Kirchhoffs

Ludwig's Insect Spray +

Reg. No. L7631 Act No. 36 of 1947

An organic broadspectrum insecticide concentrate with contact and repelling action used as a full cover spray for the control of insects as listed on roses, fruittrees, vegetables and ornamentals.

ACTIVE INGREDIENTS:

Canola oil.....250.0 g/ℓ
Garlic extract from *Allium sativa*.....642.0 g/ℓ
Pyrethrins (extract from flowers of *Chrysanthemum cinerariaefolium*).... 1.4.0 g/ℓ
Piperonyl butoxide (synergist).....50.0 g/ℓ

REGISTRATION HOLDER:

BallStraathof (PTY) LTD
Ball Straathof (Pty) Ltd Reg. No. 2000/029724/07,
P.O. Box 3691, Honeydew, 2040, South Africa, Tel: (011) 794 2316

Do not apply just prior to or during pollination, garlic might repel bees and, therefore, adversely affects pollination.

EFFECTIVE FOR KILLING AND REPELLING INSECTS

CROP & INSECT	DOSAGE PER 10ℓ WATER	DETAILS OF SPRAY PROGRAMME
FRUIT TREES Aphids	50 mℓ (5 mℓ per ℓ water)	Apply as a high pressure, full cover spray when first sign of pests are detected. Do not apply before 80% petal drop. Ensure thorough coverage of plants to be protected. Repeat application at 5 day intervals if necessary with a maximum of 3 within a period of 10 days.
VEGETABLES American bollworm Aphids Astylus beetle Whitefly	50 mℓ (5 mℓ per ℓ water)	Apply as a high pressure, full cover spray when first sign of pests are detected. Ensure thorough coverage of plants to be protected. Commence spraying for American bollworm when eggs and young larvae are noticed. Repeat applications at 5 day intervals with a maximum of 3 within a period of 10 days. In the case of whitefly, apply early morning after sunrise when adult whiteflies are still resting under leaves. Three applications within 10 days are necessary to obtain positive results in the control of whitefly. Ensure thorough coverage of the underside of leaves in the case of whitefly control.
ORNAMENTALS Aphids Astylus beetle Thrips Whitefly	50 mℓ (5 mℓ per ℓ water)	Apply as a high pressure, full cover spray when first sign of pests are detected. Ensure thorough coverage of plants to be protected. Repeat applications at 5 day intervals with a maximum of 3 within a period of 10 days. In the case of whitefly, apply early morning after sunrise when adult whiteflies are still resting under leaves. Three applications within 10 days are necessary to obtain positive results in the control of whitefly. Ensure thorough coverage of the underside of leaves in the case of whitefly control.
ROSES Ants	50 mℓ (5 mℓ per ℓ water)	Drench ant nests by pouring diluted spray mixture down nest entrances. Depending on the size of the nest, up to 5 litres of mixture can be poured down the nest. Treat all nest entrances round the main stem of plant. Repeat when ant activity reoccur.
	50 mℓ (5 mℓ per ℓ water)	Apply as a high pressure, full cover spray when first sign of pests are detected. Ensure thorough coverage of plants to be protected. Commence spraying for American bollworm when eggs and young larvae are noticed. Repeat applications at 5 day intervals with a maximum of 3 within a period of 10 days. Ensure through coverage of the underside of leaves in the case of red spider mite control.
American bollworm Aphids Thrips		
Red spider mite	300 mℓ (30 mℓ per ℓ water)	
Astylus beetle	50 mℓ (5 mℓ per ℓ water)	Apply as a high pressure, full cover spray when adult beetles are actively feeding. Ensure thorough coverage of plants and direct contact with adult beetles for best results. Repeat when necessary. Chafer and flower beetle will be controlled at the same dosage rate as for CMR beetle if present at application.
CMR beetle	100 mℓ (10 mℓ per ℓ water)	
SOIL PESTS Ants	50 mℓ (5 mℓ per ℓ water)	Drench ant nests by pouring diluted spray mixture down nest entrances until flooded. Depending on the size of the nest, up to 5 litres of mixture can be poured down the nest. Repeat when ant activity reoccur.
Wood-eating termites	50 mℓ (5 mℓ per ℓ water)	Remove crust formed on surface of soil where nest entrances are and with a fork or spade lift crust gently to expose entrances of termite nests in soil. Pour diluted spray mixture down nest entrances until flooded. Repeat when termite activity reoccur.

Composite

spraying of plants in containers are necessary. Indoor use not recommended because of garlic odour. Garlic becomes odourless on plants, but takes a while for the odour to disappear from other surfaces.

DIRECTIONS FOR USE: Use only as indicated

COMPATIBILITY
Before using in combination with any pesticide, first test on a small scale. In case of any uncertainties, contact the registration holder or supplier.

CERTIFIED ORGANIC FARMING
Ludwig's Insect Spray + is authorised for use in organic agriculture (gardening) by ECOCERT SA F-32600 and should only be used in combination with other pesticides approved for organic farming.

MIXING INSTRUCTIONS
SHAKE OR STIR CONTAINER WELL BEFORE USE. Mix measured quantity of **Ludwig's Insect Spray +** concentrate first with half the amount of water. Stir for ± 30 seconds and add the stirred pre-mix **Ludwig's Insect Spray +** to the spray tank while it is filled with water to the desired quantity. After mixing concentrate, agitate again before and during spraying to prevent settling. Use the spray mixture without delay and do not allow to stand for prolonged periods, e.g. overnight. If rain occurs within 12 hours after application, treatment has to be repeated for best results.

DO NOT APPLY DURING THE HEAT OF THE DAY, OR WHEN TEMPERATURES EXCEED 28°C. APPLY PREFERABLY EARLY MORNING BEFORE 9 AM OR EARLY EVENING AFTER 5 PM DURING THE HOT MONTHS. DO NOT USE HIGHER DOSAGE RATES THAN INDICATED AS PHYTOTOXICITY AT HIGHER RATES ARE UNKNOWN.

Kirchhoffs

Ludwig's Insect Spray +

Reg. Nr. L7631 Wet No. 36 van 1947

'n Organiese breëspektrum konsentraat insekdoder met kontakdodende en afwerende aksie, toegedien as 'n volle dekbespuiting vir die beheer van insekte soos gelys op rose, vrugtebome, groente en sierplante.

AKTIEWE BESTANDDELE:

Kanola olie.....250.0 g/ℓ
Knoffel ekstrak van *Allium sativa*.....642.0 g/ℓ
Piretriene (ekstrak van *Chrysanthemum cinerariaefolium* blomme).....14.0 g/ℓ
Piperonielbutoksied (sinergis)..... 50.0 g/ℓ

REGISTRASIEHOUER:

BallStraathof (EDMS) BPK
Ball Straathof (Edms) Bpk Reg. Nr. 2000/029724/07,
Posbus 3691, Honeydew, 2040, South Africa, Tel: (011) 794 2316

Product in conformity with regulation (EEC) 2092/91, annex II A, inspected by ECOCERT, F-32600. Authorised for use in organic agriculture.

SKADELIK

LAAT 'N WAGPERIODE VAN 2 DAE TUSSEN DIE LAASTE TOEDIENING EN OES VAN EETBARE GEWASSE

WAARSKUWINGS
Hanteer versigtig. Mag vel- en oogirritasie veroorsaak. Hou buite bereik van kinders, oningeligte persone en diere. Bêre weg van voedsel en voere in 'n koel en droë plek. Nie geskik vir kook doeleindes nie. Giftig vir visse. In geval van vergiftiging ontbied 'n geneesheer en toon die etiket aan hom/haar.

Alhoewel hierdie middel omvattend onder 'n verskeidenheid toestande getoets is, waarborg die registrasiehouer nie dat dit onder alle toestande doeltreffend sal wees nie, aangesien die werking en effek daarvan beïnvloed kan word deur faktore soos abnormale grond-, klimaats- en bergingstoestande; verenigbaarheid met ander stowwe wat nie op die etiket aangedui is nie en die voorkoms van weerstand van die plaag teen die betrokke middel sowel as die metode, tyd en akkuraatheid van toediening. Verder aanvaar die registrasiehouer nie verantwoordelikheid vir skade aan gewasse, plantegroei, die omgewing of vir nadelige effek op mens of dier of vir 'n gebrek aan prestasie van die betrokke middel as gevolg van die versuim van die gebruiker om etiketaanwysings na te kom of as gevolg van die ontstaan van toestande wat nie kragtens die registrasie voorsien kon word nie. Raadpleeg die verskaffer of registrasiehouer in die geval van enige onsekerheid.

VOORSORGMAATREëLS
Moenie spuitmis inasem nie. Vermy kontak met oë. Dra rubber handskoene en gesigskerm met die hantering van die konsentraat en rubber handskoene tydens bespuiting. Indien vel of oogkontak voorkom, spoel met voldoende hoeveelheid skoon water. Moenie eet, drink of rook terwyl gemeng word of voordat hande gewas is nie. Hou houer dig toe wanneer nie in gebruik. Vermy oormatige inaseming van spuitnewel. Was met seep en water na gebruik. Vermy oorwaai van spuitnewel na ander gewasse, waterbronne, damme en riviere. Spoel leë houer 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 vernietig word. Vernietig leë houer en moet vir geen ander doel gebruik nie. Voorkom besoedeling van voedsel, voer, drinkwater en eetgerei.

SIMPTOME VAN VERGIFTIGING
'n Benoude, lopende neus en krapperige keel deur inaseming van gedeeltelike gesuiwerde piretriene ekstrak is die mees algemeenste negatiewe effek . Asmatiese hyging mag voorkom wanneer individue blootstelling ervaar het. Skielike bronchiale spasma, swelling van mond en keel slymvlies membraan en skok is al aangemeld na ernstige inaseming van piretriene. Vertraagde voorkoms van dyspnoea, hoes en koors, tesame met kolle wat wys op X-strale, toon op hipersensitiewe pneumonitis. Senuagtige irritasie, rukkings, en ataxia het al baie selde voorgekom in persone wat massiewe inaseming blootstelling van piretriene gehad het.

NOODHULPBEHANDELING
Algemeen : Verwyder dadelik alle gekontamineerde klere.
Oog kontak : Spoel oë onmiddellik met voldoende water.
Vel kontak : Was gekontamineerde vel met seep en water.
Inaseming: Verwyder persoon na area met vars lug in geval van inaseming van dampe. Kry mediese hulp.
Inname: Vergiftiging is onwaarskynlik met inname van 'n klein hoeveelheid piretriene. Indien groot hoeveelhede van die piretrien formulasie ingeneem word moet die maag en ingewande leeg gemaak word. Kontak 'n geneesheer onmiddellik. Moet nooit enige iets mondelings gee vir 'n bewustelose persoon nie.

ALGEMENE INLIGTING
Kanola olie dood klein insekte op kontak deur versmoring. Knoffel voorkom dat insekte op plante land. Natuurlike piretriene dood klein en groter liggaam insekte deur direkte kontak. Voordelige predatore soos skilpadkewers kan gedood word deur direkte kontak teen die laagste aanbevole dosis. Vermy bespuitings wanneer hoë populasies skilpadkewers teenwoordig is op plante. **Nie geskik vir toediening oor mat en teël oppervlakke nie. Bedek oppervlakke met koerantpapier indien gespuit word in areas waar die oppervlakke voorkom (bv. houerplante op geteëlde stoepe). Word nie aanbeveel vir binnenshuise gebruik a.g.v. knoffel reuk. Knoffel word reukloos op plante, maar reuk bly vir 'n geruime tyd op ander oppervlakke.**

GEBRUIKSAANWYSINGS: Gebruik slegs soos aangedui

VERENIGBAARHEID
Voor die gebruik in kombinasie met ander plaagmiddels, toets eers op 'n klein skaal. In die geval van enige onsekerheid, kontak die registrasiehouer of verspreider.

GESERTIFISEERDE ORGANIESE BOERDERY
Ludwig's Insect Spray + is goedgekeur vir gebruik in organiese boerdery deur ECOCERT SA F-32600 en moet alleenlik gebruik word in kombinasie met plaagdoders wat goedgekeur is vir organiese boerdery.

MENGINSTRUKSIES
SKUD OF ROER HOUER GOED VOOR GEBRUIK. Meng afgemete dosis hoeveelheid van **Ludwig's Insect Spray +** eers met 'n hoeveelheid water gelyk aan die helfte van die aanbevole dosis. Roer vir ongeveer 30 sekondes en voeg die mengsel in die tenk terwyl die totale verlangde hoeveelheid water by die tenk gevul word. Na meng, roer of skud mengsel voor en gedurende gebruik om te voorkom dat 'n afsaksel vorm gedurende bespuiting.
Aangemaakte spuitmengsel moet dadelik gebruik word en nie in die spuittenk gelaat word vir 'n onbepaalde tyd nie, byvoorbeeld oornag. Indien dit sou reën binne 12 ure na toediening moet bespuiting herhaal word vir beste resultate.

MOENIE SPUIT GEDURENDE DIE WARMSTE TYD VAN DIE DAG, OF WANNEER TEMPERATURE 28°C OORSKRY NIE. SPUIT VERKIESLIK VROEGOGGEND VOOR 9 VM OF VROEGAAND NA 5 NM GEDURENDE DIE WARM MAANDE. MOET NIE HOËR DOSISSE AS AANBEVEEL TOEDIEN NIE AANGESIEN DIE FITOTOKSISITEIT VAN HOËR DOSISSE ONBEKEND IS.

Waar bestuiwing deur bye verlang word, moet daar nie gespuit word kort voor of gedurende die bestuiwings proses nie aangesien knoffel 'n afwerende effek het.

EFFEKTIEF VIR DIE DOOD EN AFWEER VAN INSEKTE

GEWAS & INSEK	DOSIS PER 10ℓ WATER	BESONDERHEDE VAN SPUITPROGRAM
VRUGTEBOME Plantluise	50 mℓ (5 mℓ per ℓ water)	Dien toe as 'n hoë druk volle dekbespuiting sodra insek besmettings opgemerk word. Moenie toedien voor 80% blomblaarval nie. Verseker deeglike bedekking van plante wat beskerm moet word. Herhaal toedienings elke 5 dae met 'n maksimum van 3 binne 'n periode van 10 dae.
GROENTE Amerikaanse bolwurm Blaaspootjie Bontmieliekewer Plantluise Witvlieg	50 mℓ (5 mℓ per ℓ water)	Dien toe as 'n hoë druk volle dekbespuiting sodra insek besmettings opgemerk word. Verseker deeglike bedekking van plante wat beskerm moet word. Begin toedienings vir Amerikaanse bolwurm wanneer die eiers en jong larwes opgemerk word. Herhaal toedienings elke 5 dae met 'n maksimum van 3 binne 'n periode van 10 dae. In die geval van witvlieg, dien toe vroegoggend na sonsopkoms wanneer volwasse witvlieg nog rustend onder die blare is. Vir positiewe resultate in die beheer van witvlieg word 3 bespuitings benodig binne 10 dae. Verseker deeglike dekking van die onderkant van blare in die geval van witvlieg beheer.
SIERPLANTE Blaaspootjie Bontmieliekewer Plantluise Witvlieg	50 mℓ (5 mℓ per ℓ water)	Dien toe as 'n hoë druk volle dekbespuiting sodra insek besmettings opgemerk word. Verseker deeglike bedekking van plante wat beskerm moet word. Herhaal toedienings elke 5 dae met 'n maksimum van 3 binne 'n periode van 10 dae. In die geval van witvlieg, dien toe vroegoggend na sonsopkoms wanneer volwasse witvlieg nog rustend onder die blare is. Vir positiewe resultate in die beheer van witvlieg word 3 bespuitings benodig binne 10 dae. Verseker deeglike dekking van die onderkant van blare in die geval van witvlieg beheer
ROSE Miere	50 mℓ (5 mℓ per ℓ water)	Deurdrenk mierneste deur verdunde spuitmengsel deur nesopeninge af te gooi tot oorvloei. Afhangende van nesgrootte kan soms tot 5 liter mengsel in 'n nes afgegooi word. Behandel al die mierneste om hoofstam van plant Herhaal wanneer mieraktiwiteit weer voorkom.
Amerikaanse bolwurm Blaaspootjies Plantluise	50 mℓ (5 mℓ per ℓ water)	Dien toe as 'n hoë druk volle dekbespuiting sodra insek besmettings opgemerk word. Begin toedienings vir Amerikaanse bolwurm wanneer die eiers en jong larwes opgemerk word. Verseker deeglike bedekking van plante wat beskerm moet word. Herhaal toedienings elke 5 dae met 'n maksimum van 3 binne 'n periode van 10 dae. Verseker deeglike dekking van die onderkant van blare in die geval van rooispinmyt beheer.
Rooispinmyt	300 mℓ (30 mℓ per ℓ water)	
Bontmieliekewer	50 mℓ (5 mℓ per ℓ water)	Dien toe as 'n hoë druk, volle dekbespuiting sodra volwasse kewers aktief vreet. Verseker deeglike bedekking van plante asook direkte kontak met volwasse kewers vir beste resultate. Herhaal wanneer nodig. Lente en blom kewer sal beheer word teen dieselfde dosis as vir CMR kewer wanneer hulle teenwoordig is met toediening.
CMR kewer	100 mℓ (10 mℓ per ℓ water)	
GRONDPLAE Miere	50 mℓ (5 mℓ per ℓ water)	Deurdrenk mierneste deur verdunde spuitmengsel deur nesopeninge af te gooi tot oorvloei. Afhangende van nesgrootte kan soms tot 5 liter mengsel in 'n nes afgegooi word. Herhaal wanneer mieraktiwiteit weer voorkom.
Houtvretertermiete	50 mℓ (5 mℓ per ℓ water)	Verwyder korslaag op grondoppervlak versigtig met 'n tuinvurk of graaf om sodoende nesopeninge bloot te lê. Deurdrenk termiet neste deur verdunde spuitmengsel deur nesopeninge af te gooi tot oorvloei. Herhaal wanneer termiet aktiwiteit weer voorkom.

Product in conformity with regulation (EEC) 2092/91, annex II A, inspected by ECOCERT, F-32600. Authorised for use in organic agriculture.

ALLOW 2 DAYS BETWEEN LAST APPLICATION AND HARVEST OF EDIBLE CROPS

WARNINGS
Handle with care. Can cause skin or eye irritation. Keep out of reach of children, uninformed persons and animals. Store away from food and feedstuffs in a cool dry place. Toxic to fish. Not suitable for cooking. In case of poisoning call a doctor and show this label to him/her.

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; compatibility with other substances not indicated on the label and the appearance of resistance of the insect 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 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 or registration holder in the event of any uncertainty.

PRECAUTIONS
Do not inhale spray mist. Avoid contact with eyes. Wear rubber gloves and face shield when handling concentrate and rubber gloves when applying. If skin or eye contact occurs, flush with copious amounts of clean water. Do not eat , drink or smoke while mixing or before washing hands. Prevent drift of spray to other crops, water supplies, dams or rivers. Keep container tightly closed when not in use. Avoid excessive inhalation of spray drift. Wash with soap and water after use. Prevent spray drift onto other crops, water sources, dams and rivers. Rinse empty container three times with a volume of water equal to at least 10% of that of the content of the container. Add the rinsings to the contents of the spray tank. Destroy empty container and do not use for any other purpose. Prevent contamination of food, feeds, drinking water and eating utensils.

SYMPTOMS AND SIGNS OF POISONING
A stuffy, runny nose and scratchy throat from inhalation of partly purified pyrethrum extract is the most common adverse effect of these agents. Asthmatic wheezing may be precipitated by exposure of predisposed individuals. Sudden bronchospasm, swelling of oral and laryngeal mucous membranes and shock (anaphylaxis) have been reported after pyrethrin inhalation. Delayed appearance of dyspnoea, cough and fever, with patchy lung infiltrates on X-ray, suggest hypersensitivity pneumonitis . Nervous irritability, tremors, and ataxia have occurred rarely in persons who have had massive inhalation exposure to pyrethrins.

FIRST AID TREATMENT
General: Take off all contaminated clothing immediately
Eye contact: Rinse eyes immediately with copious amounts of water.
Skin contact: Wash contaminated skin with soap and water.
Inhalation: Move person to fresh air in case of accidental inhalation of vapours. Obtain medical attention.
Ingestion: Ingestion of a small amount of pyrethrins is not likely to cause poisoning. If large amounts of a pyrethrin formulation have been ingested the stomach and intestine must be evacuated. Call a physician immediately. Never give anything by mouth to an unconscious person.

GENERAL INFORMATION
Canola kills targeted small bodied insects on contact by means of suffocation. Garlic prevents insects from landing on plants. Natural pyrethrum has a residual action of maximum 24 hours after application and can kill bigger bodied insects on contact. Beneficial predators like ladybirds can be killed on direct contact at the lowest recommended dosage rate. Avoid spraying when high populations of ladybirds are present on plants. **Not suitable for spraying over surfaces like carpets, tiles etc. Cover surfaces with newspaper if**