PARKERS PHARMA LIMITED

INTRODUCTION:

Parkers Pharma Limited is a well-established privately-owned company headquartered in the United Kingdom and Germany...

With a wealth of experience in the industry, we have become a trusted name in the manufacturing, formulation, packaging, and global export of various products. Our extensive portfolio includes products related to human health, animal health, agriculture, environmental health, and animal housing. Our commitment to delivering high-quality products at competitive prices has earned us a strong reputation in the market. With a customer base spanning over 35 countries, we are dedicated to meeting the diverse needs of our clients.

In line with our commitment to sustainable agriculture, we provide a wide range of agricultural products such as fertilizers, crop protection solutions, and plant growth regulators.

We have expanded on the pesticide formulation types for below:

- 1. DS Dust: A finely powdered formulation that allows for easy application by dusting or sprinkling, ensuring precise coverage.
- **2. GR** Granules: These small pellets or granules are designed to be easily spread or incorporated into the soil, providing targeted control of pests.
- 3. SP Soluble Powder: A highly soluble powder that dissolves readily in water, forming a liquid solution suitable for effective spraying.









4. WSG - Water Soluble Granules: Granules that readily dissolve in water, forming a liquid solution for efficient spraying and ensuring optimal coverage.

- **5. WDG** Water Dispersible Granules: Granules that disperse easily in water, forming a suspension that can be conveniently used for spraying, resulting in uniform pest control.
- **6. WP** Wettable Powder: A powder formulation that can be easily dispersed in water to form a suspension, ensuring consistent coverage and effective control of pests.
- **7. WS** Water Soluble: A solid formulation that dissolves rapidly in water, forming a liquid solution suitable for effective spraying, offering convenience and efficacy.
- **10. ZW** Mixed formulations of CS and EW: This formulation consists of an emulsion of fine droplets of technical material in combination with a suspension of microcapsules in an aqueous phase, ensuring homogeneous distribution and ease of dilution.
- **11. SC** Suspension Concentrate: A liquid formulation where the active ingredient is suspended in water with the help of surfactants, providing effective and targeted control.
- **12. SL** Soluble Liquid: A liquid formulation that dissolves readily in water, forming a solution suitable for efficient spraying and ensuring comprehensive pest control.
- **13. EC** Emulsifiable Concentrate: A liquid formulation that forms an emulsion when mixed with water, providing uniform coverage and improved efficacy.









- **14. FS** Flowable Concentrate: A liquid formulation that flows easily and can be conveniently diluted for spraying, ensuring optimal application and efficacy.
- **15. EW** Emulsion in Water: A liquid formulation in which the active ingredient is dispersed in water with the aid of emulsifiers, ensuring uniform coverage and effective pest control.
- **16. CS** Capsule Suspension: A liquid formulation where the active ingredient is encapsulated and suspended in a liquid, providing controlled release and extended residual activity for enhanced pest management.
- **17. ULV** Ultra-Low Volume: A liquid formulation with a low concentration of the active ingredient, designed for low volume application while ensuring efficient and targeted pest control.
- **18. SE** Suspo-Emulsion: A liquid formulation that combines the properties of a suspension and an emulsion, ensuring uniform distribution and prolonged effectiveness.
- **19. ZC** Mixed formulations of CS and SE: This formulation consists of an emulsion of fine droplets of technical material and a suspension of fine particles of technical material in an aqueous phase, ensuring homogeneous distribution and ease of dilution.
- **20. MC** Microencapsulated: A formulation in which the active ingredient is encapsulated in microcapsules, providing controlled release and extended residual activity for long-lasting pest control.









CAPTAN 80 WP

ACTIVE INGREDIENTS:

CAPTAN 80%

INTRODUCTION: Captan 80 Wettable Powder is a microfine wettable powder for use in water as a spray for the control of certain fungus diseases of fruit and ornamental crops, and as a seed and soil treatment for the control of certain seed rots and dampingoff diseases A fungicide with broad-spectrum activity is effective against a large variety of pathogenic fungi. Examples of broadspectrum fungicides include captan (FRAC group M4 Mefenoxam (FRAC group 4) is a fungicide that can be absorbed by plant roots and translocated throughout the plant. Translocation, however, is only acropetally (upward), with the transpiration stream

USAGES:

- Captan is a multi-site phthalimide fungicide which exhibits both protectant and curative action. Captan 80 WP is used to control a wide range of fungal diseases on many crops eg. Venturia (scab) and Gleosporium (rot) diseases of pome fruits, shot-hole of stone fruits, peach leaf curl, brown rot of cherries, apricots, peaches, plums and citrus fruits, downy mildew and black rot of vines, early and late blight of potatoes and tomatoes, Alternaria blight and leaf spot of carrots, anthracnose and downy mildew of cucurbits, leaf spot diseases of ornamentals (eg black spot on roses), anthracnose and leaf spot disease of tomatoes, brown patch on turf, Botrytis spp. on various crops.
- Captan 80 WP can also be used as a seed treatment or root dip for the control of Pythium, Phoma, Rhizoctonia spp. on maize, ornamentals, vegetables, oilseed rape and various other crops.
- Although it can be applied on its own, Captan is often added as a component of other pesticide mixtures. It is used to control diseases on a number of fruits and vegetables as well as ornamental plants. It also improves the outward appearance of many fruits, making them brighter and healthier-looking. Captan is utilized by both home and agricultural growers and is often applied during apple production. It is also active against certain comycetes, such as Pythium, making it useful for controlling damping off.

FUNGICIDES

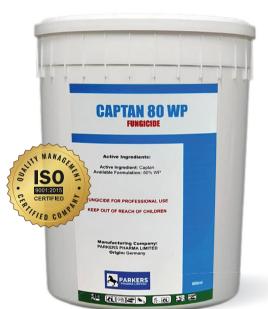
SAFETY EQUIPMENT:



















FOLPET 75 WP

ACTIVE INGREDIENTS:

FOLPET 750 g/Kg

INTRODUCTION: FRAC GROUP M4 FUNGICIDES

Folpet is a non-systemic multi-site foliar fungicide with protective action. It is a member of the phthalimide chemical family, Folpet is a protective leaf-fungicide.

Its mode of action inhibits normal cell division of a broad spectrum of microorganisms. It is used to control cherry leaf spot, rose mildew, rose black spot, and apple scab. Used on berries, flowers, ornamentals, fruits and vegetables, and for seed- and plant-bed treatment. Also used as a fungicide in paints and plastics, and for treatment of internal and external structural surfaces of buildings. Folpet has low acute toxicity to mammals

USAGES: - Folpet is a member of the class of phthalimides that is phthalimide in which the hydrogen attached to the nitrogen is replaced by a trichloromethylthio group. An agricultural fungicide, it has been used to control mildew, leaf spot, and other diseases in crops. It has a role as an antifungal agrochemical. It is an organochlorine compound, an organosulfur compound and a phthalimide fungicide. It is functionally related to a phthalimide.

- Folpet will effectively control a wide range of diseases including downy mildews, powdery mildews, leaf spot diseases, scab, excoriasis, black rot, white rot, Gleosporium rots, Botrytis, Alternaria, Pythium, and Rhizoctonia spp. in pome fruit, citrus fruit, vines, olives, hops, potatoes, lettuce, cucurbits, onions, leeks, celery, tomatoes and ornamentals
- Directions for Use: Folpet 75 WP should be diluted with 500-200 litres of clean water, by adding the concentrate to the water and stirring. Creaming the formulation in a bucket containing 3-2 litres of water before addition to the spay tank will speed up the mixing time.
- Mix only with clean water. Prepare a clean solution when needed. Do not store diluted fungicide. Suitable for application with all types of agricultural and horticultural spraying equipment. making it useful for controlling damping off.





















FUNGICIDES I

COURTENAY 25.5 SC

ACTIVE INGREDIENTS:

IPRODIONE 255 g/l

INTRODUCTION: FRAC GROUP 2 FUNGICIDES: Dicarboximide (or dicarboxamide): NADH cytochrome c reductase in lipid peroxidation (proposed) Iprodione %50 WP is an agricultural and horticultural fungicide in a Wettable Powder formulation for dilution with water and application by ground application equipment. It contains the active ingredient, iprodione %50 w/w (500 grams per kilo). COURTENAY 25.5 SC is a contact fungicide with protective and curative action. It inhibits germination of spores and growth of mycelium by inhibiting DNA and RNA synthesis and cell division in fungi. It belongs to the dicarboximide class of fungicides, which are active against many fungi, except the Oomycota.

A contact fungicide, it blocks the growth of the fungal mycelium and inhibits the germination of fungal spores. It is used on fruit and vegetable crops affected by various fungal diseases. It is also used as a nematicide. It has a role as a nematicide and an antifungal agrochemical. It is an imidazolidine-2,4-dione, a member of ureas, a member of benzenes, an imidazole fungicide and a dichlorophenyl dicarboximide fungicide lprodione is a hydantoin fungicide. It is used on crops affected by Botrytis bunch rot, Brown rot, Sclerotinia and other fungal diseases in plants. It is currently applied in a variety of crops: fruit, vegetables, ornamental trees and scrubs and on lawns. It is a contact fungicide that inhibits the germination of fungal spores and it blocks the growth of the fungal mycelium

USAGES: COURTENAY 25.5 SC is a contact fungicide used for the control of many plant fungal diseases including Botrytis, Monilia, Sclerotinia, Alternaria, Corticum, Fusarium, Tilletia, Pellicularia, Phoma, Rhizoctonia and Typhula. Used mainly on sunflowers, cereals, fruit crops, brassica crops, rice, cotton, vegetables and vines as a foliar spray. Also used to control turf diseases, as a post-harvest fruit dip, seed treatment and as a dip/spray at planting.

Directions for Use: COURTENAY 25.5 SC is best applied before the onset of disease symptoms. Mix only with clean water stirring well. For post-harvest fruit dip, seed treatment and as a dip/spray at planting a mix in water is prepared and used.

SAFETY EQUIPMENT:











Packing: | 1 Liter |









COURTENAY 50 WP

ACTIVE INGREDIENTS:

IPRODIONE 50%(w/w)

INTRODUCTION: FRAC GROUP 2 FUNGICIDES: Dicarboximide (or dicarboxamide): NADH cytochrome c reductase in lipid peroxidation (proposed) Iprodione %50 WP is an agricultural and horticultural fungicide in a Wettable Powder formulation for dilution with water and application by ground application equipment. It contains the active ingredient, iprodione %50 w/w (500 grams per kilo). COURTENAY 50 WP is a contact fungicide with protective and curative action. It inhibits germination of spores and growth of mycelium by inhibiting DNA and RNA synthesis and cell division in fungi. It belongs to the dicarboximide class of fungicides, which are active against many fungi, except the Oomvcota.

A contact fungicide, it blocks the growth of the fungal mycelium and inhibits the germination of fungal spores. It is used on fruit and vegetable crops affected by various fungal diseases. It is also used as a nematicide. It has a role as a nematicide and an antifungal agrochemical. It is an imidazolidine-2,4-dione, a member of ureas, a member of benzenes, an imidazole fungicide and a dichlorophenyl dicarboximide fungicide. Iprodione is a hydantoin fungicide. It is used on crops affected by Botrytis bunch rot, Brown rot, Sclerotinia and other fungal diseases in plants. It is currently applied in a variety of crops: fruit, vegetables, ornamental trees and scrubs and on lawns. It is a contact fungicide that inhibits the germination of fungal spores and it blocks the growth of the fungal mycelium

USAGES: COURTENAY 50 WP is a contact fungicide used for the control of many plant fungal diseases including Botrytis, Monilia, Sclerotinia, Alternaria, Corticum, Fusarium, Tilletia, Pellicularia, Phoma, Rhizoctonia and Typhula. Used mainly on sunflowers, cereals, fruit crops, brassica crops, rice, cotton, vegetables and vines as a foliar spray. Also used to control turf diseases, as a post-harvest fruit dip, seed treatment and as a dip/spray at planting.

Directions for Use: COURTENAY 50 WP is best applied before the onset of disease symptoms. Mix only with clean water stirring well. For post-harvest fruit dip, seed treatment and as a dip/spray at planting a mix in water is prepared and used.

SAFETY EQUIPMENT:



















CRANBROOK WP

ACTIVE INGREDIENTS:

Cooper oxide 600 g/kg +Metalaxvl 120 g/kg

INTRODUCTION: - Cooper oxide FRAC GROUP M1 FUNGICIDES (multi-site contact activity)

- Metalaxyl FRAC GROUP 4 FUNGICIDES (RNA polymerase I)
- Copper(I) oxide or cuprous oxide is the inorganic compound with the formula Cu20. It is one of the principal oxides of copper, the other being or copper(II) oxide or cupric oxide (CuO). Cuprous oxide is a red-coloured solid and is a component of some antifouling paints. The compound can appear either yellow or red, depending on the size of the particles. Copper(I) oxide is found as the reddish mineral cuprite.
- Metalaxyl A systemic fungicide, it is active against phytopathogens of the order Peronosporales and is used to conrtrol Pythium in a number of vegetable crops. It has a role as an agrochemical.
- Metalaxyl is a natural product found in Ganoderma lucidum with data available. (±)-Metalaxyl is a systemic agricultural fungicide belonging to the family of Depsipeptides. These are natural or synthetic compounds having sequences of amino and hydroxy carboxylic acid residues (usually I-amino and I-hydroxy acids), commonly but not necessarily regularly alternating
- Metalaxyl is an acylalanine fungicide with systemic function. Its chemical name is methyl N-(methoxyacetyl)-N-(-2,6xylyl)-DLalaninate. It can be used to control Pythium in a number of vegetable crops, and Phytophthora in peas. Metalaxyl-M is the ISO common name and Ridomil Gold is the trade name for the optically pure (-) / D / R active stereoisomer, which is also known as mefenoxam.
- Metalaxyl-M ((R)-Metalaxyl) is the active (R)-enantiomer of Metalaxyl. Metalaxyl-M is a broad-spectrum fungicide that inhibits protein and ribosomal RNA synthesis in fungi. Metalaxyl is used for research of plant diseases caused by pathogens of the Oomycota division.

USAGES: Cuprous oxide is commonly used as a pigment, a fungicide, and an antifouling agent for marine paints. Rectifier diodes based on this material have been used industrially as early as 1924, long before silicon became the standard. Copper(I) oxide is also responsible for the pink color in a positive Benedict's test.

Metalaxyl is one of the best systemic fungicides against oomycetes. It is widely used as a soil or seed treatment for the control of Pythium and Phytophthora seed rot and damping-off and as soil treatment for the control of Phytophthora stem rots and cankers in annuals and perennials and of certain downy mildews (e.g., of tobacco







FUNGICIDES

SAFETY EQUIPMENT:













ELITE 80 WP

ACTIVE INGREDIENTS: FOSETYL ALUMINIUM 80% (W/W)

INTRODUCTION: FRAC GROUP PO7 FUNGICIDES (PHOSPHONATES- ETHYL PHOSPHONATES)

Fosetyl aluminium is a systemic foliar fungicide with protective action. It is rapidly absorbed through the plant leaves and roots, with translocation both acropetally and basipetally. Fosetyl-Al is an aluminium salt composed of ethyl phosphonate anions and aluminium cations in a 3:1 ratio. A fungicide for various horticultural crops used to control a range of diseases including Phytophthora, Pythium and Plasmopara. It has a role as an antifungal agrochemical. It contains a fosetyl(-1).

Mode of Action: ELITE 80 WP is derived from ethylphosphite

USAGES: Fosetyl aluminium will effectively control specific diseases caused by pathogens in the group Phycomycetes (eg. Phytophthora, Pythium, Plasmopora, Bremia spp.) on vines, fruit (citrus, pineapple, avocado, stone fruit, pome fruit, soft fruit), vegetables, hops, ornamentals and turf.

Use Guidelines and Restrictions:

Fosetyl aluminium is a foliar fungicide which shows protective action, particularly effective against foliar diseases.

Normally applied as a preventive treatment and, where necessary, at 14-10 day intervals. Rates, timing and recommended combinations vary with crop and pest.

Temperatures above 350C are not generally recommended as crop damage may result. It is therefore recommended to make applications at cooler times of the day.

Use only as directed.

Maximum number of treatments varies with crop and disease, a maximum of 4 per crop, or further applications in mixture with suitable mixture partners as locally recommended.

- Do NOT spray crops suffering from drought or other physical stress.
- Test spray small numbers of ornamentals before committing whole batches.
- Consult processor before treating crops for processing.







SAFETY EQUIPMENT:













FUNGICIDES

FENTIN HYDROXIDE 50 WP

ACTIVE INGREDIENTS:

FENTIN HYDROXIDE 500 g/kg

INTRODUCTION:

- FRAC GROUP 30 FUNGICIDES : Inhibitors of oxidative phosphorylation, ATP synthases
- To control early and late blight on potatoes, leaf spot on sugar beets and peanuts, scab and several other diseases on pecans, leaf spot and alternaria blight on carrots. Effective on a complex of fungus diseases on soybeans, rice, cocoa, and coffee.

Fentin hydroxide is a non-systemic fungicide with some curative, but mainly protective action. It can also be used to control algal blooms in waterways and also as a molluscicide.

As a fungicide it is a multi-site inhibitor, preventing spore germination and inhibiting the respiration process in the metabolism of fungal species.

USAGES: Fentin compounds are recommended to control the following diseases/pests:

Phytophthora infestans de Bary of the foliage and especiall the tubers, and Alternaria solani J. u.Gr. Potatoes:

Cercospora beticola Sacc. Sugar beet: Cereals: Rust and leaf blotch Celery and celeriac: Septoria apii Chester

Alternaria porri f. dauci Neerg. Carrots:

Fusicladium effusum, Gnomonia spp., Mycosphaerella caryigena Demaree & Cole Pecans:

Various algae and water snails Rice:

Groundnuts: Cercospora spp.

Colletotrichum coffeanum Noack Coffee:

Phytophthora palmivora Butl., Monilia roreri Cocoa:

Beans: Anthracnose Leaf spot diseases Onions:

SAFETY EQUIPMENT:



















FORT 25 SC

ACTIVE INGREDIENTS:

AZOXYSTROBIN 250 g/l

INTRODUCTION:

- FRAC GROUP 11 FUNGICIDES
- Azoxystrobin and other strobilurins inhibit mitochondrial respiration by blocking electron transport. They bind at the quinol outer binding site of the cytochrome b-c1 complex, where ubiquinone (coenzyme Q10) would noarmally biAnd when carrying electrons to that protein. Thus production of ATP is prevented. The generic name for this **mode of action** is «Quinone Outside Inhibitors» Qol **USAGES:**
- Azoxystrobin is a xylem-mobile systemic fungicide with translaminar, protectant and curative properties. In cereal crops, its main outlet, the length of disease control is generally about four to six weeks during the period of active stem elongation Responsible for software design specifications and development applications.
- Azoxystrobin possesses a broad spectrum of activity, in common with other QoI inhibitors. Examples of the fungal groups on which it is effective are Ascomycota, Deuteromycota, and Basidiomycota, as well as the oomycetes. In addition, its properties mean that it can move systemically through plant tissue to protect parts of the crop that were not in contact with the spray. This combination of properties has meant that it achieved widespread use very quickly. Important diseases which it controls include leaf spot, rusts, powdery mildew, downy mildew, net blotch and blight. Worldwide, azoxystrobin is registered for use on all
- important crops. For example, in the European Union and United States, it is registered for use in wheat, barley, oats, rye, soya, cotton, rice, strawberry, peas, beans, onions and many other vegetables
- Although highly effective, fungicide chemistries like those in FRAC group 11, with a very specific MOA, are susceptible to fungicide resistance development by some fungi. Why is that? In the strobilurin's, a single nucleotide polymorphism of the cytochrome b gene leads to an amino acid substitution of glycine with alanine at position 143 of the cytochrome b protein

SAFETY EQUIPMENT:











Packing: | 1 Liter |









FUNGICIDES

GRANDE 50 SC

ACTIVE INGREDIENTS:

CHIOROTHALONIL 500 g/l

INTRODUCTION:

FRAC GROUP M5 FUNGICIDES (multi-site contact activity)

Chlorothalonil is a dinitrile that is benzene-1.3-dicarbonitrile substituted by four chloro groups. A non-systemic fungicide first introduced in the 1960s, it is used to control a range of diseases in a wide variety of crops. It has a role as an antifungal agrochemical. It is a dinitrile, a tetrachlorobenzene and an aromatic fungicide. It is functionally related to an isophthalonitrile.

Chlorothalonil is a natural product found in Curcuma longa with data available

Fungicide, bactericide, nematocide. Agricultural and horticultural fungicide

Chlorothalonil is a non-systemic fungicide. It is used predominantly on peanuts, potatoes, and tomatoes. It is also used on golf courses and lawns and as an additive in some paints

USAGES:

Used as a fungicide on vegetables, trees, fruits, turf, ornamentals, and other crops; [EXTOXNET] Used as a fungicide and preservative in paints, adhesives, and wood; [Kanerva, p. 786] Used as a biocide in paint; [Adams, p. 475] Used as a preservative in adhesives; [HSDB] Act mainly as a fungicide and mildewicide, but possesses some bactericidal, microbicidal, algaecidal, insecticidal, and acaricidal properties; Used as broad spectrum non-systemic pesticide, mildewicide for paints and other surface treatments, and protectant for wood; Contains hexachlorobenzene (HCB) as an impurity

Fungicide on a variety of vegetable crops, peanuts, lawns & turfs

Chlorothalonil (-2,4,5,6tetrachloroisophthalonitrile) is an organic compound mainly used as a broad spectrum, nonsystemic fungicide, with other uses as a wood protectant, pesticide, acaricide, and to control mold, mildew, bacteria, algae

SAFETY EQUIPMENT:











Packing: | 1 Liter |









LOUISE 50 SC

ACTIVE INGREDIENTS:

FLUAZINAM 500 g/I

INTRODUCTION:

FRAC GROUP 29 FUNGICIDES (uncoupler of Oxidative phosphorylation)

Fluazinam is a broad-spectrum fungicide used in agriculture. It is classed as a diarylamine and more specifically an arylaminopyridine. Its chemical name is -3chloro-N-(-3chloro-2,6-dinitro-4-trifluoromethylphenyl)-5-trifluoromethyl-2-pyridinamine.

The mode of action involves the compound being an extremely potent uncoupler of oxidative phosphorylation in mitochondria and also having high reactivity with thiols. It is unique amongst uncouplers in displaying broad-spectrum activity against fungi and also very low toxicity to mammals due to it being rapidly metabolised to a compound without uncoupling activity. It was first described in 1992 and was developed by researchers at the Japanese company Ishihara Sangyo Kaisha

USAGES:

Fluazinam is a protectant fungicide, but is neither systemic or curative. It acts by inhibiting the germination of spores and the development of infection structures. Although it has activity against many fungi, it is less potent against rusts and powdery mildew and as such has not been commercialised for use in cereal crops. It is widely used to control late blight (P. infestans) in potato due to its activity against the zoospores of the pathogen which makes it particularly effective at controlling infection of the potato tubers. Fluazinam is also used to control Sclerotinia on peanuts and turf, Botrytis on grapes and beans and clubroot in brassicas

Used as : Agrochemicals -> Pesticides Acaricides, Fungicides

Used in the US as a fungicide for peanuts and potatoe

SAFETY EQUIPMENT:



















MANCO 75 WG

ACTIVE INGREDIENTS:

MANCOZEB 750 g/kg

INTRODUCTION: FRAC GROUP M3 FUNGICIDES (multi-site contact activity)

- Mancozeb is a dithiocarbamate non-systemic agricultural fungicide with multi-site, protective action on contact. It is a combination of two other dithiocarbamates: maneb and zineb. The mixture controls many fungal diseases in a wide range of field crops, fruits, nuts, vegetables, and ornamentals.
- Mechanism: Mancozeb reacts with, and inactivates, the sulfhydryl groups of amino acids and enzymes within fungal cells, resulting in disruption of lipid metabolism, respiration, and production of adenosine triphosphate.[3]

Mancozeb is listed under FRAC code M:03 The «M:» refers to Chemicals with Multi-Site Activity. «M:» FRAC groups are defined as generally considered as a low risk group without any signs of resistance developing to the fungicides

USAGES:

Mancozeb is a broad-spectrum contact fungicide which is labeled for use on many fruit, vegetable, nut, and field crops in Minnesota. It provides protection against a wide spectrum of fungal diseases, including potato blight, leaf spot, scab, and rust.

RECOMMENDATIONS FOR USE:

Target crops

Wheat, Tomatoes, Potatoes, Cotton, Carrots, Vegetables, Fruits, Nuts, Ornamental plant

Target Pest

Late blight, Early blight, Mildew, Downy mildew, Rust, Apple scab

Rate of use

1-0.5kg/Ha

FUNGICIDES

SAFETY EQUIPMENT:



















BURNABY 40 EC

ACTIVE INGREDIENTS:

PROCHLORAZ 400 g/l

INTRODUCTION:

FRAC GROUP 3 FUNGICIDES (multi-site contact activity)

Prochloraz, is an imidazole fungicide that was introduced in 1978 and is widely used in Europe, Australia, Asia, and South America within gardening and agriculture to control the growth of fungi. It is not registered for use in the United States. Similarly to other azole fungicides, prochloraz is an inhibitor of the enzyme lanosterol 14a-demethylase (CYP51A1), which is necessary for the production of ergosterol – an essential component of the fungal cell membrane – from lanosterol. It is an aromatic ether, a trichlorobenzene, a member of ureas, a member of imidazoles, an amide fungicide, a conazole fungicide and an imidazole fungicide

USAGES:

The agent is a broad-spectrum, protective and curative fungicide, effective against Alternaria spp., Botrytis spp., Erysiphe spp., Helminthosporium spp., Fusarium spp., It is used to control foliar diseases of cereals(Pseudocerosporella spp., Pyrenophora spp., Rhynchosporium spp., and Septoria spp).

Like many imidazole and triazole fungicides and antifungal medications, prochloraz is not particularly selective in its actions. Prochloraz is a non-systemic imidazole fungicide, an ergosterol biosynthesis inhibitor with contact and translaminar, protectant and eradicant activity. It is used in agriculture and horticulture against various plant diseases, especially Ascomycetes and Fungi Imperfecti. field crops (such as Alternaria, Botrytis, Pyrenopeziza and Sclerotinia in oilseed rape, Ascochyta and Botrytis in legumes, Pyricularia in rice), fruit (blossom blight) and vegetables (anthracnose).

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Target Pest

Rate of use

Barley, Wheat, Rve, Fruit, Turf, Vegetables

Leaf blotch, Leaf spot, Powdery milde

1.25-0.61/Ha

SAFETY EQUIPMENT:



















FUNGICIDES

CAMPBELL 25 EC

ACTIVE INGREDIENTS:

PROPICONAZOLE 250 g/l

INTRODUCTION: FRAC GROUP 3 FUNGICIDES

CAMPBELL 25 EC is a systemic fungicide with protective, curative and eradicant action. It is absorbed by the roots and leaves, with ready translocation acropetally in the xylem tissues. It is an ergosterol biosynthesis inhibitor.

USAGES: - Used to control a wide range of systemic fungal pathogens of soft fruits, stone fruits, vegetables, cereals, coffee, bananas, peanuts, pineapples and sugar cane. Crops grown in high rainfall or coastal areas with high humidity are more likely to be affected than crops in other situations. Apply at the first signs of disease or as a protectant treatment in high risk situations. Where an early application has been made, a second application may be necessary if the disease begins to spread again.

- Stone Fruits: Applications should be made at the first signs of disease, or as a two-spray protectant programme. Applications to established infections of disease are less effective.
- Vegetables Powdery Mildew: Apply when the mildew is first seen in the crop. One follow-up application may be made if necessary 14 days later. Good coverage is necessary for best results.
- Cereals Propiconazole 25 EC can be applied to crops of wheat, barley, oats or rye. Applications should be made at the first signs of disease, or as a two-spray protectant programme. Applications to established infections of disease are less effective. The last permitted timing for application is before the kernel is milky ripe.
- For Powdery Mildew, Crown rust: Sprays should be applied at first signs of disease. Applications to established mildew. particularly on highly susceptible cultivars and crops under stress, are less effective and regular crop inspections are advised. Continued use of fungicides from the same group can result in reduced effectiveness against mildew, therefore a combination of products from separate groups offers the best chance of reducing this risk. Applications made to control mildew will also reduce crown rust infection.
- For Yellow Rust: Sprays should be applied at first signs of disease, usually from stem extension until before boots swollen. Applications made once the disease is established are unlikely to give optimum results. If infection pressure remains high, a second application will be necessary 4.3 weeks later or as soon as reinfection occurs, before the kernel is milky ripe.
- For Brown Rust: Sprays should be applied at first signs of disease, usually between flag leaf emergence and the kernel becoming milky ripe. Applications made once the disease is established are unlikely to give optimum results. Propiconazole 25 EC will prevent further infection for 3 - 2 weeks, but will not control latent infections. Brown rust appears late in the season developing rapidly in warm, humid conditions and one application is normally sufficient to allow the crop to mature
- Continued use of fungicides from the same group in cereals may lead to reduced effectiveness against mildew.
- All Other Crops: Applications should be made at the first signs of disease, or as a two-spray protectant programme. Applications to established infections of disease are less effective.







SAFETY EOUIPMENT:











Packing: | 1 Liter |



CASTLE 20 EC

ACTIVE INGREDIENTS:

FLUSILAZOLE 20% (W/V)

INTRODUCTION:

FRAC GROUP 3 FUNGICIDES (C14-Demethylation in sterol biosynthesis

- Flusilazole is a systemic fungicide with protective and curative action. It is an ergosterol biosynthesis inhibitor. Its resistance to 'wash-off', redistribution by rainfall and vapour phase activity are important components in its biological activity

USAGES:

- Broad spectrum, systemic, preventive and curative fungicide effective against many fungal pathogens (in the groups Ascomycetes, Basidiomycetes and Deuteromycetes). Flusilazole is recommended for use on many crops, such as: Apples (control of Venturia, Podosphaera), Peaches (control of Sphaerotheca, Monilia), Cereals (control of most foliar diseases), Vines (control of Uncinula, Guinardia), Sugar beet (control of Cercospora, Erysiphe), Maize (control of Helminthosporium), Sunflowers (control of Phomopsis), Oilseed rape (control of Pseudocercosporella, Pyrenopeziza) and Bananas (control of Mycosphaerella).

Use Guidelines and Restrictions:

Mixing:

Flusilazole mixes readily in water. Half fill the spray tank with water, add the required amount of Flusilazole and then complete filling. Agitation must be maintained during filling, spraying and any stoppages. Spray immediately after mixing.

Spray Quality:

Apply as a medium quality spray. Sprayer should be thoroughly cleaned before use, with no blockages.

- Rate of Use and Maximum Number of Applications per growing season:

:0.3 - 1.0 litres per hectare - Dosage range - Maximum No. of Applications

: 2-3 depending on crop

SAFETY EQUIPMENT:



















CHILLIWACK 25 EW

ACTIVE INGREDIENTS:

TEBUCONAZOLE 250 g/l

INTRODUCTION:

- FRAC GROUP 3 FUNGICIDES
- Tebuconazole is a triazole fungicide used agriculturally to treat plant pathogenic fungi.
- 1-(4-chlorophenyl)-4,4-dimethyl-3-(1H-1,2,4-triazol-1-vlmethyl)pentan-3-ol is a tertiary alcohol that is pentan-3-ol substituted by a 4-chlorophenyl, methyl, methyl, and a 1H-1.2.4-triazol-1-ylmethyl at positions 1, 4, 4 and 3 respectively. It is a member of monochlorobenzenes, a member of triazoles and a tertiary alcohol.
- Tebuconazole 25% EW is a demethylation-inhibiting (DMI) systemic fungicide with preventive and curative action. It is absorbed by the leaves, with acropetal and strong translaminar translocation. Demethylation-inhibitors target the demethylation process at C-14a of methylebedihydrolanosterol, thus preventing cell membrane ergosterol biosynthesis in target fungi and inhibiting their growth and development.
- Tebuconazole 25% EW provides long-lasting preventive and curative activity against Ascomycetes. Basidiomycetes and Deuteromycetes, including Alternaria, Ascochyta, Cercospora, Cercosporidium, Colletotrichum, Guignardia, Mycosphaerella, Phoma, Ramularia, Rhizoctonia, Septoria, Erysiphe and Venturia spp., Erysiphaceae, Uredinales and several seed-borne pathogens.

USAGES:

Used fungicide for seed treatment or foliar spray on cereal, peanuts, oilseed rape, grapes, pome fruit, stone fruit, and bananas; Used in wood preservatives;

Effective seed treatment against bunts, smuts, and Septoria species on cereals. As a foliar spray, it acts against rust, powdery mildew, and leaf and head diseases

Tebuconazole 25% EW is a systemic fungicide with a novel broad-range activity, protecting yield and crop quality by foliar application or seed treatment. It can be used against disease complexes in grapes, pome fruit, stone fruit, potatoes, sugar beet, oilseed rape, bananas, cereals, rice, soya beans, ornamentals and various vegetable crops. Fungicide; For use on, pome fruit, and Sigatoka.









FUNGICIDES

SAFETY EQUIPMENT:













DAWSON 37.5 SC

ACTIVE INGREDIENTS:

TRIADIMENOL 375 g/I

INTRODUCTION:

Triadimenol is a member of the class of triazoles that is 3,3-dimethyl-1-(1,2,4-triazol-1-yl)butane-1,2-diol substituted at position O1 by a 4-chlorophenyl group. A fungicide for cereals, beet and brassicas used to control a range of diseases including powdery mildew, rusts, bunts and smuts. It has a role as an EC 1.14.13.70 (sterol 14alpha-demethylase) inhibitor, a xenobiotic metabolite and an antifungal agrochemical. It is an aromatic ether, a member of monochlorobenzenes, a conazole fungicide, a triazole fungicide, a secondary alcohol and a hemiaminal ether.

Triadimenol is a natural product found in Brassica napus with data available.

Triadimenol is a fungicide for cereals, beet and brassicas used to control a range of diseases including powdery mildew, rusts, bunts and smuts.

Its mode of action is selective with curative, protective and eradicant action. It disrupts membrane function USAGES:

- Used as an agricultural fungicide and seed protectant: [Merck Index] The major metabolite of the triazole fungicide triadimefon; A broad spectrum systemic fungicide used as seed treatment for barley, corn, cotton, oats, rye, sorghum, and wheat: An import tolerance is also set for bananas: Used as fungicide for table and wine grapes, cereals, and cereal seed treatment in the EUBaytan: Seed treatment to control smut and bunt of wheat, loose and covered smut and Typhula blight of barley, powdery mildew, rust, leaf spot and take-all and root and foot rot of wheat and barley: head smut of corn and grain sorghum. Bayfidan: Foliar treatments to control powdery mildew, rust, and Rhynchosporium in cereal. On cotton for protection against Rhizoctonia and Thielaviopsis. Also used on vegetables, ornamentals, coffee, deciduous fruit, grapes, tobacco, bananas, and other crops. Shavit: Seed treatment to control smut, ergot, snow mold, spot blotch, bunt, and Rhynchosporium in cereal: head smut of corn and sorghum: foliar treatment to control rust; powdery mildew in deciduous fruit, grapes, mango, ornamentals and vegetables

Target crops

Fruits, Vegetables, Sugar cane, Grapes, Cucumbers, Coffee, Tobacco, Ornamental plant

Target Pest

Butt rot, Powdery mildew, Crown rust, Brown rust, Leaf blotch

Rate of use

400-150 ml/Ha

SAFETY EQUIPMENT:



















FUNGICIDES

JASPER 25 EC

ACTIVE INGREDIENTS:

DIFENOCONAZOLE 250 g/l

INTRODUCTION: FRAC GROUP 3 FUNGICIDES

- Difenoconazole 25% EC is a demethylation-inhibiting (DMI) systemic fungicide with preventive and curative action. It is absorbed by the leaves, with acropetal and strong translaminar translocation. Demethylation-inhibitors target the demethylation process at C-14a of methylebedihydrolanosterol, thus preventing cell membrane ergosterol biosynthesis in target fungi and inhibiting their growth and development.
- Difenoconazole 25% EC provides long-lasting preventive and curative activity against Ascomycetes, Basidiomycetes and Deuteromycetes, including Alternaria, Ascochyta, Cercospora, Cercosporidium, Colletotrichum, Guignardia, Mycosphaerella, Phoma, Ramularia, Rhizoctonia, Septoria, Erysiphe and Venturia spp., Erysiphaceae, Uredinales and several seed-borne pathogens.

USAGES: Difenoconazole 25% EC is a systemic fungicide with a novel broad-range activity, protecting yield and crop quality by foliar application or seed treatment. It can be used against disease complexes in grapes, pome fruit, stone fruit, potatoes, sugar beet, oilseed rape, bananas, cereals, rice, sova beans, ornamentals and various vegetable crops,

Guidelines & restrictions: To combat the occurrence of resistant strains, tank mixing with a non-DMI fungicide (e.g. mancozeb, chlorothalonil, etc.) or alternate treatment with a non-DMI fungicide is highly recommended.

Apply a suitable broad-spectrum fungicide before and after the Difenoconazole 25% EC spray programme.

Do not apply during periods of crop stress such as drought, frost or nutrient stress.

Use as a preventative spray, unless otherwise stated.

- Apply as a medium or high volume quality spray. Sprayer should be thoroughly cleaned before use, with no blockages Mixing: Half-fill the spray tank with water, then add the required amount of product. Begin agitation and add the rest of the water to the tank, Agitation should continue at all times during application (including any stoppages), until the tank is completely empty. Mix only with clean water. Prepare a fresh mixture when needed. Do not store diluted fungicide. Always use a fresh solution when required. Phytotoxicity: In wheat, early foliar applications at growth stages 29-42 might cause, in certain circumstances, chlorotic spotting of leaves, but this has no effect on yield.







SAFETY EQUIPMENT:











Packing: | 1 Liter |



ROCK 5 SC

ACTIVE INGREDIENTS:

HEXACONAZOLE 5% (W/V)

INTRODUCTION:

- FRAC GROUP 3 FUNGICIDES (C14-Demethylation in sterol biosynthesis)
- Hexaconazole is a broad-spectrum systemic triazole fungicide used for the control of many fungi particularly ascomycetes and basidiomycetes. Major consumption is in Asian countries and it is used mainly for the control of rice sheath blight in China, India, Vietnam, and parts of East Asia. It is also used for control of diseases in various fruits and vegetables
- Hexaconazole is a systemic fungicide with protective and curative action. It is an ergosterol biosynthesis inhibitor. Hexaconazole can be used for the control of many fungi, particularly Ascomycetes and Basidiomycetes, eg Podosphaera leucotricha and Venturia inequalis on top fruit crops, Guignardia bidwellii and Uncinula nectator on vines, Hemileia vastatrix on coffee, and Cercospora spp. on peanuts. Heaxaconazole can also be used on many other crops including bananas, cucurbits and peppers. It can also be used on many horticultural crops and ornamentals, and as a seed treatment on cereal crops.

USAGES:

Top fruit crops, vines, bananas, coffee, peanuts, vegetables, and ornamentals for control of a variety of fungal diseases. Also for cereal seed treatment use.

Use Guidelines and Restrictions:

Mixing:

Hexaconazole mixes readily in water. Half fill the spray tank with water, add the required amount of Hexaconazole and then complete filling. Agitation must be maintained during filling, spraying and any stoppages. Spray immediately after mixing.

Spray Quality:

Apply as a medium quality spray. Sprayer should be thoroughly cleaned before use, with no blockages.

SAFETY EQUIPMENT:



















| FUNGICIDES |

TAPAS 10 EC

ACTIVE INGREDIENTS:

PENCONAZOLE 100 g/l

INTRODUCTION:

- FRAC GROUP 3 FUNGICIDES (C14-Demethylation in sterol biosynthesis)

1-[2-(2,4-dichlorophenyl)pentyl]1,2,4-triazole is a member of the classof triazoles that is 1,2,4-triazole substituted at position 1 by a

2-(2,4-dichlorophenyl)pentyl group. It is a dichlorobenzene and a member of triazoles

systemic fungicide with preventive and curative action. It is absorbed by the leaves, with acropetal and strong translaminar translocation.

USAGES:

Agrochemicals -> Pesticides : Fungicides

Penconazole is a typical triazole fungicide, and mainly applied on apples, grapes, and vegetables to control powdery mildew. Penconazole inhibits sterol biosynthesis in fungi.

Target crops

Vegetable, Fruits, Grapes, Apples, Ornamental plant

Target Pest

Powdery mildew, Leaf spot, Downy mildew, Apple scab, Black rot

Rate of use

750-300 mL/Ha

SAFETY EQUIPMENT:



















FAIR SC

ACTIVE INGREDIENTS:

Azoxystrobin 200 g/l +Difenoconazole 125 g/l

INTRODUCTION: Azoxystrobin FRAC GROUP 11 FUNGICIDES MOA C. respiration

TARGET SITE AND CODE C3 - complex III: cytochrome bc1 (ubiquinol oxidase) at Qo site (cyt b gene)

GROUP NAME Qol-fungicides (Quinone outside Inhibitors) methoxy-acrylates

USAGES:

- Azoxystrobin and other strobilurins inhibit mitochondrial respiration by blocking electron transport. They bind at the quinol outer binding site of the cytochrome b-c1 complex, where ubiquinone (coenzyme Q10) would noarmally biAnd when carrying electrons to that protein. Thus production of ATP is prevented. The generic name for this mode of action is "Quinone Outside Inhibitors" Qol
- Azoxystrobin is a xylem-mobile systemic fungicide with translaminar, protectant and curative properties. In cereal crops, its main outlet, the length of disease control is generally about four to six weeks during the period of active stem elongation Responsible for software design specifications and development applications.
- Azoxystrobin possesses a broad spectrum of activity, in common with other QoI inhibitors. Examples of the fungal groups on which it is effective are Ascomycota, Deuteromycota, and Basidiomycota, as well as the oomycetes. In addition, its properties mean that it can move systemically through plant tissue to protect parts of the crop that were not in contact with the spray. This combination of properties has meant that it achieved widespread use very quickly. Important diseases which it controls include leaf spot, rusts, powdery mildew, downy mildew, net blotch and blight. Worldwide, azoxystrobin is registered for use on all
- important crops. For example, in the European Union and United States, it is registered for use in wheat, barley, oats, rye, soya, cotton, rice, strawberry, peas, beans, onions and many other vegetables
- Although highly effective, fungicide chemistries like those in FRAC group 11, with a very specific MOA, are susceptible to fungicide resistance development by some fungi. Why is that? In the strobilurin's, a single nucleotide polymorphism of the cytochrome b gene leads to an amino acid substitution of glycine with alanine at position 143 of the cytochrome b protein.

SAFETY EQUIPMENT:











Packing: | 1 Liter |













MANITOBA 2.5 EC

ACTIVE INGREDIENTS:

CARBOSULFAN 2.5 %(W/V)

INTRODUCTION: INSECTICIDE (IRAC CROUP 1A Carbamates): 1Acetylcholinesterase (AChE) inhibitors Nerve action {Strong evidence that action at this protein is responsible for insecticidal effects}

Carbosulfan is a member of 1-benzofurans and a carbamate ester.

It has a role as an EC 3.1.1.7 (acetylcholinesterase) inhibitor, a carbamate insecticide, an acaricide, an agrochemical and a nematicide. Carbosulfan is a synthetic 1-benzofuran compound and carbamate acetylcholinesterase inhibitor and skin sensitizer that is used as a pesticide. It is characterized as a toxic and nonpersistent orange-yellow or brown viscous liquid, and exposure occurs by inhalation, ingestion, or contact

- Carbosulfan is an organic compound adherent to the carbamate class. At normal conditions, it is brown viscous liquid. It is not very stable; it decomposes slowly at room temperature. Its solubility in water is low but it is miscible with xylene, hexane, chloroform, dichloromethane, methanol and acetone. Carbosulfan is used as an insecticide

USAGES:

Used as an insecticide; Approved in the EU for use on maize, sugarbeet, cotton, and citrus;

- Carbosulfan is widely used as an insecticide or pesticide in homes, gardens and agricultural applications. It is a synthetic compound.
- Carbosulfan is a systemic insecticide with contact and stomach action. Carbosulfan Useage Carbosulfan is used for controlling of a wide range of soil-dwelling and foliar insect pests.
- -Carbosulfan is a broad-spectrum carbamate pesticide used tocontrol insects, mites and nematodes by soil, foliar and seed treatment applications, mainly on potatoes, sugar Beet, Maize, Rice, Cotton seed

INSECTICIDES

SAFETY EQUIPMENT:



















FIDEX 44 EC

ACTIVE INGREDIENTS:

CYPERMETHRIN 4% (W/V)+ PROFENOFOS 40% (W/V)

INTRODUCTION:

Cypermethrin is a non-systemic insecticide which works via a contact and stomach mode of action; but also exhibits an anti-feeding action. It is used in agriculture to give effective control of a wide range of insect pests.

Profenofos is a broad spectrum agricultural insecticide with particular activity against Lepidoptera, Diptera, Orthoptera, Hemiptera and Coleoptera i.e. biting, sucking, and boring insect pests. It has a non-systemic, contact and stomach-acting mode of action; and its toxicity to insect pests is expressed via its inhibition of cholinesterase enzymes.

USAGES:

- FIDEX 44 EC is used to control a wide range of insect pests including lepidoptera, diptera, coleoptera, hemiptera, homoptera, etc; on fruit, vines, vegetables, potatoes, cucurbits, lettuce, peppers, tomatoes, cereals, rice, sugarcane, maize, soya beans, cotton, coffee, oilseed rape, beets, and ornamentals.
- Directions for Use:
- Dilute the product with clean water; using 0.5-1.0 litres of FIDEX 44 EC with 200 litres of water.
- Always prepare a fresh dilution every time required.
- The product is suitable for application with all types of surface spraying equipment.

SAFETY EQUIPMENT:



















SUMTHION 55 EC

ACTIVE INGREDIENTS:

CYPERMETHRIN 5% (W/V)+ FENITROTHION 50% (W/V)

INTRODUCTION: Cypermethrin is a non-systemic insecticide which works via a contact and stomach mode of action; but also exhibits an anti-feeding action. It is used in agriculture to give effective control of a wide range of insect pests.

Fenitrothion is a broad spectrum agricultural insecticide with particular activity against Lepidoptera, Diptera, Orthoptera, Hemiptera and Coleoptera i.e. biting, sucking, and boring insect pests. It has a non-systemic, contact and stomach-acting mode of action; and its toxicity to insect pests is expressed via its inhibition of cholinesterase enzymes.

USAGES:

- Sumthion 55 EC is used to control a wide range of insect pests including lepidoptera, diptera, coleoptera, hemiptera, homoptera, etc; on soft fruits, vines, vegetables, potatoes, cucurbits, lettuce, peppers, tomatoes, cereals, rice, sugarcane, maize, soya beans, cotton, coffee, oilseed rape, beets, and ornamentals.
- Directions for Use:
- Dilute the product with clean water; using 0.5-1.0 litres of SUMTHION 550 EC with 200 litres of water.
- Always prepare a fresh dilution every time required.
- The product is suitable for application with all types of surface spraying equipment.

INSECTICIDES

SAFETY EQUIPMENT:



















VERNON 20 SL

ACTIVE INGREDIENTS:

IMIDACLOPRID 20 %(W/V)

INTRODUCTION:

Imidacloprid works differently to other insecticides presently being marketed (i.e. carbamates, organophosphates and pyrethroids). The mode of action is based on interference of the transmission of impulses in the nerve system of insects. Similar to the naturally occurring signal-transmitting acetylcholine, imidacloprid stimulates certain nerve cells by acting on a receptor protein. In contrast to acetylcholine, which is quickly degraded by the enzyme acetylcholine-esterase, imidacloprid is inactivated either very slowly or not at all. It has both contact and ingestion activity. The target pest's feeding activity ceases within minutes to hours, and death occurs usually within 24 - 48 hours but can take up to 7 days depending on the mode of application. As to its performance: good reliable control, high selectivity, quick knock-down/protection and long residual activity are key features.

USAGES:

Imidacloprid can be used to control aphids, leafhoppers, plant bugs, lacebugs, mealybugs, scales, silverleaf (sweetpotato) whitefly and other whiteflys and thrips., Colorado potato beetles on potato crops, borers and bark beetles, galls, leaf beetles (Japanese beetles), and others beetles (including weevils). Imidacloprid can be used to control pests on tomatoes, grapes, apples, home lawn and ornamental products and to control termites.

SAFETY EQUIPMENT:



















VERNON 20.1 SC

ACTIVE INGREDIENTS:

IMIDACLOPRID 201 g/l

INTRODUCTION:

Imidacloprid works differently to other insecticides presently being marketed (i.e. carbamates, organophosphates and pyrethroids). The mode of action is based on interference of the transmission of impulses in the nerve system of insects. Similar to the naturally occurring signal-transmitting acetylcholine, imidacloprid stimulates certain nerve cells by acting on a receptor protein. In contrast to acetylcholine, which is quickly degraded by the enzyme acetylcholine-esterase, imidacloprid is inactivated either very slowly or not at all. It has both contact and ingestion activity. The target pest's feeding activity ceases within minutes to hours, and death occurs usually within 24 - 48 hours but can take up to 7 days depending on the mode of application. As to its performance: good reliable control, high selectivity, quick knock-down/protection and long residual activity are key features.

USAGES:

Imidacloprid can be used to control aphids, leafhoppers, plant bugs ,lacebugs, mealybugs, scales, silverleaf (sweetpotato) whitefly and other whiteflys and thrips., Colorado potato beetles on potato crops, borers and bark beetles, galls, leaf beetles (Japanese beetles), and others beetles (including weevils).

Imidacloprid can be used to control pests on tomatoes, grapes, apples, home lawn and ornamental products and to control termites.

INSECTICIDES

SAFETY EQUIPMENT:



















VERNON 70 WP

ACTIVE INGREDIENTS:

IMIDACLOPRID 700 g/kg

INTRODUCTION:

Imidacloprid works differently to other insecticides presently being marketed (i.e. carbamates, organophosphates and pyrethroids). The mode of action is based on interference of the transmission of impulses in the nerve system of insects. Similar to the naturally occurring signal-transmitting acetylcholine, imidacloprid stimulates certain nerve cells by acting on a receptor protein. In contrast to acetylcholine, which is quickly degraded by the enzyme acetylcholine-esterase, imidacloprid is inactivated either very slowly or not at all. It has both contact and ingestion activity. The target pest's feeding activity ceases within minutes to hours, and death occurs usually within 24 - 48 hours but can take up to 7 days depending on the mode of application. As to its performance: good reliable control, high selectivity, quick knock-down/protection and long residual activity are key features.

USAGES:

Imidacloprid can be used to control aphids, leafhoppers, plant bugs ,lacebugs, mealybugs, scales, silverleaf (sweetpotato) whitefly and other whiteflys and thrips., Colorado potato beetles on potato crops, borers and bark beetles, galls, leaf beetles (Japanese beetles), and others beetles (including weevils).

Imidacloprid can be used to control pests on tomatoes, grapes, apples, home lawn and ornamental products and to control termites.

SAFETY EQUIPMENT:



















TRAIL 40 EC

ACTIVE INGREDIENTS:

CHLORPYRIFOS 40 g/l

INTRODUCTION: INSECTICIDE (IRAC CROUP 1B Organophosphates): 1Acetylcholinesterase (AChE) inhibitors Nerve action {Strong evidence that action at this protein is responsible for insecticidal effects}

- TRAIL 40 EC is used to control most agricultural pests including Coleoptera, Diptera, Homoptera and Lepidoptera in soil or on foliage in over 100 crops, including pome fruit, stone fruit, citrus fruit, nut crops, strawberries, figs, bananas, vines, vegetables, potatoes, beet, tobacco, soya beans, sunflowers, sweet potatoes, peanuts, rice, cotton, alfalfa, cereals, maize, sorghum, asparagus, glasshouse and outdoor ornamentals, turf, and in forestry. It is widely used to control soil termifos and other pests.

USAGES: Insecticide: Used for control of Coleoptera, Diptera, Homoptera and Lepidoptera in soil or on foliage in over 100 crops, including pome fruit, stone fruit, citrus fruit, nut crops, strawberries, figs, bananas, vines, vegetables, potatoes, beet, tobacco, soya beans, sunflowers, sweet potatoes, peanuts, rice, cotton, alfalfa, cereals, maize, sorghum, asparagus, glasshouse and outdoor ornamentals, turf, and in forestry. Also used for control of household pests, mosquitoes (larvae and adults) and in animal houses

- ... Broad-spectrum organophosphate insecticide with wide spread use on food commodities, turf, and ornamental plants. ... commonly used indoors to control structural pests, In general, dilute one litre of TRAIL 40 EC with 250 litre of water and apply using MOB Sprayer. This product should be diluted only with clean water. Always add concentrate to the water and stir. Prepare a fresh solution when required. Do not store diluted insecticide.
- Used as broad spectrum insecticide for fruit and cereals
- is a synthetic organic thiophosphate compound and organophosphate acetylcholinesterase inhibitor that is used as a pesticide. It is characterized as a yellow-brown oily liquid, and exposure occurs by inhalation, ingestion, or contact
- For aphids, beetles, borers, bugs, foliar-feeding larvae, fruit flies, leafhoppers, leafminers, nematodes, scales, soil insects, thrips, mites and whiteflies in fruits, vegetables, and ornamentals .







INSECTICIDES

SAFETY EQUIPMENT:













TRAIL 48 EC

ACTIVE INGREDIENTS:

CHLORPYRIFOS 480 g/l

INTRODUCTION: - INSECTICIDE (IRAC CROUP 1B Organophosphates): 1Acetylcholinesterase (AChE) inhibitors Nerve action {Strong evidence that action at this protein is responsible for insecticidal effects}

- TRAIL 48 EC is used to control most agricultural pests including Coleoptera, Diptera, Homoptera and Lepidoptera in soil or on foliage in over 100 crops, including pome fruit, stone fruit, citrus fruit, nut crops, strawberries, figs, bananas, vines, vegetables, potatoes, beet, tobacco, soya beans, sunflowers, sweet potatoes, peanuts, rice, cotton, alfalfa, cereals, maize, sorghum, asparagus, glasshouse and outdoor ornamentals, turf, and in forestry. It is widely used to control soil termifos and other pests.
- Chlorpyrifos is an insecticide. It does not mix well with water, so it is usually mixed with oily liquids before it is applied to crops or animals. It may also be applied to crops in a capsule form. Chlorpyrifos has been widely used in homes and on farms. In the home, it is used to control cockroaches, fleas, and termites; it is also used in some pet flea and tick collars. On the farm, it is used to control ticks on cattle and as a spray to control crop pests.
- Chlorpyrifos is an organic thiophosphate that is 0,0-diethyl hydrogen phosphorothioate in which the hydrogen of the hydroxy group has been replaced by a 3,5,6-trichloropyridin-2-yl group. It has a role as an EC 3.1.1.7 (acetylcholinesterase) inhibitor, an agrochemical, an EC 3.1.1.8 (cholinesterase) inhibitor, an environmental contaminant, a xenobiotic, an acaricide and an insecticide. It is an organic thiophosphate and a chloropyridine.

USAGES: Insecticide; Used for control of Coleoptera, Diptera, Homoptera and Lepidoptera in soil or on foliage in over 100 crops, including pome fruit, stone fruit, citrus fruit, nut crops, strawberries, figs, bananas, vines, vegetables, potatoes, beet, tobacco, soya beans, sunflowers, sweet potatoes, peanuts, rice, cotton, alfalfa, cereals, maize, sorghum, asparagus, glasshouse and outdoor ornamentals, turf, and in forestry. Also used for control of household pests, mosquitoes (larvae and adults) and in animal houses

... Broad-spectrum organophosphate insecticide with wide spread use on food commodities, turf, and ornamental plants. ... commonly







SAFETY EQUIPMENT:













PRINCE 10 SC

ACTIVE INGREDIENTS:

ALPHA-CYPERMETHRIN 10 %(W/V)

INTRODUCTION:

- INSECTICIDE (PYRETHROID: IRAC CROUP 3A) (1R)-cis-(alphaS)-cypermethrin is a cyclopropanecarboxylate ester. It is an enantiomer of a (1S)-cis-(alphaR)-cypermethrin.

Sodium channel Modulators Nerve action (Strong evidence that +action at this protein is responsible for insecticidal effects)

- Alpha-cypermethrin is a non-systemic insecticide which works via a contact and stomach mode of action; but also exhibits an anti-feeding action. It is used in agriculture to give effective control of a wide range of insect pests.
- A pyrethroid is a synthetic chemical compound similar to the natural chemical pyrethrins produced by the flowers of pyrethrums (Chrysanthemum cinerariaefolium and C. coccineum)
- Alpha-Cypermethrin is used as an insecticide. It acts as a fast-acting neurotoxin in insects. It is easily degraded on soil and plants but can be effective for weeks when applied to indoor inert surfaces. Exposure to sunlight, water and oxygen will accelerate its decomposition.

USAGES:

- A highly active pyrethroid insecticide: Used to control a wide range of chewing and sucking insects in fruits, vegetables, vines, cereals, maize, cotton, rice, other crops, and forestry: Also used as insecticide for public health pests and animal ectoparasiticide
- Control of a wide range of chewing and sucking insects (particularly Lepidotera, Coleoptera, and Hemiptera) in fruit (including citrus), vegetables, vines, cereals, maize, beet, oilseed rape, potatoes, cotton, rice, soya beans, forestry, and other crops. Control of cockroaches, mosquitoes, flies, and other insect pests in public health: and flies in animal houses. Also used as an animal ectoparasiticide. Componentof cypermethrin.

INSECTICIDES

SAFETY EQUIPMENT:



















QUESNEL 2.5 EC

ACTIVE INGREDIENTS:

DELTAMETHRIN 25 g/l

INTRODUCTION: INSECTICIDE (IRAC CROUP 3A)

Sodium channel Modulators Nerve action (Strong evidence that +action at this protein is responsible for insecticidal effects)

- Deltamethrin is a pyrethroid (type 2) ester insecticide. This material is a member of one of the safest classes of pesticides: synthetic pyrethroids. While mammalian exposure to deltamethrin is classified as safe, this pesticide is highly toxic to aquatic life, particularly fish, and therefore must be used with extreme caution around water. A pyrethroid is a synthetic chemical compound similar to the natural chemical pyrethrins produced by the flowers of pyrethrums (Chrysanthemum cinerariaefolium and C. coccineum). Pyrethroids are common in commercial products such as household insecticides and insect repellents. In the concentrations used in such products, they are generally harmless to human beings but can harm sensitive individuals. They are usually broken apart by sunlight and the atmosphere in one or two days, and do not significantly affect groundwater quality except for being toxic to fish. Since deltamethrin is a neurotoxin, it temporarily attacks (in medical terms, insults) the nervous system of any animal with which it comes into contact. Skin contact can lead to tingling or reddening of the skin local to the application. If taken in through the eyes or mouth, a common symptom is facial paraesthesia, which can feel like many different abnormal sensations, including burning, partial numbness, pins and needles, skin crawling, etc.

USAGES: Pyrethroids are used as insecticides

- A highly active pyrethroid insecticide: Used to control a wide range of chewing and sucking insects in fruits, vegetables, vines, cereals, maize, cotton, rice, other crops, and forestry; Also used as insecticide for public health pests and animal ectoparasiticide
- It is used mostly for crop protection (85% of total production), of which 45% is used on cotton, 25% on fruit and vegetable crops, 20% on cereals, maize and soya beans and the remaining 10% on miscellaneous crops such as coffee, maize and hops. It is also used in public health program (against Chagas' disease and malaria) and to protect stored crops, primarily cereal grains, coffee beans and dry beans. It can be used in animal facilities.

SAFETY EQUIPMENT:



















REVELSTOKE 50 EC

ACTIVE INGREDIENTS:

PERMETHRIN 500 g/l

INTRODUCTION:

(PYRETHROID :IRAC GROUP3) is a non-systemic insecticide which works via a contact and stomach mode of action; but also exhibits an anti-feeding action.

Permethrin is a pale brown liquid. Relatively water insoluble. Used as an insecticide.

Permethrin is a cyclopropanecarboxylate ester in which the esterifying alcohol is 3-phenoxybenzyl alcohol and the cyclopropane ring is substituted with a 2,2-dichlorovinyl group and with gem-dimethyl groups. It has a role as a pyrethroid ester insecticide, a pyrethroid ester acaricide, an agrochemical, an ectoparasiticide and a scabicide. It is a member of cyclopropanes and a cyclopropanecarboxylate ester. It is functionally related to a 3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylic acid.

A pyrethroid insecticide commonly used in the treatment of lice infestations and scabies. It is a yellow to light orange-brown, low melt-ing solid or viscous liquid.

USAGES:

- Used as an ectoparasiticide in humans and animals; Used as a nematocide, acaricide, and insecticide;
- Insecticide, seed treatment/protectant
- It has a potential application for forest protection and vector control for the control of noxious insects in the household and on cattle, for the control of body lice, and in mosquito nets
- For the treatment of infestation with <i>Sarcoptes scabiei</i> (scabies). Pyrethroids are used as insecticides

INSECTICIDES

SAFETY EQUIPMENT:



















ROSSLAND 10 CS

ACTIVE INGREDIENTS:

LAMBDA-CYHALOTHRIN 10 %(W/V)

INTRODUCTION: - Rossland 10 CS (PYRETHROID: IRAC GROUP 3A) is a non-systemic insecticide which works via a contact and stomach mode of action; but also exhibits an anti-feeding action. It is used in agriculture to give effective control of a wide range of insect pests.

- A pyrethroid is a synthetic chemical compound similar to the natural chemical pyrethrins produced by the flowers of pyrethrums (Chrysanthemum cinerariaefolium and C. coccineum)
- Lambda-cyhalothrin is used as an insecticide. It acts as a fast-acting neurotoxin in insects. It is easily degraded on soil and plants but can be effective for weeks when applied to indoor inert surfaces. Exposure to sunlight, water and oxygen will accelerate its decomposition.

USAGES: - Lambda-cyhalothrin is registered for agricultural use as a foliar application on food and feed crops including cotton, pecans, peanuts, broccoli and other Brassicas, and sweet corn. Lambda-cyhalothrin can be applied to livestock in eartags, and to horses. Lambda-cyhalothrin is also registered for use on industrial, commercial, and residential sites. It is registered for outdoor use as a soil residual termiticide and to control insect pests such as ants in and on structures, impervious surfaces (in perimeter and crack and crevice treatments) and lawns. Lambda-cyhalothrin can also be applied indoors to control ants, cockroaches, fleas, and other insects

- Lambda-cyhalothrin is used to control a wide range of insect pests including lepidoptera, diptera, coleoptera, hemiptera, homoptera, etc; on fruit, vines, vegetables, potatoes, cucurbits, lettuce, peppers, tomatoes, cereals, maize, soya beans, cotton, coffee, oilseed rape, beets, and ornamentals
- Lambda-cyhalothrin For use as an insecticide for the control of insect pests in wheat, barley, rye, triticale, oats, potatoes, sugar beet, fodder beet, oilseed rape, field beans, combining peas, edible podded pea, vining pea, broccoli/calabrese, Brussel sprout, cabbage, cauliflower, carrots, parsnips and pear. Information on 73 consumer products that contain lambda-Cyhalothrin in the following categories is provided:
- Inside the Home Landscaping/Yard Pesticides







SAFETY EQUIPMENT:













RUPERT 5 EC

ACTIVE INGREDIENTS:

CYPERMETHRIN 5 %

INTRODUCTION: RUPERT 5 EC is a non-systemic insecticide which works via a contact and stomach mode of action; but also exhibits an anti-feeding action. It is used in agriculture to give effective control of a wide range of insect pests.

- A pyrethroid is a synthetic chemical compound similar to the natural chemical pyrethrins produced by the flowers of pyrethrums (Chrysanthemum cinerariaefolium and C. coccineum
- Cypermethrin is used as an insecticide. It acts as a fast-acting neurotoxin in insects. It is easily degraded on soil and plants but can be effective for weeks when applied to indoor inert surfaces. Exposure to sunlight, water and oxygen will accelerate its decomposition.

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- It is a synthetic pyrethroid. Cypermethrin is found in many household ant and cockroach killers, including Raid and ant chalk.







INSECTICIDES

SAFETY EQUIPMENT:













RUPERT 10 EC

ACTIVE INGREDIENTS:

CYPERMETHRIN 10 %

INTRODUCTION: RUPERT 10 EC is a non-systemic insecticide which works via a contact and stomach mode of action; but also exhibits an anti-feeding action. It is used in agriculture to give effective control of a wide range of insect pests.

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- It is a synthetic pyrethroid. Cypermethrin is found in many household ant and cockroach killers, including Raid and ant chalk.







SAFETY EQUIPMENT:













RUPERT 20 EC

ACTIVE INGREDIENTS:

CYPERMETHRIN 20 %

INTRODUCTION:

- RUPERT 20 EC is a non-systemic insecticide which works via a contact and stomach mode of action; but also exhibits an anti-feeding action. It is used in agriculture to give effective control of a wide range of insect pests.
- A pyrethroid is a synthetic chemical compound similar to the natural chemical pyrethrins produced by the flowers of pyrethrums (Chrysanthemum cinerariaefolium and C. coccineum
- Cypermethrin is used as an insecticide. It acts as a fast-acting neurotoxin in insects. It is easily degraded on soil and plants but can be effective for weeks when applied to indoor inert surfaces. Exposure to sunlight, water and oxygen will accelerate its decomposition. USAGES: - Cypermethrin is registered for agricultural use as a foliar application on food and feed crops including cotton, pecans, peanuts, broccoli and other Brassicas, and sweet corn. Cypermethrin can be applied to livestock in eartags, and to horses. Cypermethrin is also registered for use on industrial, commercial, and residential sites. It is registered for outdoor use as a soil residual termiticide and to control insect pests such as ants in and on structures, impervious surfaces (in perimeter and crack and crevice treatments) and lawns. Cypermethrin can also be applied indoors to control ants, cockroaches, fleas, and other insects
- RUPERT 20 EC is used to control a wide range of insect pests including lepidoptera, diptera, coleoptera, hemiptera, homoptera, etc; on fruit, vines, vegetables, potatoes, cucurbits, lettuce, peppers, tomatoes, cereals, maize, soya beans, cotton, coffee, oilseed rape, heets, and ornamentals
- Cypermethrin is registered for agricultural use as a foliar application on food and feed crops including cotton, pecans, peanuts, broccoli and other Brassicas, and sweet corn. Cypermethrin can be applied to livestock in eartags, and to horses. Cypermethrin is also registered for use on industrial, commercial, and residential sites. It is registered for outdoor use as a soil residual termiticide and to control insect pests such as ants in and on structures, impervious surfaces (in perimeter and crack and crevice treatments) and lawns. Cypermethrin can also be applied indoors to control ants, cockroaches, fleas, and other insects
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INSECTICIDES

SAFETY EQUIPMENT:













HELIOS 5 EC

ACTIVE INGREDIENTS:

Emamectin Benzoate 50 g/l

INTRODUCTION: Emamectin benzoate (Proclaim) is an avermectin class insecticide developed for the control of lepidopteron insects. This class of pesticide consists of homologous semi-synthetic macrolides that are derived from the natural fermentation products of Streptomyces bacteria. It kills insects by disrupting neurotransmitters, causing irreversible paralysis. It is more effective when ingested, but it also somewhat effective on contact. When sprayed to foliage, emamectin benzoate penetrates the leaf tissue and forms reservoir within treated leaves, which provides residual activity against pests that ingest the substance when feeding. Emamectin is widely used in the US and Canada as an insecticide because of its chloride channel activation properties. It is approved by the EPA for use in prevention of emerald ash borer in ash trees. Emamectin has also shown promising applications in the eradication of fish lice and in fish farming.

Emamectin is the 4"-deoxy-4"-methylamino derivative of abamectin, a 16-membered macrocyclic lactone produced by the fermentation of the soil actinomycete Streptomyces avermitilis. It is generally prepared as the salt with benzoic acid, emamectin benzoate, which is a white or faintly yellow powder

USAGES: Emamectin is widely used in controlling lepidopterous pests (order of insects that as larvae are caterpillars and as adults have four broad wings including butterflies, moths, and skippers) in agricultural products in the US, Japan, Canada, and recently Taiwan. The low-application rate of the active ingredient needed (~6 g/acre) and broad-spectrum applicability as an insecticide has gained emamectin significant popularity among farmers.

Emamectin has been shown to possess a greater ability to reduce the colonization success of engraver beetles and associated wood borers in loblolly pines (Pinus taeda L). A 2006 study regarding bolt-injections of four types of pesticides found emamectin to be the greatest reducer against these species with respect to the amount of larval feeding, length, and number of egg galleries.

A water-soluble preparation of emamectin in polysorbate, acetone, and methanol was shown to prevent the wilting of Japanese black pine trees inoculated with pine-wood nematodes (Bursaphelenchus xylophilus). Previous treatment of B. xylophilus infections involved eradicating the local population of Japanese pine sawyers associated with the spread of the nematode.

















Packing: | 1 Liter |



RADIANT SC

ACTIVE INGREDIENTS:

Spirotetramat 100 g/l + Tolfenpyrad 80 g/l

Spirotetramat Mode of Action: Inhibitors of acetyl CoA carboxylase (23)

Chemical Class Tetronic and Tetramic acid derivatives (23)

Spirotetramat is an azaspiro compound that is methoxycyclohexane which is fused at position 4 to the 5-position of a 1,5-dihydro-2H-pyrrol-2-one that is substituted at positions 3 and 4 by 2,5-dimethylphenyl and (ethoxycarbonyl)oxy groups, respectively (the cis isomer). It is a proinsecticide (via hydrolysis of the ethyl carbonate group to give the corresponding 4-hydroxypyrrol-2-one. "spirotetramat-enol") and is used for the control of a wide range of sucking insects on fruit and potato crops. It has a role as a proinsecticide, an EC 6.4.1.2 (acetyl-CoA carboxylase) inhibitor and an agrochemical. It is a member of benzenes, an azaspiro compound, a carbonate ester, a gamma-lactam and a member of pyrroles - Agrochemicals -> Pesticides Insecticides Spirotetramat is effective against stinging-sucking insects, including aphids, mites and whitefly. Its action is based on the interruption of lipid biosynthesis in the insects. It is a systemic insecticide, which is sprayed on the leaves of the plant and penetrates the leaves. In the plant it is hydrolyzed to the enol form by cleavage of the central ethoxycarbonyl group. The resulting enol is quite stable due to the fact that the double bond is in a ring and due to its conjugation with the amide group (mainly) and the benzene ring. The enol formed

Tolfenpyrad Mode of Action: Mitochondrial complex Lelectron transport inhibitors (21)

is also much more soluble in water so that it can move up and down the plant so that it also protects the roots.

- Chemical Class METI acaricides and insecticides (21A). Tolfenpyrad is an aromatic amide obtained by formal condensation of the carboxy group of 4-chloro-3-ethyl-1-methylpyrazole-5-carboxylic acid with the amino group of 1-[4-(4-methylphenoxy)phenyl] methylamine. It has a role as a mitochondrial NADH:ubiquinone reductase inhibitor, an agrochemical, an EC 1.3.5.1 [succinate dehydrogenase (quinone)] inhibitor and an antifungal agent. It is a pyrazole insecticide, an aromatic amide, an aromatic ether and an organochlorine compound. TOLFENPYRAD is a METI acaricide/insecticide with contact mode of action. Acts by inhibiting the cellular respiration in the insect, being very efficient on all stages of the pest: eggs, nymphs and adult. Tolfenpyrad halts feeding damage immediately and oviposition within hours after application. Has an excellent know-down effect, pests are controlled usually within 24 to 48 hours. Tolfenpyrad is an ideal rotational chemistry and an excellent tank mix partner







INSECTICIDES











Packing: | 1 Liter |



INSECTICIDES

FOXIM 56 PELLETS

ACTIVE INGREDIENTS:

Aluminum phosphide 56% Pellets

Mode of Action:

Insecticide and rodenticide which is a respiratory, metabolic and nerve poison. Evolves a non-flammable mixture of phosphine (the toxicant), ammonia and carbon dioxide.

Target Pests:

The pests that are controlled by aluminum phosphide are Africanized honey bee, almond moth, angoumois grain moth, bean weevil, diseased bees, cadelle, cereal leaf beetle, cigarette beetle, confused flour beetle, dermestid beetles, driedfruit beetle, driedfruit moth, european grain beetle, flat grain beetle, flatheaded grain beetle, fruit flies, granary weevil, greater wax moth, hairy fungus beetle, hessian fly, honey bee, indian meal moth, khapra beetle, lesser grain borer, maize weevil, Mediterranean flour moth, mosquitos, pea weevil, pink bollworm, raisin moth, red flour beetle, rice weevil, rust red grain beetle, rusty grain beetle, sawtoothed grain beetle, spider beetles, tobacco moth, tracheal mite, wax moth, yellow meal worm, chipmunks, gophers, ground squirrels, house mice, marmot, meadow vole, mice, moles, Norway rats, prairie dogs, rodents, roof rats, woodchucks, and yellow-bellied marmot.



















IVA SC

ACTIVE INGREDIENTS:

Spirotetramat 100 g/l +Abamectin 20 g/l

Mode of Action:

Spirotetramat: is an azaspiro compound that is methoxycyclohexane which is fused at position 4 to the 5-position of a 1,5-dihydro-2H-pyrrol-2-one that is substituted at positions 3 and 4 by 2,5-dimethylphenyl and (ethoxycarbonyl)oxy groups, respectively (the cis isomer). It is a proinsecticide (via hydrolysis of the ethyl carbonate group to give the corresponding 4-hydroxypyrrol-2-one, "spirotetramat-enol") and is used for the control of a wide range of sucking insects on fruit and potato crops. It has a role as a proinsecticide, an EC 6.4.1.2 (acetyl-CoA carboxylase) inhibitor and an agrochemical. It is a member of benzenes, an azaspiro compound, a carbonate ester, a gamma-lactam and a member of pyrroles.

Agrochemicals -> Pesticides Insecticides

Spirotetramat is effective against stinging-sucking insects, including aphids, mites and whitefly. Its action is based on the interruption of lipid biosynthesis in the insects. It is a systemic insecticide, which is sprayed on the leaves of the plant and penetrates the leaves. In the plant it is hydrolyzed to the enol form by cleavage of the central ethoxycarbonyl group. The resulting enol is quite stable due to the fact that the double bond is in a ring and due to its conjugation with the amide group (mainly) and the benzene ring. The enol formed is also much more soluble in water so that it can move up and down the plant so that it also protects the roots

Abamectin: Insecticides & Acaricides IRAC GROUP 6 Main Group and Primary Site of Action: Glutamate-gated chloride channel (GluCl) allosteric modulators Nerve and muscle action Strong evidence that action at one or more of this class of protein is responsible for insecticidal effects).

SAFETY EQUIPMENT:



















INSECTICIDES AND ACARICIDES

CHURCHILL 12.5 EC

ACTIVE INGREDIENTS:

AMITRAZ 125 g/l

INTRODUCTION: IRAC GROUP 19 INSECTICIDE (Octopamine receptor agonists Nerve action {Good evidence that action at one or more of this class of protein is responsible for insecticidal effects) Insecticides & Acaricides

Amitraz is a tertiary amino compound that is 1,3,5-triazapenta-1,4-diene substituted by a methyl group at position 3 and 2,4-dimethylphenyl groups at positions 1 and 5. It has a role as an acaricide, a xenobiotic, an environmental contaminant and an insecticide. It is a tertiary amino compound and a member of formamidines.

Amitraz is a non-systemic acaricide and insecticide. It was generated in 1969 by the Boots Co. in England. Amitraz presents insect repellent effects and hence, it can be used as an insecticide and pesticide. Its insecticide effect is due to its agonistic activity in the alpha-adrenergic system, its interaction with the octopamine receptors in the central nervous system and its driven inhibition of the synthesis of monoamine oxidases and prostaglandins. All the abovementioned effects are translated into the overexcitation, paralysis, and death in insects. Amitraz presents a lower effect in mammals and thus, it is widely used in the treatment of mite- or tick-infestation of dogs.

USAGES:

Used as an insecticide, acaricide, and synergist to other insecticides; for veterinary applications as an ectoparasiticide and in treatment of demodectic mange in dogs; Used mainly on Oregon pears; Highest risks in workers treating pear orchards, cotton fields, and livestock on a long-term basis. To control eggs and motile forms of mites and ticks on crops and domestic animals. It also is active against eggs and early instars of some Lepidoptera and against several other insects including scale insects, mealy bugs, and aphids.

SAFETY EQUIPMENT:



















CHURCHILL 20 EC

ACTIVE INGREDIENTS:

AMITRAZ 200 g/l

INTRODUCTION: IRAC GROUP 19 INSECTICIDE (Octopamine receptor agonists Nerve action (Good evidence that action at one or more of this class of protein is responsible for insecticidal effects) Insecticides & Acaricides

Amitraz appears as white monoclinic crystals. Melting point 187-189 °F (86-87 °C), Insoluble in water. Used as an acaricide, insecticide and treatment of demodectic mange in dogs.

Amitraz is a tertiary amino compound that is 1,3,5-triazapenta-1,4-diene substituted by a methyl group at position 3 and 2.4-dimethylphenyl groups at positions 1 and 5. It has a role as an acaricide, a xenobiotic, an environmental contaminant and an insecticide. It is a tertiary amino compound and a member of formamidines

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USAGES:

Used as an insecticide, acaricide, and synergist to other insecticides; for veterinary applications as an ectoparasiticide and in treatment of demodectic mange in dogs; [HSDB] Used mainly on Oregon pears; Highest risks in workers treating pear orchards, cotton fields, and livestock on a long-term basis. Used to control pear psylla on pears and tetranychid and eriophyid mites on fruit, etc







SAFETY EQUIPMENT:













INSECTICIDES AND ACARICIDES

CHURCHILL 25 EC

ACTIVE INGREDIENTS:

AMITRAZ 250 g/l

INTRODUCTION: IRAC GROUP 19 INSECTICIDE (Octopamine receptor agonists Nerve action {Good evidence that action at one or more of this class of protein is responsible for insecticidal effects) Insecticides & Acaricides

Amitraz appears as white monoclinic crystals. Melting point 187-189 °F (86-87 °C). Insoluble in water. Used as an acaricide, insecticide and treatment of demodectic mange in dogs.

Amitraz is a tertiary amino compound that is 1,3,5-triazapenta-1,4-diene substituted by a methyl group at position 3 and 2,4-dimethylphenyl groups at positions 1 and 5. It has a role as an acaricide, a xenobiotic, an environmental contaminant and an insecticide. It is a tertiary amino compound and a member of formamidines

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SAFETY EQUIPMENT:













DIAZINON 60 EC

ACTIVE INGREDIENTS:

DIAZINON 60 % (W/V)

INTRODUCTION: DIAZINON is an organophosphorus insecticide suitable for the control of insect pests on rice, fruit trees, vineyards, sugarcane, corn, tobacco, potatoes and horticultural crops.

- It is not systemic, and therefore should be sprayed thoroughly over the plant. Spray- type formulations are most useful for control of sucking or biting insect pests.

USAGES: Diazinon has been shown to adequately control the following pests: CROP

Pome & Stone Fruits Homoptera (aphids, apple suckers, scale insects, psyllids.)

Coleoptera (beetles)./ Lepidoptera (moths, leaf miners, peach twig borer).

Hymenoptera (saw flies)./ Diptera (fruit flies).

/ Acarina (spider mites).

Citrus Fruits Homoptera (aphids scale insects). / Thysanoptera (thrips).

Homoptera (aphids)./ Coleoptera (wireworms, rootworms)./ Lepidoptera (stalk Corn

bore rs, caterpillars, cutworms)./ Diptera (maggots).

Cotton Acarina (spider mites)./ Homoptera (aphids, leaf hoppers)./ Heteroptera

(cotton bugs)./ Lepidoptera (leaf worms, leaf perforators).

Sugarcane Homoptera (aphids)./ Coleoptera (wireworms)./ Lepidoptera (cane borers). Soybeans Homoptera (aphids, scale insects, leaf hoppers)./ Lepidoptera (stalk borers) Thysanoptera (thrips)./ Heteroptera (stink bugs, chinch bugs)./ Homoptera (leaf Rice hoppers. aphids),/ Coleoptera (rice beetles),/ Lepidoptera (stem borers.

leaf-eating caterpillars)./ Diptera (gall midges, shoot flies).

Homoptera (aphids)./ Coleoptera (flea beetles, wireworms)./ Lepidoptera (cutworms). Tobacco

/ Diptera (maggots).

Homoptera (aphids, leaf hoppers)./ Coleoptera (beetles)./ Lepidoptera (stalk borers, Vegetables

armyworms, moths)./ Diptera (leaf miners)./ Thysanoptera (thrips). Acarina (spider mites)

Vegetable Root Crops Coleoptera (wireworms). Lepidoptera (cutworms). Diptera (root maggots, root flies).

SAFETY EOUIPMENT:



















INSECTICIDES AND ACARICIDES

ICONIC EC

ACTIVE INGREDIENTS:

Abamectin 18 g/l + Lufenuron 32 g/l

Mode of Action:

Lufenuron: is a benzoylurea insecticide, a dichlorobenzene, a N-acylurea, an aromatic ether and an organofluorine compound.

Lufenuron is sold as an agricultural pesticide for use against lepidopterans, eriophyid mites, and western flower thrips. It is an effective antifungal in plants

Lufenuron is also used to fight fungal infections, since fungus cell walls are about one third chitin

Lufenuron is used in veterinary for the control of flea.

Lufenuron is an insecticide from the group of insect development inhibitors, more specifically chitin inhibitors. It is used against fleas in dogs and cats.

Abamectin: Insecticides & Acaricides IRAC GROUP 6 Main Group and Primary Site of Action: Glutamate-gated chloride channel (GluCl) allosteric modulators Nerve and muscle action Strong evidence that action at one or more of this class of protein is responsible for insecticidal effects).

Abamectin is a widely used insecticide and anthelmintic. Abamectin, is a member of the Avermectin family and is a natural fermentation product of soil dwelling actinomycete Streptomyces avermitilis.

Avermectins are 16-membered macrocyclic lactones produced by Streptomyces avermitilis, and abamectin is a blend of avermectin B1a and avermectin B1b. The anthelminthic, insecticidal, and acaricidal activities of avermectins are well known and their mode of action is via blocking.

-amino butyric acid-stimulated chloride channels and open non- neurotransmitter-gated chloride channels. This causes an ion imbalance in the nervous system, resulting in paralysis.

SAFETY EQUIPMENT:



















FESTIVE SC

ACTIVE INGREDIENTS:

Abamectin 14 g/l + Spiromesifen 228 g/l

Mode of Action:

Spiromesifen:

Spiromesifen is a butenolide that is but-2-en-4-olide bearing a 2,4,6-trimethylphenyl group at position 3, a 3,3-dimethylbutyryloxy group at position 4 and a spiro-fused cyclopentyl ring at position 5. It has a role as an insecticide. It is functionally related to a 1,3,5-trimethylbenzene and a 3,3-dimethylbutyric acid.

Insecticide

For use on cotton, field corn, ornamentals, pome fruit, strawberries, and vegetables

Spiromesifen is authorized in the Netherlands for the control of spider mites and whitefly in the non-soil-bound cultivation of strawberries, beans, floristry and tree nursery crops and perennials. Like spirodiclofen, it is also effective against scale and scale insects. It is not harmful to bees or bumblebees, but it is very toxic to fish and aquatic invertebrates.

Ahamectin:

Insecticides & Acaricides IRAC GROUP 6 Main Group and Primary Site of Action: Glutamate-gated chloride channel (GluCl) allosteric modulators Nerve and muscle action Strong evidence that action at one or more of this class of protein is responsible for insecticidal effects}

Chemical Class Avermectins-Milbemycins (6)

Avermectins are 16-membered macrocyclic lactones produced by Streptomyces avermitilis, and abamectin is a blend of avermectin B1a and avermectin B1b. The anthelminthic, insecticidal, and acaricidal activities of avermectins are well known and their mode of action is via blocking

-amino butyric acid-stimulated chloride channels and open non- neurotransmitter-gated chloride channels. This causes an ion imbalance in the nervous system, resulting in paralysis.











Packing: | 1 Liter |









INSECTICIDES AND ACARICIDES

CARA 3.2 EC

ACTIVE INGREDIENTS:

Abamectin 32 g/l

Insecticides & Acaricides IRAC GROUP 6 Main Group and Primary Site of Action : Glutamate-gated chloride channel (GluCl) allosteric modulators Nerve and muscle action Strong evidence that action at one or more of this class of protein is responsible for insecticidal effects}

Chemical Class Avermectins-Milbemycins (6)

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-amino butyric acid-stimulated chloride channels and open non- neurotransmitter-gated chloride channels. This causes an ion imbalance in the nervous system, resulting in paralysis

Abamectin is a widely used insecticide and anthelmintic. Abamectin, is a member of the Avermectin family and is a natural fermentation product of soil dwelling actinomycete Streptomyces avermitilis.

Avermectins bind to the glutamate-gated chloride channels that are found in invertebrate nerve and muscle cells. They cause hyperpolarization of these cells resulting in paralysis and death. Mammals only possess glutamate-gated chloride channels in the brain and spinal cord and as the Avermectins have a low affinity for other mammalian ligand-gated channels and do not usually cross the blood-brain barrier, they are very safe for mammals

SAFETY EQUIPMENT:





















BOHEME SC

ACTIVE INGREDIENTS:

Abamectin 30 g/l + Bifenazate 300 g/l

Mode of Action:

Bifenazate: is a carboxylic ester obtained by formal condensation of 2-(4-methoxy[1,1'-biphenyl]-3-yl)hydrazinecarboxylic acid with 2-propanol. It has a role as an acaricide. It is functionally related to a carbazic acid. It derives from a hydride of a biphenyl. Bifenazate is a natural product found in Ganoderma lucidum with data available.

Bifenazate is a pesticide use for control of mite pests on greenhouse, shadehouse, nursery, field, landscape and interiorscape grown ornamental plants. Bifenazate possesses low acute toxicity by all routes of exposure (Category IV) with no evidence of dermal sensitization potential. It is non-irritating to skin and minimally irritating to eyes. Bifenazate is negative for mutagenic potential in a battery of required mutagenicity studies.

Acaricide/miticide, insecticide

Used as a selective miticide for the control of a variety of mite pests on ornamental plants and fruit trees in greenhouses, nurseries, and landscapes

Abamectin: Insecticides & Acaricides IRAC GROUP 6 Main Group and Primary Site of Action: Glutamate-gated chloride channel (GluCl) allosteric modulators Nerve and muscle action Strong evidence that action at one or more of this class of protein is responsible for insecticidal effects}

Chemical Class Avermectins-Milbemycins (6)

Avermectins are 16-membered macrocyclic lactones produced by Streptomyces avermitilis, and abamectin is a blend of avermectin B1a and avermectin B1b. The anthelminthic, insecticidal, and acaricidal activities of avermectins are well known and their mode of action is via blocking

- amino butyric acid-stimulated chloride channels and open non- neurotransmitter-gated chloride channels. This causes an ion imbalance in the nervous system, resulting in paralysis











Packing: | 1 Liter |









INSECTICIDES AND ACARICIDES

BROOKS 18 EC

ACTIVE INGREDIENTS:

ABAMECTIN 18 g/I

INTRODUCTION:

BROOKS 18 EC is an emulsifiable concentrate for dilution with water and application by ground application equipment, containing as active ingredient: (Abamectin1.8% w/v (18 grams per litre)

Insecticides & Acaricides IRAC GROUP 6 Main Group and Primary Site of Action: Glutamate-gated chloride channel (GluCl) allosteric modulators Nerve and muscle action Strong evidence that action at one or more of this class of protein is responsible for insecticidal effects} Chemical Sub-group or exemplifying Active Ingredient Avermectins.

Mode of action

Avermectins are 16-membered macrocyclic lactones produced by Streptomyces avermitilis, and abamectin is a blend of avermectin B1a and avermectin B1b. The anthelminthic, insecticidal, and acaricidal activities of avermectins are well known and their mode of action is via blocking

-amino butyric acid-stimulated chloride channels and open non- neurotransmitter-gated chloride channels. This causes an ion imbalance in the nervous system, resulting in paralysis.

SAFETY EQUIPMENT:





















INSECTICIDES AND NEMATODES

VICTORIA 5 GR

ACTIVE INGREDIENTS:

CARBOFURAN 5 %(W/W)

INTRODUCTION:

- Carbofuran is a broad spectrum carbamate insecticide closely related to Carbosufan. It is a systemic insecticide with contact and stomach action, acting as a cholinesterase inhibitor.
- INSECTICIDES AND NEMATODES

USAGES:

Control of a wide range of soil-dwelling and foliar insect pests. Examples of uses include control of millipedes, springtails, symphylids, wireworms, pygmy mangold beetles, frit flies, white grubs, aphids, caterpillars, flea beetles, Colorado beetles, stem borers, leafhoppers, planthoppers, codling moth, insect scales and nematodes.

The product can be used in a wide range of crops, e.g. cotton, sugar beet, potatoes, bananas, rice, maize, vegetables, sugarcane and coffee.

Use Guidelines and Restrictions:

Normally apply product at planting, special use conditions are included in this section of the registration dossier. Ensure person applying the product is wearing suitable protective clothing during application.

Apply product using locally suitable and available granule applicator equipment. Do not mix with water and do not use as a foliar spray. Ensure that the granule applicator equipment is correctly calibrated, and that the product is applied at the correct rate. Do not leave the product in the applicator for long periods (i.e. during meals and overnight). Keep product away from humans, animals and fish. Phytotoxicity:

Non-phytotoxic when used as directed at time of crop sowing/planting or later during special use conditions.







SAFETY EQUIPMENT:











Packing: | 500g



INSECTICIDES AND NEMATODES

VICTORIA 3 GR

ACTIVE INGREDIENTS:

CARBOFURAN 3 %(W/W)

INTRODUCTION:

Carbofuran is a broad spectrum carbamate insecticide closely related to Carbosufan. It is a systemic insecticide with contact and stomach action, acting as a cholinesterase inhibitor.

USAGES:

Control of soil-dwelling and foliar-feeding insects (including wireworms, white grubs, millipedes, symphylids, fruit flies, bean seed flies, root flies, flea beetles, weevils, sciarid flies, aphids, thrips, etc.) and nematodes in vegetables, ornamentals, beet, maize, sorghum, sunflowers, oilseed rape, potatoes, alfalfa, peanuts, soya beans, sugar cane, rice, cotton, coffee, cucurbits, tobacco, lavender, citrus, vines, strawberries, bananas, mushrooms, and other crops.

Use Guidelines and Restrictions:

Normally apply product at planting, special use conditions are included in this section of the registration dossier. Ensure person applying the product is wearing suitable protective clothing during application.

Apply product using locally suitable and available granule applicator equipment. Do not mix with water and do not use as a foliar spray. Ensure that the granule applicator equipment is correctly calibrated, and that the product is applied at the correct rate. Do not leave the product in the applicator for long periods (i.e. during meals and overnight). Keep product away from humans, animals and fish. The efficacy of this product may be adversely affected, when used in alkaline, brackish, or soils of high ph (above 7).

SAFETY EQUIPMENT:











Packing: | 500g |













INSECTICIDES AND RODENTICIDES

FOXIM 56 Tablets

ACTIVE INGREDIENTS:

ALUMINIUM PHOSPHIDE 56% (W/W)

INTRODUCTION:

Mode of Action:

Insecticide and rodenticide which is a respiratory, metabolic and nerve poison. Evolves a non-flammable mixture of phosphine (the toxicant), ammonia and carbon dioxide.

USAGES: Aluminum phosphide is registered for use on the:

- Nonfood and Related Areas
- Food and Related Areas
- Processed Food

Target Pests:

The pests that are controlled by aluminum phosphide are Africanized honey bee, almond moth, angoumois grain moth, bean weevil, diseased bees, cadelle, cereal leaf beetle, cigarette beetle, confused flour beetle, dermestid beetles, driedfruit beetle, driedfruit moth, european grain beetle, flat grain beetle, flatheaded grain beetle, fruit flies, granary weevil, greater wax moth, hairy fungus beetle, hessian fly, honey bee, indian meal moth, khapra beetle, lesser grain borer, maize weevil, Mediterranean flour moth, mosquitos, pea weevil, pink bollworm, raisin moth, red flour beetle, rice weevil, rust red grain beetle, rusty grain beetle, sawtoothed grain beetle, spider beetles, tobacco moth, tracheal mite, wax moth, yellow meal worm, chipmunks, gophers, ground squirrels, house mice, marmot, meadow vole, mice, moles, Norway rats, prairie dogs, rodents, roof rats, woodchucks, and yellow-bellied marmot.

SAFETY EQUIPMENT:











Packing: | Tablet |









TRIAZOPHOS 35 EC

ACTIVE INGREDIENTS:

TRIAZOPHOS 35 %(W/V)

INTRODUCTION: Triazophos is an organophosphorus insecticide suitable for the control of insect pests on rice, fruit trees, vineyards, sugarcane, corn, tobacco, potatoes and horticultural crops.

- It is not systemic, and therefore should be sprayed thoroughly over the plant. Spray- type formulations are most useful for control of sucking or biting insect pests.

USAGES:

PESTS

Pome & Stone Fruits Homoptera (aphids, apple suckers, scale insects, psyllids.)/ Coleoptera (beetles).

Lepidoptera (moths, leaf miners, peach twig borer)./Hymenoptera (saw flies).

Diptera (fruit flies)/ .Acarina (spider mites).

Citrus Fruits Homoptera (aphids scale insects). / Thysanoptera (thrips).
Corn Homoptera (aphids)./ Coleoptera (wireworms, rootworms).

Lepidoptera (stalk borers, caterpillars, cutworms)./ Diptera (maggots).

Cotton Acarina (spider mites)./ Homoptera (aphids, leaf hoppers).

Heteroptera (cotton bugs)./ Lepidoptera (leaf worms, leaf perforators).

Sugarcane Homoptera (aphids)./ Coleoptera (wireworms)./ Lepidoptera (cane borers)
Soybeans Homoptera (aphids, scale insects, leaf hoppers). / Lepidoptera (stalk borers).
Rice Thysanoptera (thrips)./ Heteroptera (stink bugs, chinch bugs)./ Homoptera

(leaf hoppers, aphids).Coleoptera (rice beetles). / Lepidoptera

(stem borers, leaf-eating caterpillars). Diptera (gall midges, shoot flies)

Tobacco Homoptera (aphids). /Coleoptera (flea beetles, wireworms)

.Lepidoptera (cutworms). / Diptera (maggots).

Vegetables Homoptera (aphids, leaf hoppers)./ Acarina (spider mites).

Coleoptera (beetles). /Lepidoptera (stalk borers, armyworms, moths).

Diptera (leaf miners). /Thysanoptera (thrips).

Vegetable Root Crops Coleoptera (wireworms).Lepidoptera (cutworms).Diptera (root maggots, root flies)

SAFETY EQUIPMENT:



















INSECTICIDES AND RODENTICIDES

SONIC EC

ACTIVE INGREDIENTS:

Abamectin 10 g/l + Fosthiazate 90 g/l

Mode of Action:

Fosthiazate:

Fosthiazate is a phosphonic ester, an organic phosphonate and an organothiophosphate insecticide. It has a role as an EC 3.1.1.7 (acetylcholinesterase) inhibitor, an agrochemical and a nematicide.

Fosthiazate is a natural product found in Capparis spinosa with data available.

Fosthiazate is a member of the organophosphate class of pesticides or nematicides and is used to control nematodes species on tomatoes

Fosthiazate provides a good and stable control of cyst, root-knot, root lesion and free-living nematodes in a wide range of crops such as potatoes, bananas, tomatoes, and other vegetables

Abamectin:

Insecticides & Acaricides IRAC GROUP 6 Main Group and Primary Site of Action : Glutamate-gated chloride channel (GluCl) allosteric modulators Nerve and muscle action Strong evidence that action at one or more of this class of protein is responsible for insecticidal effects}

Chemical Class Avermectins-Milbemycins (6)

Avermectins are 16-membered macrocyclic lactones produced by Streptomyces avermitilis, and abamectin is a blend of avermectin B1a and avermectin B1b. The anthelminthic, insecticidal, and acaricidal activities of avermectins are well known and their mode of action is via blocking

-amino butyric acid-stimulated chloride channels and open non- neurotransmitter-gated chloride channels. This causes an ion imbalance in the nervous system, resulting in paralysis

SAFETY EQUIPMENT:





















NELSON 25 EC

ACTIVE INGREDIENTS:

METOLACHLOR 25 %

INTRODUCTION:

Metolachlor is a selective chloroacetamide herbicide used to control annual grasses (eg Echinacloa spp., Digitaria spp., Setaria spp., Brachiaria spp., Panicum spp. and Cyperus spp.) and certain key broad-leaved weeds (eg Amaranthus spp., Capsella spp. and Portulaca spp.) in maize, sorghum, cotton, sugar beet, fodder beet, sugar cane, potatoes, soyabeans, peanuts, sunflowers, various vegetables and pulse crops, fruit and nut trees, and woody ornamentals.

Mode of Action:

Metolachlor is a selective herbicide which is absorbed predominantly by the target weeds hypocotyls and shoots. It inhibits germination.

USAGES:

NELSON 25 EC is a herbicide used to control annual grasses (eg Echinacloa spp., Digitaria spp., Setaria spp., Brachiaria spp., Panicum spp. and Cyperus spp.) and certain key broad-leaved weeds (eg Amaranthus spp., Capsella spp. and Portulaca spp.) in maize, sorghum, cotton, sugar beet, fodder beet, sugar cane, potatoes, soyabeans, peanuts, sunflowers, various vegetables and pulse crops, fruit and nut trees, and woody ornamentals.

Phytotoxicity: Well tolerated by most broad-leaved crops, maize and sorghum.

Environmental Controls: Do not apply either directly to or in the near proximity of water as Metolachlor is known to leach through soils and contaminate water systems. This includes ground water. In addition do not contaminate water systems with waste water from spraying operations.

Shelf Life: The product when stored in the original, unopened container, under normal storage conditions, will stable for a period to 2 years.







| HERBICIDES |

SAFETY EQUIPMENT:













ATLANTIC Altra SC

ACTIVE INGREDIENTS:

ATRAZINE 370 g/I + METOLACHLOR 290 g/I

INTRODUCTION: Atrazine is a chlorinated herbicide of the triazine class. It is used to prevent pre-emergence broadleaf weeds in crops such as maize (corn), soybean and sugarcane and on turf, such as golf courses and residential lawns. Biocide, Pesticide, Herbicide.

The principle mode of action of triazine herbicides is the inhibition of photosynthesis. The triazines were shown to inhibit PSII but have no effect on PSI (Trebst, 2008)

Metolachlor is a selective chloroacetamide herbicide used to control annual grasses (eg Echinacloa spp., Digitaria spp., Setaria spp., Brachiaria spp., Panicum spp. and Cyperus spp.) and certain key broad-leaved weeds (eg Amaranthus spp., Capsella spp. and Portulaca spp.) in maize, sorghum, cotton, sugar beet, fodder beet, sugar cane, potatoes, soyabeans, peanuts, sunflowers, various vegetables and pulse crops, fruit and nut trees, and woody ornamentals.

Mode of Action:

Metolachlor is a selective herbicide which is absorbed predominantly by the target weeds hypocotyls and shoots. It inhibits germination **USAGES**: Atrazine is a herbicide that is used to stop pre- and post-emergence broadleaf and grassy weeds in crops such as sorghum, maize, sugarcane, lupins, pine, and eucalypt plantations, and triazine-tolerant canola.

In the United States as of 2014, atrazine was the second-most widely used herbicide after glyphosate, with 76 million pounds (34 thousand metric tons) of it applied each year. Atrazine continues to be one of the most widely used herbicides in Australian agriculture Metolachlor is a herbicide used to control annual grasses (eg Echinacloa spp., Digitaria spp., Setaria spp., Brachiaria spp., Panicum spp. and Cyperus spp.) and certain key broad-leaved weeds (eg Amaranthus spp., Capsella spp. and Portulaca spp.) in maize, sorghum, cotton, sugar beet, fodder beet, sugar cane, potatoes, soyabeans, peanuts, sunflowers, various vegetables and pulse crops, fruit and nut trees, and woody ornamentals.







SAFETY EQUIPMENT:













ATLANTIC Plus SE

ACTIVE INGREDIENTS:

ATRAZINE 270 g/I + METOLACHLOR 150 g/I

INTRODUCTION: Atrazine is a chlorinated herbicide of the triazine class. It is used to prevent pre-emergence broadleaf weeds in crops such as maize (corn), soybean and sugarcane and on turf, such as golf courses and residential lawns. Biocide, Pesticide, Herbicide.

The principle mode of action of triazine herbicides is the inhibition of photosynthesis. The triazines were shown to inhibit PSII but have no effect on PSI (Trebst, 2008)

Metolachlor is a selective chloroacetamide herbicide used to control annual grasses (eg Echinacloa spp., Digitaria spp., Setaria spp., Brachiaria spp., Panicum spp. and Cyperus spp.) and certain key broad-leaved weeds (eg Amaranthus spp., Capsella spp. and Portulaca spp.) in maize, sorghum, cotton, sugar beet, fodder beet, sugar cane, potatoes, soyabeans, peanuts, sunflowers, various vegetables and pulse crops, fruit and nut trees, and woody ornamentals.

Mode of Action:

Metolachlor is a selective herbicide which is absorbed predominantly by the target weeds hypocotyls and shoots. It inhibits germination **USAGES**: Atrazine is a herbicide that is used to stop pre- and post-emergence broadleaf and grassy weeds in crops such as sorghum, maize, sugarcane, lupins, pine, and eucalypt plantations, and triazine-tolerant canola.

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| HERBICIDES |

SAFETY EQUIPMENT:













ATLANTIC SE

ACTIVE INGREDIENTS:

ATRAZINE 200 g/I + METOLACHLOR 200 g/I

INTRODUCTION: Atrazine is a chlorinated herbicide of the triazine class. It is used to prevent pre-emergence broadleaf weeds in crops such as maize (corn), soybean and sugarcane and on turf, such as golf courses and residential lawns. Biocide, Pesticide, Herbicide.

The principle mode of action of triazine herbicides is the inhibition of photosynthesis. The triazines were shown to inhibit PSII but have no effect on PSI (Trebst, 2008)

Metolachlor is a selective chloroacetamide herbicide used to control annual grasses (eg Echinacloa spp., Digitaria spp., Setaria spp., Brachiaria spp., Panicum spp. and Cyperus spp.) and certain key broad-leaved weeds (eg Amaranthus spp., Capsella spp. and Portulaca spp.) in maize, sorghum, cotton, sugar beet, fodder beet, sugar cane, potatoes, soyabeans, peanuts, sunflowers, various vegetables and pulse crops, fruit and nut trees, and woody ornamentals.

Mode of Action: Metolachlor is a selective herbicide which is absorbed predominantly by the target weeds hypocotyls and shoots. It inhibits germination

USAGES: Atrazine is a herbicide that is used to stop pre- and post-emergence broadleaf and grassy weeds in crops such as sorghum, maize, sugarcane, lupins, pine, and eucalypt plantations, and triazine-tolerant canola.

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SAFETY EQUIPMENT:













BROMACIL 80 WP

ACTIVE INGREDIENTS:

Bromacil 80 %

INTRODUCTION: Bromacil 80 WP is an organic compound a residual uracil herbicide effective against a wide range of both perennial and annual broad- leaved weeds and grasses. It can be used for total weed control on non-crop land at 8.0-10.0 Kg/hectare, or for selective weed control in cropped-land situations at 1.0-4.0 Kg/hectare. It is particularly suitable for use in plantation crop situations eg citrus and pineapples.

Bromacil 80 WP is mainly applied prior to weed emergence in crops and plantations or as a soil sterilant in non-crop areas. It needs activation by rain or irrigatation. Combinations of Bromacil with contact herbicides will effectively control established weeds and prevent the emergence of new weeds.

Bromacil 80 WP is used primarily for the control of annual and perennial grasses and broadleaf weeds, both non-selectively on noncrop lands and selectively for weed control in a few crops (citrus and pineapple). It appears to act in plants by inhibiting photosynthesis and to be primarily absorbed through the roots.

At higher use rates its effects usually persist for more than one growing season. Care must therefore be taken when planning sequential crop rotations on the same land for the season following treatment with Bromacil 80 WP.

Total weed and brush control on non-crop land; and selective control of annual and perennial weeds and grasses in citrus and pineapple plantations. Bromacil 80 WP can be used for selective control of annual and perennial weeds in orange, grapefruit, and lemon orchards.

Mode of Action:

Bromacil is mainly absorbed via the root systems and also partially through foliage and stems in the case of young seedlings. Bromacil requires rainfall or irrigation to ensure that it penetrates to the root zone and so may be taken up. Uptake is primarily via the xylem and the toxic action relies upon inhibition of photosynthetic electron transport pathway at the photosystem II receptor site. This results in the impairment of photosynthesis.







| HERBICIDES |

SAFETY EQUIPMENT:

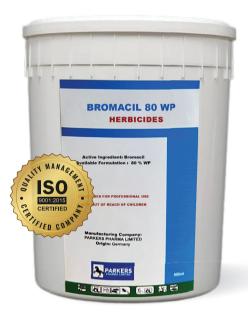












Packing: | 500g



DAIO 60 SL

ACTIVE INGREDIENTS:

2,4-D-dimethylammonium [ISO]+ (2,4-D dimethylamine salt) 600 g/l

INTRODUCTION:

- Dma 4 ivm herbicide is a brown liquid. A solution of the dimethylammonium salt of the weak organic acid 2,4-dichlorophenoxyacetic acid. Used as an herbicide. /CHLOROPHENOXY CMPD INCL 2,4-D ESTERS/ EXERT THEIR HERBICIDAL ACTION BY ACTING AS GROWTH HORMONES IN PLANTS. /CHLOROPHENOXY COMPOUNDS/
- Chlorophenoxy acid derivatives are metabolized via participation of the hepatic microsomal mixed-function oxidase system. Thus, administration of 2,4-D amine salt and its butyl ester ... to rats induced the enzyme system (aminopyrine demethylase ... and aniline hydroxylase ... although the degree of induction was substantially lower than that from phenobarbital. Prolonged administration of 2,4-D amine salt (0.1 LD50) showed cumulative effects reflected by both clinical and biochemical changes. Stimulation of mixed-function oxidase system may be one of the methods for reducing toxicological effects of this type of compounds.

USAGES:

- Used as an herbicide
- TARGET CROPS : Cereals, Maize, Sorghum, Sugarcane, Orchards

SAFETY EQUIPMENT:



















DAIO 72 SL

ACTIVE INGREDIENTS:

2,4-D-dimethylammonium [ISO]+ (2,4-D dimethylamine salt) 720 g/l

INTRODUCTION:

- Dma 4 ivm herbicide is a brown liquid. A solution of the dimethylammonium salt of the weak organic acid 2,4-dichlorophenoxyacetic acid. Used as an herbicide. /CHLOROPHENOXY CMPD INCL 2.4-D ESTERS/ EXERT THEIR HERBICIDAL ACTION BY ACTING AS GROWTH HORMONES IN PLANTS. /CHLOROPHENOXY COMPOUNDS/
- Chlorophenoxy acid derivatives are metabolized via participation of the hepatic microsomal mixed-function oxidase system. Thus, administration of 2,4-D amine salt and its butyl ester ... to rats induced the enzyme system (aminopyrine demethylase ... and aniline hydroxylase ... although the degree of induction was substantially lower than that from phenobarbital. Prolonged administration of 2,4-D amine salt (0.1 LD50) showed cumulative effects reflected by both clinical and biochemical changes. Stimulation of mixed-function oxidase system may be one of the methods for reducing toxicological effects of this type of compounds.

USAGES:

- Used as an herbicide
- TARGET CROPS: Cereals, Maize, Sorghum, Sugarcane, Orchards

| HERBICIDES |

SAFETY EQUIPMENT:



















DIURO 50 SC

ACTIVE INGREDIENTS:

Diuron 50 %

INTRODUCTION:

- Diuro 50 SC: diuron (DCMU (3-(3,4-dichlorophenyl)-1,1-dimethylurea) is a residual urea herbicide effective against a wide range of both annual broad leaf weeds and annual grasses. It is applied prior to weed emergence in crops and plantations or as a soil sterilant in non-crop areas. It needs activation by rain or irrigatation. Combinations of Diuron with contact herbicides such as 2,4-D, Diquat, Paraquat, MCPA etc., will effectively control established weeds and prevent the emergence of new weeds.

Diuron is absorbed via the root systems and through foliage and stems in the case of young seedlings. Diuron requires rainfall or irrigation to ensure that it penetrates to the root zone and so may be taken up. Uptake is primarily via the xylem and the toxic action relies upon inhibition of the Hill reaction and ensuing impairment of photosynthesis and thus reduces the ability of the plant to turn light energy into chemical energy (ATP and reductant potential).

SAFETY EQUIPMENT:



















DIURO 80 SC

ACTIVE INGREDIENTS:

DIURON 80 %

INTRODUCTION:

- Diuro 80 SC: diuron (DCMU (3-(3,4-dichlorophenyl)-1,1-dimethylurea) is a residual urea herbicide effective against a wide range of both annual broad leaf weeds and annual grasses. It is applied prior to weed emergence in crops and plantations or as a soil sterilant in non-crop areas. It needs activation by rain or irrigatation. Combinations of Diuron with contact herbicides such as 2,4-D, Diquat, Paraquat, MCPA etc., will effectively control established weeds and prevent the emergence of new weeds.

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HERBICIDES

SAFETY EQUIPMENT:



















DIURO 80 WP

ACTIVE INGREDIENTS:

Diuron 50 %

INTRODUCTION:

- Diuro 80 WP: diuron (DCMU (3-(3,4-dichlorophenyl)-1,1-dimethylurea) is a residual urea herbicide effective against a wide range of both annual broad leaf weeds and annual grasses. It is applied prior to weed emergence in crops and plantations or as a soil sterilant in non-crop areas. It needs activation by rain or irrigatation. Combinations of Diuron with contact herbicides such as 2,4-D, Diquat, Paraquat, MCPA etc., will effectively control established weeds and prevent the emergence of new weeds.

Diuron is absorbed via the root systems and through foliage and stems in the case of young seedlings. Diuron requires rainfall or irrigation to ensure that it penetrates to the root zone and so may be taken up. Uptake is primarily via the xylem and the toxic action relies upon inhibition of the Hill reaction and ensuing impairment of photosynthesis and thus reduces the ability of the plant to turn light energy into chemical energy (ATP and reductant potential).

SAFETY EQUIPMENT:











Packing: | 500g |









HOPE 48 SL

ACTIVE INGREDIENTS:

BENTAZONE 480 g/l

INTRODUCTION:

Bentazone is a benzothiadiazine that is 1H-2,1,3-benzothiadiazin-4(3H)-one 2,2-dioxide substituted by an isopropyl group at position 3. It has a role as an environmental contaminant, a xenobiotic and a herbicide.

Bentazon is a chemical manufactured by BASF Chemicals for use in herbicides. It is categorized under the thiadiazine group of chemicals. Sodium bentazon is available commercially and appears slightly brown in colour. Bentazon has been classified by the EPA as a Group E chemical, because it is believed to be non-carcinogenic to humans (as based on testing conducted on animals). However, there are no studies or experiments that can determine toxic and/or carcinogenic effects of bentazon on humans

- Bentazon is a selective herbicide as it only damages plants unable to metabolize the chemical. It is considered safe for use on alfalfa, beans (with the exception of garbanzo beans), maize, peanuts, peas (with the exception of blackeyed peas), pepper, peppermint, rice, sorghum, soybeans and spearmint; as well as lawns and turf. Bentazon is usually applied aerially or through contact spraying on food crops to control the spread of weeds occurring amongst food crops. Herbicides containing bentazon should be kept away from high heat as it will release toxic sulfur and nitrogen fumes.

USAGES:

Used as a post-emergence herbicide with activity against a wide range of broadleaf weeds, as well as yellow nutsedge

- biocide , pesticide , Herbicide

A selective herbicide to control many broadleaf weeds and yellow nutsedge. A postemergence contact spray, so thorough coverage is essential.

This is a man-made compound that is used as a pesticide







| HERBICIDES |

SAFETY EQUIPMENT:













KAMLOOPS 20 EC

ACTIVE INGREDIENTS:

FLUROXYPYR 200 g/l

INTRODUCTION:

Fluroxypyr is an herbicide in the class of synthetic auxins. It is used to control broadleaf weeds and woody brush. It is formulated as the 1-methylheptyl ester (fluroxypyr-MHE)

Fluroxypyr is an aminopyridine that is pyridin-4-amine substituted by chloro groups at positions 3 and 5, a fluoro group at position 6 and a carboxymethoxy group at position 2. It has a role as a xenobiotic, an environmental contaminant and a herbicide. It is an aminopyridine, an organochlorine compound, an aromatic ether, a monocarboxylic acid and an organofluorine compound.

Fluroxypyr is an herbicide in the class of synthetic auxins. It is used to control broadleaf weeds and woody brush. It is formulated as the 1-methylheptyl ester (fluroxypyr-MHE)

USAGES:

Used as herbicide for cereals; Registered for use on wheat, barley, oats, and farm land

Herbicide ... effective by postemergence control of broadleaf weeds in cereal, fallow land, and on-farm non-cropland.

Directed applications are used against herbaceous and woody broad-leaved weeds in orchards (apple only) and plantation crops (rubber and oilpalm), and broad-leaved brush spp. in conifer forests. Post-emergence, broadcast applications of fluroxypyr in maize up to the 6-leaf stage of the crop are used for control of Calystegia sepium, Convolvulus arvensis and Solanum nigrum.

Herbicide used to control established broadleaf weeds and woody brush. It is registered by the U.S. Environmental Protection Agency (EPA) for the following applications: Pasture and rangeland, Crops - sweet corn, field corn, wheat, barley, oats, millet, sorghum, onions, apple & pear orchards, Pine plantations, Fallow cropland, Industrial sites, Rights-of-way - electrical power lines, communication lines, pipelines, roadsides, railroads, Residential lawns, Recreational sites - golf courses, parks, sports fields.







SAFETY EQUIPMENT:













KELOWNA 33 EC

ACTIVE INGREDIENTS:

PENDIMETHALINLIN 330 g/l

INTRODUCTION:

Pendimethalin is an herbicide of the dinitroaniline class used in premergence and postemergence applications to control annual grasses and certain broadleaf weeds. It inhibits cell division and cell elongation. Pendimethalin is listed in the K1-group according to the Herbicide Resistance Action Committee (HRAC) classification and is approved in Europe, North America, South America, Africa, Asia and Oceania for different crops including cereals (wheat, barley, rye, triticale), corn, soybeans, rice, potato, legumes, fruits, vegetables, nuts as well as lawns and ornamental plants Pendimethalin acts both pre-emergence, that is before weed seedlings have emerged, and early post-emergence. Pendimethalin inhibits root and shoot growth. It controls the weed population and prevents weeds from emerging, particularly during the crucial development phase of the crop. Its primary mode of action is to prevent plant cell division and elongation in susceptible species. In the HRAC classification of herbicides according their mode of action, pendimethalin is listed in group K1.

USAGES: Pendimethalin protects crops like wheat, corn, soybeans, potatoes, cabbage, peas, carrots, and asparagus. It is used to control annual grasses and certain broadleaf weeds which interfere with growth, development, yield and quality of agricultural and horticultural crops by competing on nutrients, water and light.

In areas where weed infestation is particularly high, yield losses can render wheat production economically unviable. In addition to wheat, a large number of crops are grown in Europe that are a relatively small percentage of total agricultural output. Herbicide options are limited for these minor crops, with few effective herbicides available in the vegetable sector. Long-term field studies performed in Germany by governmental research and advisory institutes together with farmers rank Pendimethalin as an efficient herbicide to control blackgrass, regarding to weed control efficacy, crop yield, treatment costs and environmental impac.







| HERBICIDES |

SAFETY EQUIPMENT:















KIMBERLEY 40 SC

ACTIVE INGREDIENTS:

PROPYZAMIDE 400 g/l

INTRODUCTION:

Benzamide, 3,5-dichloro-n-(1,1-dimethyl-2-propynyl)- is a white solid. Used as a selective herbicide.

Propyzamide is a member of the class of benzamides resulting from the formal condensation of the carboxy group of 3,5-dichlorobenzoic acid with the amino group of 2-methylbut-3-yn-2-amine. It is used as a systemic post-emergent herbicide for the control grass and broadleaf weeds in a wide range of in a wide variety of fruit and root crops. It has a role as a herbicide and an agrochemical. It is a dichlorobenzene, a terminal acetylenic compound and a member of benzamides.

Propyzamide is a residual herbicide for use in a wide range of crops to control annual and perennial grasses and some broad-leaved weeds. It is selective and systemically absorbed by roots and translocated into the plant.

USAGES:

Used as selective pre-emergence herbicide

SELECTIVE HERBICIDE THAT WILL CONTROL MANY BROADLEAF & GRASS WEEDS PREEMERGENCE IN LETTUCE /AND OTHER CROPS/

Selective systemic herbicide, used for the selective control of many annual and perennial grasses, and some broad-leaved weeds

SAFETY EQUIPMENT:



















KITIMAT 20 SL

ACTIVE INGREDIENTS:

PARAQUATION 200 g/l

INTRODUCTION:

Paraquat (trivial name: /pærəkwat/), or N,N'-dimethyl-4,4'-bipyridinium dichloride (systematic name), also known as methyl viologen, is an organic compound with the chemical formula [(C6H7N)2]Cl2. It is classified as a viologen, a family of redox-active heterocycles of similar structure.[5] This salt is one of the most widely used herbicides. It is quick-acting and non-selective, killing green plant tissue on contact. It is also toxic (lethal) to human beings and animals due to its redox activity, which produces superoxide anions. It has been linked to the development of Parkinson's disease[6][7] and is banned in several countries.

Paraquat may be in the form of salt with chloride or other anions; quantities of the substance are sometimes expressed by cation mass alone (paraquat cation, paraquat ion).

The name is derived from the para positions of the quaternary nitrogens.

USAGES:

Used as a contact herbicide for weed control in grass seed crops and orchards; a crop desiccant and defoliant on cotton and potato vines; harvest aid for soybeans; A quick-acting herbicideA widely used non-selective herbicide that kills all green plant tissue it contacts, especially grasses and weeds. Has been used to kill marijuana crops. Desiccation of seed crops; noncrop and industrial weed control in bearing and nonbearing fruit orchards, shade trees, and ornamentals. Defoliation and desiccation of cotton. Harvest aid in soybeans, sugarcane, guar, and sunflowers, for pasture renovation, for use in "No-Till" or before planting or crop emergence, dormant alfalfa and clover, directed spray, and for killing potato vines. Eradication of weeds in rubber plantations, coffee plantations, and paddy bund. Talent /trade name/ postemergence in bananas, cocoa, coffee, coconuts, citrus, and sugarcane.

HERBICIDES

SAFETY EQUIPMENT:



















LANGLEY 50 SC

ACTIVE INGREDIENTS:

ATRAZINE 500 g/I

INTRODUCTION:

Atrazine is a chlorinated herbicide of the triazine class. It is used to prevent pre-emergence broadleaf weeds in crops such as maize (corn), soybean and sugarcane and on turf, such as golf courses and residential lawns.

- Biocide. Pesticide. Herbicide.
- The principle mode of action of triazine herbicides is the inhibition of photosynthesis. The triazines were shown to inhibit PSII but have no effect on PSI (Trebst, 2008)

USAGES:

Atrazine is a herbicide that is used to stop pre- and post-emergence broadleaf and grassy weeds in crops such as sorghum, maize, sugarcane, lupins, pine, and eucalypt plantations, and triazine-tolerant canola.

In the United States as of 2014, atrazine was the second-most widely used herbicide after glyphosate, with 76 million pounds (34 thousand metric tons) of it applied each year. Atrazine continues to be one of the most widely used herbicides in Australian agriculture Effects on sorghum yields have been estimated to be as high as 20%, owing in part to the absence of alternative weed control products that can be used on sorghum.

SAFETY EQUIPMENT:



















LANGLEY 80 WP

ACTIVE INGREDIENTS:

ATRAZINE 800 g/kg

INTRODUCTION:

Atrazine is a chlorinated herbicide of the triazine class. It is used to prevent pre-emergence broadleaf weeds in crops such as maize (corn), soybean and sugarcane and on turf, such as golf courses and residential lawns.

- Biocide. Pesticide. Herbicide.
- The principle mode of action of triazine herbicides is the inhibition of photosynthesis. The triazines were shown to inhibit PSII but have no effect on PSI (Trebst, 2008)

USAGES:

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In the United States as of 2014, atrazine was the second-most widely used herbicide after glyphosate, with 76 million pounds (34 thousand metric tons) of it applied each year. Atrazine continues to be one of the most widely used herbicides in Australian agriculture Effects on sorghum yields have been estimated to be as high as 20%, owing in part to the absence of alternative weed control products that can be used on sorghum.

| HERBICIDES |

SAFETY EQUIPMENT:











Packing: | 500g |









MESOTRIONE 10 SC

ACTIVE INGREDIENTS:

MESOTRIONE 10 %(W/V)

INTRODUCTION:

MESOTRIONE 10% SC is a suspension concentrate herbicide for dilution with water and application by medium-high volume spraying equipment, containing as follows:

Mesotrione :10% w/v (100 g/litre)

Mesotrione belongs to the triketone class of herbicides that inhibit the enzyme 4-hydroxyphenyl-pyruvate-dioxygenase (4-HPPD), an essential enzyme in the synthesis of carotenoids (which protect chlorophyll from decomposition by sunlight). Susceptible plants that do not rapidly detoxify the herbicide become white to translucent, followed by necrosis of meristematic tissue and plant death. Uptake is foliar and via the root, with both acropetal and basipetal translocation. Non-susceptible plants, e.g. maize, have a differential metabolism (to the 4-hydroxy derivative) and may also have a slower foliar uptake.

Mesotrione can be used as both a pre- and post-emergence herbicide for selective contact and residual control of broadleaf weeds in maize. When used as a pre-emergent herbicide, mesotrione is absorbed by emerging seedlings and requires rainfall for activation. Mesotrione applied post-emergence is absorbed by the foliage.

USAGES:

MESOTRIONE 10% SC can used for the control of broad-leaved weeds, such as Xanthium strumarium, Ambrosia trifida, Abutilon theophrasti, and Chenopodium, Amaranthus and Polygonum spp., and some grass weeds (including Digitaria sanguinalis), in maize.

MESOTRIONE 10% SC can be applied pre- or post-emergence of either crop or weeds.

SAFETY EQUIPMENT:



















NANAIMO 50 EC

ACTIVE INGREDIENTS:

BUTACHLOR 50 %(W/V)

INTRODUCTION:

NANAIMO 50 EC is a selective systemic chloracetamide herbicide effective against a wide range of both annual grass weeds and certain broad-leaved weeds. It is applied prior to weed emergence or very early post-weed emergence in crops and has shown selectivity in wheat, barley, cotton, corn, cowpeas, onions, chillies, groundnuts, sugar beet and several other brassica crops. Butachlor 50 EC can be used in transplanted, direct seeded and upland rice.

- NANAIMO 50 EC needs activation by rainfall or irrigatation, activity is dependent on water availability such as rainfall following treatment, overhead irrigation, or applications to standing water in rice culture. Combinations of NANAIMO 50 EC
- with other herbicides will effectively control established weeds and prevent the emergence of new weeds, see local recommendations for advice on tank mixtures.

Mode of Action:

- Butachlor is absorbed primarily by the germinating weed shoots, and absorbed secondarily by the weed roots. It is subsequently translocated through the weed plants giving higher concentrations in vegetative foliage rather than in reproductive plant parts. Butachlor inhibits cell division by blocking protein synthesis. Butachlor requires rainfall or irrigation to ensure that it penetrates plants and also enters the root zone allowing it to be taken up by target weeds. .

USAGES:

Important Weed Types Controlled:

- Annual grasses: Echinocloa spp. and Leptochloa chinensis
- Some aquatic weeds:
- Some broad-leaved weeds: Monochoria vaginalis and Sphenoclea zeylanica
- Some sedges: Fimbristylis spp. and Cyperus spp.







| HERBICIDES |

SAFETY EQUIPMENT:













NANAIMO 60 EC

ACTIVE INGREDIENTS:

BUTACHLOR 60 %(W/V)

INTRODUCTION:

NANAIMO 60 EC is a selective systemic chloracetamide herbicide effective against a wide range of both annual grass weeds and certain broad-leaved weeds. It is applied prior to weed emergence or very early post-weed emergence in crops and has shown selectivity in wheat, barley, cotton, corn, cowpeas, onions, chillies, groundnuts, sugar beet and several other brassica crops. Butachlor 60 EC can be used in transplanted, direct seeded and upland rice.

- NANAIMO 60 EC needs activation by rainfall or irrigatation, activity is dependent on water availability such as rainfall following treatment, overhead irrigation, or applications to standing water in rice culture. Combinations of NANAIMO 60 EC
- with other herbicides will effectively control established weeds and prevent the emergence of new weeds, see local recommendations for advice on tank mixtures.

Mode of Action:

- Butachlor is absorbed primarily by the germinating weed shoots, and absorbed secondarily by the weed roots. It is subsequently translocated through the weed plants giving higher concentrations in vegetative foliage rather than in reproductive plant parts. Butachlor inhibits cell division by blocking protein synthesis. Butachlor requires rainfall or irrigation to ensure that it penetrates plants and also enters the root zone allowing it to be taken up by target weeds.

USAGES:

Important Weed Types Controlled :

Annual grasses: Echinocloa spp. and Leptochloa chinensis

Some aquatic weeds:

Some broad-leaved weeds: Monochoria vaginalis and Sphenoclea zeylanica

Some sedges: Fimbristylis spp. and Cyperus spp.







SAFETY EQUIPMENT:













NELSON 96 EC

ACTIVE INGREDIENTS:

METOLACHLOR 96 %(W/V)

INTRODUCTION:

Metolachlor is a selective chloroacetamide herbicide used to control annual grasses (eg Echinacloa spp., Digitaria spp., Setaria spp., Brachiaria spp., Panicum spp. and Cyperus spp.) and certain key broad-leaved weeds (eg Amaranthus spp., Capsella spp. and Portulaca spp.) in maize, sorghum, cotton, sugar beet, fodder beet, sugar cane, potatoes, soyabeans, peanuts, sunflowers, various vegetables and pulse crops, fruit and nut trees, and woody ornamentals.

Mode of Action:

Metolachlor is a selective herbicide which is absorbed predominantly by the target weeds hypocotyls and shoots. It inhibits germination.

USAGES:

NELSON 96 EC is a herbicide used to control annual grasses (eg Echinacloa spp., Digitaria spp., Setaria spp., Brachiaria spp., Panicum spp. and Cyperus spp.) and certain key broad-leaved weeds (eg Amaranthus spp., Capsella spp. and Portulaca spp.) in maize, sorghum, cotton, sugar beet, fodder beet, sugar cane, potatoes, soyabeans, peanuts, sunflowers, various vegetables and pulse crops, fruit and nut trees, and woody ornamentals.

Phytotoxicity: Well tolerated by most broad-leaved crops, maize and sorghum.

Environmental Controls: Do not apply either directly to or in the near proximity of water as Metolachlor is known to leach through soils and contaminate water systems. This includes ground water. In addition do not contaminate water systems with waste water from spraying operations.

Shelf Life:

The product when stored in the original, unopened container, under normal storage conditions, will stable for a period to 2 years.







| HERBICIDES |

SAFETY EQUIPMENT:













PENTICTON 5 EC

ACTIVE INGREDIENTS:

FLUAZIFOP-P-BUTYL 50 %(W/V)

INTRODUCTION:

Fluazifop-p-butyl is a selective phenoxy herbicide used for postemergence control of annual and perennial grass weeds. It is used on cotton, soybeans and other broad-leaved crops such as carrots, spinach, potatoes, and ornamentals.

Fluazifop-p-butyl is a general use pesticide. Fluazifop-P-butyl is a butyl 2-(4-{[5-(trifluoromethyl)pyridin-2-yl]oxy}phenoxy)propanoate that has R configuration. The active enantiomer of the herbicide fluazifop-butyl, it is used as a post-emergence herbicide for the control grass weeds in various broad-leaved crops. It has a role as an agrochemical, a herbicide and an EC 6.4.1.2 (acetyl-CoA carboxylase) inhibitor. It is functionally related to a fluazifop-P. It is an enantiomer of a (S)-fluazifop-butyl.

Phenoxy herbicides (or "phenoxies") are two families of chemicals that have been developed as commercially important herbicides, widely used in agriculture. They share the part structure of phenoxyacetic acid

USAGES:

Broad spectrum, systemic, preventive and curative fungicide effective against many fungal pathogens (in the groups Ascomycetes, Basidiomycetes and Deuteromycetes). Flusilazole is recommended for use on many crops, such as: Apples (control of Venturia, Podosphaera), Peaches (control of Sphaerotheca, Monilia), Cereals (control of most foliar diseases), Vines (control of Uncinula, Guinardia), Sugar beet (control of Cercospora, Erysiphe), Maize (control of Helminthosporium), Sunflowers (control of Phomopsis), Oilseed rape (control of Pseudocercosporella, Pyrenopeziza) and Bananas (control of Mycosphaerella).

SAFETY EQUIPMENT:



















PENTICTON 12.5 EC

ACTIVE INGREDIENTS:

FLUAZIFOP-P-BUTYL 125 g/l

INTRODUCTION: Fluazifop-p-butyl is a selective phenoxy herbicide used for postemergence control of annual and perennial grass weeds. It is used on cotton, soybeans and other broad-leaved crops such as carrots, spinach, potatoes, and ornamentals.

Fluazifop-p-butyl is a general use pesticide. Fluazifop-P-butyl is a butyl 2-(4-{[5-(trifluoromethyl)pyridin-2-yl]oxy}phenoxy)propanoate that has R configuration. The active enantiomer of the herbicide fluazifop-butyl, it is used as a post-emergence herbicide for the control grass weeds in various broad-leaved crops. It has a role as an agrochemical, a herbicide and an EC 6.4.1.2 (acetyl-CoA carboxylase) inhibitor. It is functionally related to a fluazifop-P. It is an enantiomer of a (S)-fluazifop-butyl.

Phenoxy herbicides (or "phenoxies") are two families of chemicals that have been developed as commercially important herbicides, widely used in agriculture. They share the part structure of phenoxyacetic acid.

USAGES: Broad spectrum, systemic, preventive and curative fungicide effective against many fungal pathogens (in the groups Ascomycetes, Basidiomycetes and Deuteromycetes).

Flusilazole is recommended for use on many crops, such as:

Apples (control of Venturia, Podosphaera),

Peaches (control of Sphaerotheca, Monilia),

Cereals (control of most foliar diseases),

Vines (control of Uncinula, Guinardia),

Sugar beet (control of Cercospora, Erysiphe),

Maize (control of Helminthosporium),

Sunflowers (control of Phomopsis),

Oilseed rape (control of Pseudocercosporella, Pyrenopeziza)

and Bananas (control of Mycosphaerella).







HERBICIDES

SAFETY EQUIPMENT:













PENTICTON 15 EC

ACTIVE INGREDIENTS:

FLUAZIFOP-P-BUTYL 150 g/I

INTRODUCTION: Fluazifop-p-butyl is a selective phenoxy herbicide used for postemergence control of annual and perennial grass weeds. It is used on cotton, soybeans and other broad-leaved crops such as carrots, spinach, potatoes, and ornamentals.

Fluazifop-p-butyl is a general use pesticide. Fluazifop-P-butyl is a butyl 2-(4-{[5-(trifluoromethyl)pyridin-2-yl]oxy}phenoxy)propanoate that has R configuration. The active enantiomer of the herbicide fluazifop-butyl, it is used as a post-emergence herbicide for the control grass weeds in various broad-leaved crops. It has a role as an agrochemical, a herbicide and an EC 6.4.1.2 (acetyl-CoA carboxylase) inhibitor. It is functionally related to a fluazifop-P. It is an enantiomer of a (S)-fluazifop-butyl.

Phenoxy herbicides (or "phenoxies") are two families of chemicals that have been developed as commercially important herbicides, widely used in agriculture. They share the part structure of phenoxyacetic acid

USAGES: Broad spectrum, systemic, preventive and curative fungicide effective against many fungal pathogens (in the groups Ascomycetes, Basidiomycetes and Deuteromycetes).

Flusilazole is recommended for use on many crops, such as:

Apples (control of Venturia, Podosphaera),

Peaches (control of Sphaerotheca, Monilia),

Cereals (control of most foliar diseases),

Vines (control of Uncinula, Guinardia),

Sugar beet (control of Cercospora, Erysiphe),

Maize (control of Helminthosporium),

Sunflowers (control of Phomopsis),

 $\label{thm:control} \mbox{Oilseed rape (control of Pseudocercosporella, Pyrenopeziza)}$

and Bananas (control of Mycosphaerella).







SAFETY EQUIPMENT:













PENTICTON 17.5 EC

ACTIVE INGREDIENTS:

FLUAZIFOP-P-BUTYL 175 g/l

INTRODUCTION: Fluazifop-p-butyl is a selective phenoxy herbicide used for postemergence control of annual and perennial grass weeds. It is used on cotton, soybeans and other broad-leaved crops such as carrots, spinach, potatoes, and ornamentals.

Fluazifop-p-butyl is a general use pesticide. Fluazifop-P-butyl is a butyl 2-(4-{[5-(trifluoromethyl)pyridin-2-yl]oxy}phenoxy)propanoate that has R configuration. The active enantiomer of the herbicide fluazifop-butyl, it is used as a post-emergence herbicide for the control grass weeds in various broad-leaved crops. It has a role as an agrochemical, a herbicide and an EC 6.4.1.2 (acetyl-CoA carboxylase) inhibitor. It is functionally related to a fluazifop-P. It is an enantiomer of a (S)-fluazifop-butyl.

Phenoxy herbicides (or "phenoxies") are two families of chemicals that have been developed as commercially important herbicides, widely used in agriculture. They share the part structure of phenoxyacetic acid

USAGES: Broad spectrum, systemic, preventive and curative fungicide effective against many fungal pathogens (in the groups Ascomycetes, Basidiomycetes and Deuteromycetes).

Flusilazole is recommended for use on many crops, such as:

Apples (control of Venturia, Podosphaera),

Peaches (control of Sphaerotheca, Monilia),

Cereals (control of most foliar diseases),

Vines (control of Uncinula, Guinardia),

Sugar beet (control of Cercospora, Erysiphe),

Maize (control of Helminthosporium),

Sunflowers (control of Phomopsis),

Oilseed rape (control of Pseudocercosporella, Pyrenopeziza)

and Bananas (control of Mycosphaerella).







| HERBICIDES |

SAFETY EQUIPMENT:













VANCOUVER 50 EC

ACTIVE INGREDIENTS:

Quizalofop-P-ethyl [ISO] 50 g/l

INTRODUCTION:

Mode of Action (MOA) Quizalofop-P-ethyl, the active ingredient in Provisia, is a Group 1 (WSSA) herbicide. Herbicides in this group inhibit the enzyme acetyl-CoA carboxylase (ACCase), that catalyzes the first committed step in fatty acid synthesis

Quizalofop-P-ethyl is an ethyl 2-{4-[(6-chloroquinoxalin-2-yl)oxy]phenoxy}propanoate that has R configuration. A proherbicide for quizalofop-P, it is used to control annual and perennial grass weeds in a variety of crops, including potatoes, sugar beet, peanuts, cotton and flax. It has a role as a proherbicide and an agrochemical. It is an ethyl 2-{4-[(6-chloroquinoxalin-2-yl)oxy]phenoxy}propanoate and a quinoxaline herbicide. It is functionally related to a quizalofop-P. It is an enantiomer of a (S)-quizalofop-ethyl.

Quizalofop-P-ethyl has known environmental transformation products that include Propaquizafop acid (CGA 287422), EPP, Hydroxy ether (CGA 129674), Hydroxy Propaquizafop acid (CGA 294972), Quizalofop-acid (S-)isomer, Quizalofop-acid (R+)isomer, AE F020686, 3-OH-CQO, and CQO.

USAGES:

Quizalofop-P-ethyl is an ethyl 2- {4- [(6-chloroquinoxalin-2-yl)oxy]phenoxy}propanoate that has R configuration. A proherbicide for quizalofop-P, it is used to control annual and perennial grass weeds in a variety of crops, including potatoes, sugar beet, peanuts, cotton and flax. It has a role as a proherbicide and an agrochemical

SAFETY EQUIPMENT:



















WESTMINSTER 36 SL

ACTIVE INGREDIENTS:

GLYPHOSATE 360 g/l

INTRODUCTION:

- Glyphosate is the active ingredient in weed killer products such as RoundUp™. Glyphosate products are one of the most widely used weed killers worldwide in farms and in home gardens and lawns.
- Glyphosate is an odorless white powder. Decomposition begins at approximately 419 °F (darkens). pH (1% solution in water) 2.5.
- Glyphosate is a phosphonic acid resulting from the formal oxidative coupling of the methyl group of methylphosphonic acid with the amino group of glycine. It is one of the most commonly used herbicides worldwide, and the only one to target the enzyme 5-enolpyruvyl-3-shikimate phosphate synthase (EPSPS). It has a role as an agrochemical, an EC 2.5.1.19 (3-phosphoshikimate 1-carboxyvinyltransferase) inhibitor and a herbicide. It is a phosphonic acid and a glycine derivative. It is a conjugate acid of a glyphosate(2-) and a glyphosate(1-).

USAGES:

Glyphosate is a non-selective herbicide registered for use on many food and non-food field crops as well as non-crop areas where total vegetation control is desired. When applied at lower rates, glyphosate also is a plant growth regulator Control of annual and perennial grasses and broad-leaved weeds, pre-harvest, in cereals, peas, beans, oilseed rape, flax and mustard, at 1.5-2 kg/ha; control of annual and perennial grasses and broad-leaved weeds in stubble and post-planting/pre-emergence of many crops; as a directed spray in vines and olives, at up to 4.3 kg/ha; in orchards, pasture, forestry and industrial weed control, at up to 4.3 kg/ha. As an aquatic herbicide, at 2 kg/ha. For control of annual and perennial weeds, woody brush, and trees on over 150 crops. Use postdirected in tree and plantation crops, postemergence over Roundup Ready soybeans, and postharvest in fallow periods and noncropland







| HERBICIDES |

SAFETY EQUIPMENT:















WESTMINSTER 75.7 SG

ACTIVE INGREDIENTS:

GLYPHOSATE 757 g/kg

INTRODUCTION:

- Glyphosate is the active ingredient in weed killer products such as RoundUp™. Glyphosate products are one of the most widely used weed killers worldwide in farms and in home gardens and lawns.
- Glyphosate is an odorless white powder. Decomposition begins at approximately 419 °F (darkens), pH (1% solution in water) 2.5.
- Glyphosate is a phosphonic acid resulting from the formal oxidative coupling of the methyl group of methylphosphonic acid with the amino group of glycine. It is one of the most commonly used herbicides worldwide, and the only one to target the enzyme 5-enolpyruvyl-3-shikimate phosphate synthase (EPSPS). It has a role as an agrochemical, an EC 2.5.1.19 (3-phosphoshikimate 1-carboxyvinyltransferase) inhibitor and a herbicide. It is a phosphonic acid and a glycine derivative. It is a conjugate acid of a glyphosate(2-) and a glyphosate(1-)

USAGES: Glyphosate is a non-selective herbicide registered for use on many food and non-food field crops as well as non-crop areas where total vegetation control is desired. When applied at lower rates, glyphosate also is a plant growth regulator Control of annual and perennial grasses and broad-leaved weeds, pre-harvest, in cereals, peas, beans, oilseed rape, flax and mustard, at 1.5-2 kg/ha; control of annual and perennial grasses and broad-leaved weeds in stubble and post-planting/pre-emergence of many crops; as a directed spray in vines and olives, at up to 4.3 kg/ha; in orchards, pasture, forestry and industrial weed control, at up to 4.3 kg/ha. As an aquatic herbicide, at 2 kg/ha. For control of annual and perennial weeds, woody brush, and trees on over 150 crops. Use postdirected in tree and plantation crops, postemergence over Roundup Ready soybeans, and postharvest in fallow periods and noncropland







SAFETY EQUIPMENT:













PLUTO OD

ACTIVE INGREDIENTS:

Pyroxsulam 45 g/l + Cloquintocet 20 g/l

Pyroxsulam (ISO name) is a herbicide for the control of a broad spectrum of grasses and annual dicotyledonous weeds in cereal crops. Pyroxsulam belongs to the sulfonamide herbicides. It is a pyridine sulfonamide with a triazole pyrimidine group. Penoxsulam is a similar herbicide from the same class, and is described by the same patent as pyroxsulam.[1] These herbicides inhibit the plant enzyme acetolactate synthase (ALS), which prevents the biosynthesis of essential amino acids in the plants. The effect on the grains is eliminated by adding a safener, cloquintocet-mexyl, to the formulation

In Belgium, Capri (pyroxsulam) and Capri Twin (pyroxsulam+florasulam) are approved for use in winter wheat, winter rye, triticale and spelt.

Cloquintocet is a member of the class of quinolines that is quinoline which is substituted by a chloro group at position 5 and by a carboxymethoxy group at position 8. It has a role as a herbicide safener. It is an aromatic ether, a monocarboxylic acid, an organochlorine compound and a member of quinolines

Cloquintocet-mexyl (ISO name) is a quinoline derivative used as a safener of herbicides. It is the 1-methylhexyl ester of cloquintocet. Cloquintocet-mexyl specifically protects cereal crops against the harmful action of herbicides that control gramineous weeds; these are, for example, pyroxsulam, clodinafop-propargyl, fenoxaprop-P-ethyl and pinoxads. The safener is sprayed in a mixture with the actual herbicide and acts as an antidote to the herbicide for the cultivated crops.

HERBICIDES

SAFETY EQUIPMENT:



















FIBRO 4 OD

ACTIVE INGREDIENTS:

Niclosulfuron40 g/l

Nicosulfuron is a N-sulfonylurea that is 2-(carbamoylsulfamoyl)-N,N-dimethylpyridine-3-carboxamide substituted by a 4,6-dimethoxypyrimidin-2-yl group at the amino nitrogen. It has a role as an environmental contaminant, a xenobiotic and a herbicide. It is a member of pyridines, a N-sulfonylurea and a member of pyrimidines.

Sulfonyl herbicide registered for early-postemergent and postemergent use on corn

Nicosulfuron is the ISO name of a selective herbicide from the group of sulfonylureas. It is used in the cultivation of maize, for the control of annual grass crops. Nicosulfuron is a systemic post-emergence herbicide. It is absorbed through the leaves and roots and transported throughout the plant. It inhibits the action of the plant enzyme acetolactate synthase (ALS). As a result, the production of certain amino acids that are necessary for cell division is blocked and the weed plant gradually dies. The ALS enzyme is not found in humans, fish or livestock

for control of a range of broad-leaved weeds and certain grasses in forage maize.

SAFETY EQUIPMENT:



















PLANT GROWTH REGULATORS

DAUPHIN 48 SL

ACTIVE INGREDIENTS:

ETHEPHON 480 g/l

INTRODUCTION:

(2-chloroethyl)phosphonic acid is a phosphonic acid compound having a 2-chloroethyl substituent attached to the P-atom. It has a role as a plant growth regulator.

Ethephon is a natural product found in Ginkgo biloba with data available.

Ethephon is the word's most widely used plant growth regulator, it is converted into ethylene, a potent regulator of plant growth and maturity. It is often used on wheat, coffee, tobacco, cotton, and rice in order to help the plant's fruit reach maturity more quickly. Cotton is the most important single crop use for ethephon. It initiates fruiting over a period of several weeks, and enhances defoliation to facilitate and improve efficiency of scheduled harvesting. Ethephon also is widely used by pineapple growers to initiate reproductive development of pineapple. Ethephon is also sprayed on mature-green pineapple fruits to degreen them to meet produce marketing requirements. The toxicity of ethephon is actually very low, and any ethephon used on the plant is converted very quickly to ethylene.

USAGES: Used as plant growth regulator to promote ripening in fruits, nuts, and other crops and to stimulate latex flow in rubber; Used primarily on cotton; In cotton, it is used as a boll opener and defoliant prior to harvesting.

A plant-growth regulator that increases rate of ripening of plants by promoting release of ethylene, stimulates rubber latex formation; ripening of sugarcane; flowering agent for pineapple; color enhancer.

Target crops

Fruits crops (Grapes, Pineapples,Sugar Cane) , Cereal crops (barley, wheat, rye, triticale), Cotton, Maize, Nuts, Figs

Target Pest

Use on crops with the result of degreening and colouring of fruits, increasing sucrose content in pineapple, sugarcane, and accelerating

Rate of use

20-40L/Ha

SAFETY EQUIPMENT:



















PLANT GROWTH REGULATORS

GIBERELLIC ACID SL

ACTIVE INGREDIENTS:

Giberellic Acid (4+7) 1.85%+ + 6-Benzyladenine 1.88% SL

INTRODUCTION:

Gibberellic acid and 6-benzyladenine are both plant growth regulators for use on apple trees. 6-Benzyladenine is made by chemical synthesis and gibberellins are produced by the process of fermentation, where a pure strain of the fungus Gibberella fujikorai is grown in an aseptic medium.

When applied at the indicated spray timings and concentrations, the formulated product will provide the following effects:

- Improvement of shape of Delicious apples through elongation of fruit and development of more prominent calyx lobes.
- Increased weight of fruit of Delicious and other varieties, and also increased fruit yield per tree.
- Prevention of russetting in Delicious apples.
- Increased lateral bud break, shoot growth; and improved branch angles on non-bearing apple trees such as nursery stock. This provides an improved tree framework for early cropping.

USAGES:

The formulated product is a plant growth regulator. The main effects of this mixture are increased fruit size, improved fruit shape and modulated production.

SAFETY EQUIPMENT:



















PLANT GROWTH REGULATORS

KILDONAN 10 Tablets

ACTIVE INGREDIENTS:

GIBBERELLIC ACID -3 10% (W/W)

INTRODUCTION: Gibberellin A3 is a C19-gibberellin that is a pentacyclic diterpenoid responsible for promoting growth and elongation of cells in plants. Initially identified in Gibberella fujikuroi, it differs from gibberellin A1 in the presence of a double bond between C-3 and C-4. It has a role as a plant metabolite and a mouse metabolite. It is a lactone, a gibberellin monocarboxylic acid, an organic heteropentacyclic compound and a C19-gibberellin. It is a conjugate acid of a gibberellin A3(1-). Gibberellic acid is a natural product found in Cocos nucifera, Prunus cerasus, and other organisms with data available.

USAGES: A metabolite of Gibberella fujikuroi that promotes plant growth; Used as plant growth regulator to improve various qualities of many fruits and vegetables and to improve enzymatic characteristics of barley malting; Naturally occurring plant hormone used to increase fruit and crop yields; Seedless grape enlarger ... flowering initiator Plant growth regulator ... to loosen and elongate clusters and increase berry size in grapes; to control fruit maturity by delaying development to the yellow color in lemons; to reduce rind stain and retard rind ageing in navel oranges; to counteract the effects of cherry yellows virus diseases in sour cherries; to promote elongation of winter celery crop; to induce uniform bolting and increase seed production in lettuce for seed; to break dormancy and stimulate sprouting in seed potatoes; to extend the picking season by hastening maturity in artichokes; to increase the yield in forced rhubarb; ... to produce brighter- colored, firmer fruit, and to increase the size of sweet cherries; to increase yields and aid harvesting of hops: to reduce internal browning and increase yields of Italian prunes; to increase fruit set and yields of tangelos and tangerines; to improve fruit setting in blueberries; to advance flowering and increase the yield of strawberries; and also a variety of applications on ornamentals.

RECOMMENDATIONS FOR USE:

Target crops

Fruits crops (Grapes, Pineapples, Sugar Cane), Cereal crops (barley, wheat, rye, triticale), Cotton, Maize, Nuts, Figs

Target Pest

Used to improve fruit setting, to increase yield, to loosen and elongate clusters, to reduce rind stain and retard rind ageing, to break dormancy and stimulate sprouting, to extend the picking season, to increase the malting quality.

Rate of use

0.6-1kg/Ha

SAFETY EQUIPMENT:











Packing: | 10 Tab |







