



ABSTRACT AQUATAIN AMF & DROPS

Aquatain AMF is a unique silicone-based liquid for mosquito control.

It spreads across the surface of standing water - even large water bodies - and forms a very thin film. As silicones have a very low surface tension, the film prevents pupae and larvae from attaching themselves at the surface while attempting to breathe, thereby causing them to drown.

The product has a purely physical action and does not contain any toxic chemicals.

Its strong spreading action ensures that it will move around vegetation and other obstacles on the surface, and it is highly resistant to wind or wave action. It is also unaffected by rain falling on the surface.

Trials have shown that Aquatain AMF is effective on the surface for up to 4 weeks.

Aquatain AMF is approved for sale in several countries including Australia, and approvals are pending in many other countries.

Europe have exempted it from formal registration to Directive Biocides because of its physical action, so isn't considered a Biocide and is a free sale product.

Silicones - the active ingredients in Aquatain AMF - are one of the most widely used polymers in the world. They are used in consumer products such as shampoos and lipsticks, medicinal and pharmaceutical products, industrial products such as waterproofing compounds, and even in food applications.

How Does Aquatain AMF Compare To Other Mosquito Control Products?

Unlike bed nets and chemical spraying, which are aimed at adult mosquitoes, Aquatain AMF is aimed at the mosquito breeding stages and is therefore complementary to these methods.

Aquatain AMF also has advantages over chemical and biological larvicides: special equipment is not needed, and it can be applied by the general public its efficacy is not affected in heavily polluted water it has an impact on all stages of the breeding cycle – not just on one stage unlike chemical larvicides, it is non-toxic.

In addition, as Aquatain AMF has a physical action rather than a chemical action, mosquitoes cannot develop a resistance to it. This is a very important advantage, as there is emerging evidence that commonly used mosquito control measures are becoming ineffective.

Environmental Aspects

Silicones, the active ingredients in Aquatain AMF, are manufactured from very pure quartz sand (also called silicate). When they eventually break down, silicones degrade back to harmless silicates.

Many studies have been undertaken on silicones by reputable international bodies, and none of the studies has identified any human or environmental concerns associated with the use of the product.

Specifically, studies have concluded that silicones show no adverse effects on aquatic, soil and sediment dwelling organisms – even at concentrations well above those actually found in the environment.

Silicones have characteristics which prevent them from bioaccumulating: their high molecular weight (>10,000) prevents them from passing through biological membranes.

Because of their inert nature, silicones are listed as a polymer of low concern by the Australian authorities.

Silicones are also highly permeable to gases. This is a beneficial feature in a product such as Aquatain AMF, because the presence of the film does not prevent the water from being oxygenated.

Several reports have examined the effect of Aquatain AMF on non-target species, and no significant impacts have been observed.

Toxicity Aspects

Silicones have been in use for several decades, and many studies have been undertaken on their toxicity. The most recent study was released in 2012 by the European Centre For Ecotoxicity Of Chemicals (ECETOC), and it concluded that "...the available data indicate that PDMS (silicone) does not present a risk to the environment or to human health. The safety of PDMS has been recognised by its widespread use in a wide range of applications that have resulted in environmental and human exposure for nearly 50 years."

Studies by the US EPA and other reputable bodies have come to similar conclusions.

Aquatain AMF is certified for application to drinking water storages in the USA, after extensive toxicology testing by NSF International - the world's leading certification authority for drinking water chemicals.