

HORTISAN®

THE IDEAL BIOCIDES



Most plant diseases are caused by fungal or fungal-like organisms. However, other serious diseases of food crops are caused by viral and bacterial organisms. These plant pathogens can rapidly lead to plant nutrient deficiency and devastating plant and crop diseases, resulting in stunted growth and substantial yield losses.

HORTISAN is Chlorine Dioxide (ClO_2) gas in an aqueous solution that is an exceptionally powerful broad-spectrum bactericide, virucide, sporicide, fungicide and algacide, registered to treat and control plant pathogens on a wide variety of crops, including field-grown crops, tree crops, berries, small fruits, vine crops and hydroponic plants. This solution is universally recognised as one of the most effective, safest and environmentally harmless biocides available and is used for a wide range of applications where effective control of microbial activity is essential.

- **PLANT PATHOGEN CONTROL** – Pre-harvest management of plant pathogens. Proven inactivator of bacteria, viruses, fungi, mould, algae and protozoa. Does not leave any residues or form any harmful disinfection by-products so there is no withholding period required before harvesting.
- **POST-HARVEST PRODUCE SANITATION** – Post-harvest sanitation of fruit & vegetables for the control of spoilage organisms during processing, storage & transit. Disinfect & preserve produce freshness, as well as extending shelf-life.
- **RESIDUAL WATER TREATMENT DISINFECTION** – Treat & disinfect complete water facilities, irrigation systems, water storage tanks, hydroponic systems and recirculating water systems to eliminate biofilms, pathogens and other biological contaminants.
- **BIOSECURITY SOLUTION** – Effectively control microbial pathogens & disinfect surfaces, spaces & equipment to maintain biosecurity & prevent cross-contamination & spread of plant & crop diseases.

HORTISAN - The superior performance coupled with its unrivalled safety and environmental benefits makes it the ultimate biocide and the perfect choice for multiple applications to maximise yields, enhance product quality and eliminate product recalls, ultimately protecting public health and increasing consumer satisfaction.

FEATURES & BENEFITS

HORTISAN - An exceptionally powerful broad-spectrum bactericide, virucide, sporicide, fungicide and algacide that has multiple important advantages over standard sanitisers and traditional high-risk chemicals such as hydrogen peroxide, chlorine and sodium hypochlorite. This solution does not have a maximum residue level (MRL) and is FDA GRAS.

HORTISAN has proven to be consistently reliable and is an especially effective disinfectant because it is impossible for bacteria, fungi and viruses to develop a resistance to it.

Alternaria

Botrytis (Grey mould)

Cryptosporiosis perennans

Erwinia amylovora (Fire-Blight)

Fusarium oxysporum

Helminthosporium

Penicillium expansum (Blue mould)

Phytophthora cinnamomi (Root rot or dieback)

Plasmopara viticola

Pythium ultimum

Sclerotinia

Scopulariopsis

Stemphylium

Thielaviopsis basicola

Agrobacterium

Campylobacter

Cryptosporidium

Enterobacter

E. coli

Flavobacterium

Giardia

Legionella

Listeria

Mucor piriformis

Mycobacterium

Pseudomonas

Verticillium

Xanthomonas

HIGH PERFORMANCE – Consistently and rapidly eliminates bacteria, spores, viruses, fungus, mould, mildew, algae, yeasts, protozoa, as well as problematic biofilms and other waterborne biological pollutants. ClO₂ has over 2.5 X the oxidising power of chlorine and has proven to be exceptionally effective and sustainable at low concentrations.

SAFE TO USE – Non-toxic, non-carcinogenic, non-flammable and non-hazardous to handle or transport. A chlorine-free, ready-to-dilute single pack solution with no mixing of dangerous chemicals, ensuring staff safety.

ECONOMICAL - Its efficacy at low concentrations and short contact times makes it very economical in use, with low capital & operating costs. Being a ready-to-dilute single pack solution it is also easy to handle, monitor and test. It costs about the same as other sanitisers but is more versatile and beneficial to the environment.

ECO-FRIENDLY - Biodegradable and breaks down to common salt (NaCl). Does not chlorinate or form any dangerous disinfection by-products (DBP's) such as AOX, HAA or THM's. It also breaks down quickly and will not leave any harmful residues or add toxic deposits to soil, making it the most environmentally harmless biocide available.

NON-TAINTING – Does not affect the taste, smell or colour of produce. Does not leave any harmful residues and does not corrode irrigation pipework or equipment.

APPROVALS: MPI – ACVM Registered: P008106

TYPICAL APPLICATIONS

HORTISAN - Is used wherever the highest standards of disinfection are required. This versatile broad-spectrum biocide is exceptionally effective and safe, used for multiple horticultural disinfection and biosecurity applications to provide complete protection from biological contaminants, without tainting or forming harmful disinfection by-products.

The solution is easily implemented into new or existing systems and can be applied via automatic dosing, spraying, fogging or soaking. It may be safely applied on seeds, foliage, flowers, fruit and vegetables, as well as the soil. This product is also perfect for treating your entire water facilities to eliminate waterborne pathogens and biological contaminants, as well as for the control of biofilms, improving water quality and preventing cross-contamination.

PRE-HARVEST PATHOGEN CONTROL

HORTISAN – A very powerful and effective biocide for controlling and inactivating plant diseases and biological contaminants, used for treating soil, water, seeds, fruit trees, vegetable crops and nursery plants to maintain plant health and maximise yields. Used in orchards, vineyards, tunnel houses and in hydroponic systems. Furthermore there is no with-holding period required because it does not leave any harmful residues.

- *Control & inactivate plant diseases (No with-holding period required)*
- *Soil fumigation & soil drenching solution*
- *Eliminate waterborne pathogens in irrigation lines & hydroponics systems to enhance the microbial quality of the water, & prevent clogging.*

POST-HARVEST PRODUCE SANITATION

HORTISAN – Wash and disinfect post-harvest fruit, vegetables and other food-crops to eliminate microbial contaminants whilst processing or during storage and transit, preserving freshness and significantly extending the shelf-life by controlling the spoilage organisms that cause decay. Reduce post-harvest food losses and product recalls, ultimately enhancing product quality and increasing consumer satisfaction. Does not taint the flavour or colour of produce or food crops and does not leave any harmful residues.

- *Post-harvest sanitation of fruit & vegetables, preventing biological contamination*
- *Extend shelf-life of fruit & vegetables by eliminating spoilage organisms*
- *Control microbial activity in produce dump-tanks, food washing machines & recirculating water systems*

HORTICULTURAL BIOSECURITY SOLUTION

HORTISAN - Very powerful and effective disinfectant and sterilising agent, suitable for multiple applications to eliminate biological pathogens and prevent cross-contamination. Used for entire horticultural environments and equipment to ensure complete biosecurity protection and can be applied directly to floors, walls, food crates and water tanks as well as other surfaces and processing equipment. Proven to be exceptionally effective without harming the environment, corroding equipment or leaving any harmful residues.

- *Disinfect & sterilize harvesting implements, processing equipment & packing benches*
- *Disinfect & sterilize fruit & vegetable bins & crates as well as seedling trays*
- *Control odour-causing bacteria, algae, fungus, mould & mildew in greenhouses, cultivation chambers & processing sheds*

HORTISAN®

Our technological advances have made it possible for us to produce a consistent 1000ppm aqueous solution of ClO₂ which has a minimum 6-month shelf-life and is sold in various container sizes. With our experienced Chemists we are ready to assist you in every aspect of the evaluation, design, implementation and long-term support of your Chlorine Dioxide requirements.

HORTISAN® is a registered biocide, manufactured and marketed in NZ by:

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As the actual conditions of use and storage are out of our control, no liability is accepted for any loss or damage caused directly or indirectly through the use of our products. Intending users should satisfy themselves as to the suitability of this product for any particular purpose, by carrying out appropriate tests. For more information, usage instructions and health & safety directions please refer to our website.

USE DISINFECTANTS SAFELY. ALWAYS READ THE LABEL AND SDS BEFORE USE. HORTISAN® IS A REGISTERED TRADEMARK. ALL RIGHTS RESERVED.