



# Steri-Max Biocide - for Management of Pathogens and Algae in Hot Houses and Hydroponics

## Introduction

The impact of pathogens in the health of crops is one of the greatest challenges facing today's growers. Diseases not only reduce productivity but also cause disruption to the movement and marketability of produce. Having an effective hygiene management tool like Steri-maX is the first step towards minimizing the potential for disease spread. Steri-maX Biocide is highly effective against bacteria, fungal spores and viruses.

## Spread and Control

Some pathogens are spread by wind dispersal, soil and water movement or by planting infected or contaminated seed and transplants. Movement of pathogens on and off the property due to human activity is also a common method of infection.

There are of course a range of treatments which are practiced to prevent, control and eradicate fungi, bacteria and virus's from farms. As in most pest management programs, prevention is better than cure.

## Footbaths

The use of footbaths is a well documented method of prevention. Unfortunately, if they are not correctly used and maintained, growers can become over reliant on footbaths for protection of their property from disease. For a footbath to be effective it should have the liquid replaced with fresh water and product on a daily basis.

***The X factor in footbath effectiveness is organic matter and contact time.***

Even a stable product like Steri-maX will not tolerate high levels of soil and plant matter. And if boots are covered in mud, no biocide will be an adequate sterilizer. Also, the product requires contact time to do its job. Therefore in most cases, footwear should be removed and left to stand in a 1% Steri-maX solution for a minimum of 2 minutes.

Quaternary compounds such as Steri-maX Biocide are commonly used in hygiene programs for control of diseases such as Pythium and Phytophthora. Being a DDAC based product gives Steri-maX a performance edge on the older Benzalkonium Chloride products, which are more prone to breakdown in solutions where soil and organic matter are present.

## Equipment and Appliance Hygiene

This is also essential to prevent the spread of pathogens to surrounding crops or operations. Disease can be trapped in inaccessible parts of machinery and freed to infect during transport, use or repairs in the field and can remain viable for many months. Therefore all plant material and soil should be removed before transporting equipment from one area to the next.

Once cleaned the equipment should then be sprayed with a 1% solution of Steri-maX Biocide. Laboratory and field trials have shown Steri-maX Biocide to be highly effective in controlling a wide range of bacteria, fungi & fungal spores and viruses on equipment and appliances (see directions for use on next page).

***The equipment/appliance should ideally be kept damp for a period of 2 minutes.***



### STERI-MAX BIOCIDE DIRECTIONS FOR USE:

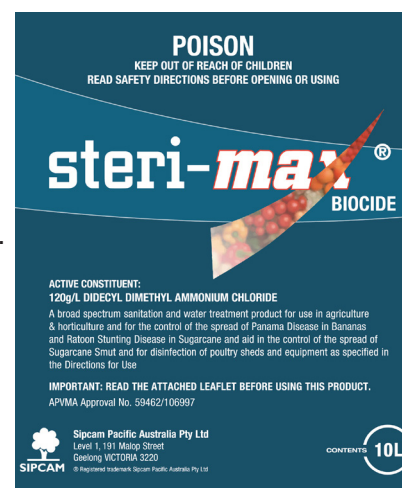
SITUATION	RATE	CRITICAL COMMENTS
<b>Appliances</b> (Any vehicle, machinery, equipment or apparatus of any kind).	100 mL/10L water (1% solution)	Apply to appliances that are clean and free of detergent. Apply to all parts of the appliance and keep the surfaces wet for a minimum of 2 minutes.
<b>Disinfection of Irrigation and Nutrient Water</b>	Apply 50 to 100 ml per 1,000L of water ( 50 to 100ppm)	Apply to the water feed tank and introduce to fertigation system during clean up. Do not apply to foliage. Use higher rate for initial treatment of water storage and use the lower rate for prophylactic applications when pathogen levels are low and as an ongoing program.
<b>General hygiene measures for vehicles</b>	100 mL/10L water (1% solution)	Remove visible soil and plant material from vehicle and tyres. Spray tyres with a 1% solution to run-off.
<b>General disinfection</b>	100 mL/10L water (1% solution)	Keep wet for over 2 minutes for best results. Place 1% Steri-max solution into a bucket or pail and leave equipment to soak.  <b><i>Replace solution daily as organic matter will degrade biocide activity.</i></b>
<b>As a foot bath hygiene treatment</b> Rubber boots, leather boots & shoes etc. For the control of soil borne diseases such as Phytophthora and Pythium.	100 mL - 500mL per 10L of water (1% solution)	Use the higher rate where heavy traffic and organic matter are present. Steri-max is a contact Biocide. Keep wet for at least 2 minutes for best results. Clean all debris from footwear then leave to soak.  <b><i>"No biocide can be effective if the person simply walks straight through the footbath".</i></b>  <b><i>Replace solution daily as organic matter will degrade biocide activity.</i></b>
<b>General disinfection</b> of cold rooms, packing sheds, tunnels, seed trays & other hard surfaces.	100 mL/100L water (0.1% solution)	First remove all organic matter from surfaces and keep wet with Steri-max solution for over 5 minutes for best results.

**NOT TO BE USED FOR ANY PURPOSE OR IN ANY MANNER, CONTRARY TO THE LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.**

**NB: Steri-max Biocide is non corrosive to equipment and paintwork.**

### GENERAL INSTRUCTIONS:

- Effective against a range of fungi and bacteria pathogens.
- Stays active as long as it is in solution (does not oxidize).
- Under heavy agitation, foam may form and a defoaming agent may be useful.
- Steri-max has wetting characteristics, so a wetting agent does not need to be added.



Always read the entire label prior to use.

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