



# Steri-Max Biocide

## For Algae Control in Synthetic based Hockey Pitches

### Introduction

Algae growth is a natural occurrence caused by humidity. Algae invasions in watered synthetic turf hockey pitches occur more frequently in warmer climates especially in pitches that are unable to be cleaned regularly and thoroughly. Usually the first sign of algae is that, in patches, the green carpet turns brown and becomes very slippery.

### Spread

Frequent targets for the mass spread chosen by algae are the synthetic turf pitches of sports fields, as here they can sometimes find excellent living conditions. Regardless of their type of polymer (polypropylene, polyethylene or nylon) and type of construction (tufted, knotted or rustled), most unfilled synthetic turf pitches are sooner or later colonized by algae and therefore the prevention of growth should take first place in the solution to the problem.

### Control

Experience in swimming pools and with synthetic turf surfaces have shown that, for economic and ecological reasons, prevention of an unwanted algae infestation is clearly preferable to combating an already established species. For this method, the required amount of an effective algacide is continuously added to the sprinkler water. See overleaf for controlling algae with a continuous prophylactic program.

### Steri-max Biocide for Algae Control

The product of choice (as recommended by the International Hockey Federation) is the quaternary ammonium compound present as the active ingredient of Agricrop's Steri-max Biocide. In addition to its purely algicidal action, the quaternary salt is also adsorbed onto the pile fibres by the "van der Waals" forces arising from its chemical structure, and this significantly extends its long term action and also reduces electrostatic charge build up. See over leaf for application rates.





**As described below, there are 3 situations which require 3 different dilution rates of Steri-maX.**

### **1. Preventative program - Continuous (prophylactic) applications—water cannon / irrigation system**

Applications with the sprinkler water are suggested as the preferred method for ongoing levels of control. The World Hockey fact sheet suggests that a rate of the specific quaternary compound equivalent to 27 ppm of Steri-maX for this prophylactic treatment.

Agricrop believe this to be too low for Australian conditions and therefore suggest a rate of Steri-maX of 0.01% (100ppm) may be a more effective dose in these circumstances. A lower rate of somewhere between 0.01% (100ppm) and 0.05% (50ppm) might be ultimately settled on if control is proving effective.

**Example:** A hockey centre wish to treat the 50,000 storage tank before watering the synthetic fields. A 0.01% dose would equate to an addition of 5L Steri-maX Biocide to the 50,000L tank.

### **2. Acute infestation - Application by water cannon/ irrigation system**

If use of a calibrated sprayer is not suitable, then an acute infestation may be treated by applying Steri-maX Biocide through the irrigation system. In this situation, Steri-maX applied at a dilution of 0.1% solution has proven to adequately control the outbreak algae on synthetic turf hockey pitches.

**Example:** A hockey centre wish to treat the 50,000 storage tank before watering the synthetic fields. A 0.1% dose would equate to an addition of 50L Steri-maX Biocide to the 50,000L tank.

### **3. Acute infestation - Application by boom spray**

Applications with a calibrated sprayer are recommended for situations where an algae infestation has made the playing surface slippery and safe playing can no longer be assured. The World Hockey info sheet suggests that a rate of the specific quaternary compound equivalent to a 1.35% solution of Steri-maX for this treatment. Agricrop believe that a rate 1% solution is adequate to control algae in this manner and therefore suggest this rate will be effective in these circumstances.

**Example:** A hockey centre wish to treat a 2,000 spray cart for application to the synthetic fields. A 1% dose would equate to an addition of 20L Steri-maX Biocide to the 2,000L tank.

**NB:** Be aware that dead algae remains slippery and these application should therefore be followed by intensive cleaning.

### **General Comments on Steri-maX Biocide for Algae Control**

- Effective against a range of fungi, algae and bacteria pathogens.
- Stays active as long as it is in solution (does not oxidise).
- Under heavy agitation, foam may form and a defoaming agent may be useful.
- Biocidal action sets in rapidly and can be observed as a lightening of the initial brown colour.

#### **References/Acknowledgment**

Application rates and general information has been sourced from the World Hockey (FIH) guide to the care and maintenance of synthetic turf hockey pitches. (July 2007) [www.worldhockey.org](http://www.worldhockey.org)

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