. Hou aan met meng en roer terwyl die spuittenk gevul word tot by die vereiste volume. Handhaaf genoegsame roering gedurende toediening om eenvormigheid van spuitmengsel te verseker. Moenie water of spuitmengsel toelaat om terug te loop in die waterbron in nie.

Indien die spuit en roeraksie onderbreek moet word voordat die spuittenk leeg is moet die materiale wat afgesak het eers weer deeglik gemeng word voordat besproeiing hervat word. 'n Terugvloeipyp met sywaartse uitlate op die bodem van die tenk is besonders handig vir hierdie doel.

Aanwending: Behoorlike toedieningsstegnieke verseker dat 'n deeglike bedekking asook die korrekte dosis verkry word wat nodig is vir die optimale beheer van insekplae. Die volgende aanbevelings word verskaf vir die effektiewe aanwending van Laflexa™. Om genoegsame bedekking te verseker moet aandag gegee word aan grondspoed en kalibrasie, windspoed en blaardekking.

Aanwending vir Rygewasse: Gebruik konvensionele grondbesproeiïngstoerusting wat gekalibreer is om deeglike bedekking aan die gewasse te verskaf. Stel die spuitbalk en spuitkoppe op om eenvormige bedekking te verseker. Onder sekere omstandighede mag spuitkoppe op val-arms nodig wees om eenvormige bedekking te verseker. Gebruik keëlvormige hol spuitkoppe wat geskik is vir die spuit van insekdoders. Volg die vervaardiger se aanbevelings vir die beste spuitkopspasiëring, druk en spuitbalk hoogte.

Twister (L9666 – 700 g/L Gemetileerde groente oile) is 'n geregistreerde handelsmerk van N Laboratories (EDMS) BPK en geregistreer onder Wet Nr. 36 van 1947.

CERES INPUTS

Produk goedgekeur vir die gebruik in organiese boerdery volgens Reg. (EC) 889/2008. Bylae II; Piretrien) en JAS: Not. 1605, Tabel 2 deur CERES GmbH

Gewas en Plaag	Dosis/100 L Water	Opmerkings
Bessie: Aarbei, Bloubessie, Boysenbessie, Druiwe, Framboos, Krismis, Kruisbes, Rooibosbessie, Swartbessie Rooispinmyt *Tetranychus urticae*	100 ml Min 500 ml/ha	Begin toediening by eerste tekens van die plaag en herhaal elke 3-7 dae, afhangend van die plaag druk. Die volume spuitmengsel wat/ha toegedien word hang af van die plant grootte en die plantdigtheid. Begin met ’n min van 500 L/ha spuitmengsel op jong plante en verhoog die volume tot op 1000 L/ha soos die plantgrootte toeneem.
Kanola: Ruitrugmot *Plutella xylostella*	50 ml Min 200 ml/ha	Begin toediening by eerste tekens van die plaag en herhaal elke 7 dae, afhangend van die plaag druk.
Koolgewasse: Plantluise *Brevicoryne brassicae* *Lipaphis erysimi* *Myzus persicae* Ruitrugmot en larwes *Plutella xylostella*	150 ml (450-900 ml/ha)	Dien toe as 'n gedeelte van 'n spuitprogram as 'n voldekbespuiting teen 'n min van 300-600 L/ha spuitmengsel. Kan elke 7 dae toegedien word. Dien ’n min van 2 opeenvolgende Laflexa™ bespuitings toe om effektiewe plaagbeheer te verseker. Begin toediening by eerste tekens van die plaag. Alternatiewelik kan ‘n bespuiting gedoen word as 'n opvolgtoediening in 'n vaste spuitprogram soos vereis word in anti-weerstandsprogramme. Die volume spuitmengsel wat/ha toegedien word hang af van die plant grootte en die plantdigtheid. Begin met ’n min van 300 L/ha spuitmengsel op jong plante en verhoog die volume tot op 600 L/ha soos die plantgrootte toeneem.
Steenvrugte: Appelkoos, Kersie, Nektarien, Perske, Pruim, Pruimedant Valskodlingmot *Thaumatotibia leucotreta*	50-100 ml	Dien toe as ‘n voldekbespuiting en verseker dat die spuitmengsel kontak maak met die pes vir die beste beheer. Dien toe wanneer die mot vlug hulle piek bereik of indien eiers of larwes opgemerk word. Herhaal toediening elke 7-14 dae of gebruik as deel van ‘n anti-weerstandsprogram. Die hoër dosis word aanbeveel vir groter bome, hoë volume toedienings of indien die plaag druk hoog is.
Tamatie: Witvlieg *Bemisia tabaci*	100 ml Min 500 ml/ha	Begin toediening by eerste tekens van die plaag en herhaal elke 3-7 dae, afhangend van die plaag druk. Die volume van die spuitmengsel wat/ha toegedien word hang af van die plantgrootte en die digtheid. Begin met ’n min van 500 L/ha spuitmengsel op jong plante en verhoog die volume tot op 1000 L/ha soos die plantgrootte toeneem.