

# Efficacy of Algaefix® Marine in the Laboratory and Aquarium



## INTRODUCTION

Excess algae growth in saltwater aquariums is unsightly. Algae can over-run delicate corals and live rock in reef aquaria. While copper sulfate has been used in fish-only aquariums, it adds undesirable heavy metals to the aquarium and cannot be used with invertebrates. No safe and effective algaecide has been available for use in all marine aquariums.

A new algaecide, ALGAEFIX Marine, was developed for algae control in marine aquariums including reef aquariums containing inverts such as corals and shrimp. Extensive test data proving effective algae control and safety for marine fish and invertebrates was submitted to the United States Environmental Protection Agency for review. After the review process, ALGAEFIX Marine was granted approval for use in all saltwater aquariums including reef aquariums.

## METHODS

Four marine algae species were selected for the test. The blue-green algae *Spirulina major* and *Oscillatoria* sp., form red mats in marine aquariums and are commonly referred to as "red slime algae." The green alga, *Cladophora* sp., form filamentous "hair algae" growth. The diatom *Cyclotella* sp. causes brown patches on aquarium glass and gravel. The test procedure is based on the Pure Culture Technique [EPA Performance Guidelines, Subdivision G: 92-20 (e)].

- Algal species were cultured under artificial lights for three weeks
- 300 50-milliliter flasks were filled with sterilized culture media
- The flasks were inoculated with the marine algae and placed under artificial lighting and agitation.
- Half of the flasks were treated with ALGAEFIX Marine and half were untreated controls. Three lots of ALGAEFIX Marine were tested
- Flasks were observed for three weeks and evaluated for algae control
- "Percent Algae Control" was calculated based on growth ratings

## RESULTS

- ALGAEFIX Marine controlled:
  - o 100% of the *Spirulina* major culture
  - o 98% of the *Oscillatoria* culture
  - o 100% of the *Cladophora* culture
  - o 94% of the *Cyclotella* culture

## AIM

To test the effectiveness of ALGAEFIX Marine for the control of excess algal growth in saltwater aquariums.

## DISCUSSION

ALGAEFIX Marine has been proven to control 94-100% of the algal species tested. In addition to the laboratory testing described above, ALGAEFIX Marine has been thoroughly tested, over several years, in saltwater fish tanks and reef aquariums. It has been demonstrated that long-term use of ALGAEFIX Marine is safe for marine fish, invertebrates and even sensitive corals containing symbiotic algae. ALGAEFIX Marine has been proven to have no effect on water chemistry, fish, or invertebrates.



Before treatment: Filamentous algae growing on live rock



After 3 weeks of treatment: Filamentous algae is under control

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