

Comparison between Conventional Larvicidal Oil and Aquatain AMF Mosquito Film

	Conventional Larvicidal Oils	Aquatain AMF Mosquito Film™
Mode of action	<ul style="list-style-type: none"> ● It forms an oily film on the water surface which prevents the larvae and pupae from breathing in oxygen from the air above ● Killing them by suffocation 	<ul style="list-style-type: none"> ● A polydimethylsiloxane-based (PDMS or Silicone) formulation ● It adds a thin silicone film on water bodies and constitutes a physical barrier to the reproductive capabilities of mosquitoes ● The low surface tension of the silicone film prevents mosquito larvae from breathing and causing them to drown. Also prevent female mosquitoes from depositing their eggs on the water surface
Dosage ¹	<ul style="list-style-type: none"> ● 22.0mL/m² (190.5μL/300mL) 	<ul style="list-style-type: none"> ● 1.0mL/m² (8.7 μL/300mL)
Cost ³	<ul style="list-style-type: none"> ● HK\$580 / 18 L ● HK\$0.7 / each time of application 	<ul style="list-style-type: none"> ● HK\$400 / 500mL ● HK\$0.8 / each time of application
Environmentally friendly	<ul style="list-style-type: none"> ● Not environmentally friendly (main composition is gas oil) ● Contains polycyclic aromatic hydrocarbons which has been proved to be associated with a higher risk of cancers ● May do harm to aquatic organisms if misapplied ● Flammable 	<ul style="list-style-type: none"> ● Non-toxic and non-flammable (silicones are widely used in consumer applications (e.g. shampoos and lipsticks etc.) ● Not a biocidal product (European Union (EU) No 528/2012) ● No harm to humans and environment (degrade to silica (quartz), carbon dioxide and water) ● No harm to soil organisms & aquatic organisms (do not bioaccumulate or bioconcentrate)
Frequency	<p>2 – 4 times a month*</p> <p>*Reapplication is required after rainfall or windy days; Not effective in the presence of vegetation and floating debris</p>	<p>1 once a month</p> <p>Resilience to breakages by rainfall and wind; Able to penetrate vegetation cover and floating debris on the water surface</p>
Performance ²	Mean pupal mortality rate: 92.3%	Mean pupal mortality rate: 100%

^{1&2} Efficacy of Various Larvicides against Aedes aegypti Immatures in the Laboratory: http://www.researchgate.net/publication/251877934_Efficacy_of_Various_Larvicides_against_Aedes_aegypti_Immatures_in_the_Laboratory

³ Calculation is based on the retail price of both products

傳統蚊油與 Aquatain AMF 防蚊薄膜™ 之比較

	傳統蚊油	Aquatain AMF 防蚊薄膜™
原理	<ul style="list-style-type: none"> ● 在積水表面形成薄薄一層蚊油，令蚊子幼蟲及蚊蛹無法於水面上呼吸 ● 使蚊子幼蟲及蚊蛹窒息而死 	<ul style="list-style-type: none"> ● 以聚二甲基矽氧烷（有機矽）為主要配方 ● 它會在水面上形成一層防蚊薄膜並構成一個物理屏障，影響蚊子的繁殖能力 ● 由於防蚊薄膜的表面張力低，所以能阻止子的幼蟲浮上水面呼吸；它同時能夠阻止雌蚊在水面上產卵及令其溺死。
使用份量 ¹	<ul style="list-style-type: none"> ● 22.0 毫升/平方米 (190.5μL/300mL) 	<ul style="list-style-type: none"> ● 1.0 毫升/平方米 (8.7μL/300mL)
成本 ³	<ul style="list-style-type: none"> ● HK\$580 / 18 升 ● HK\$0.7 / 每次施放 	<ul style="list-style-type: none"> ● HK\$400 / 500 毫升 ● HK\$0.8 / 每次施放
對環境的影響	<ul style="list-style-type: none"> ● 不環保（主要成份為石油） ● 產品含有可致癌的多環性芳香化合物 ● 如使用不當會危害水生生物 ● 易燃 	<ul style="list-style-type: none"> ● 無毒及不易燃（有機矽易已被廣泛應用於如洗頭水及潤唇膏等產品上） ● 並非殺生物劑（歐盟認可 No 528/2012） ● 對人及環境無害（產品可降解為二氧化矽【石英】、二氧化碳和水） ● 對土壤生物及水生生物無害（不會造成生物累積或生物富集）
施放次數	<p>每月 2 – 4 次*</p> <p>*強風或大雨後需重新施放； 若水面上有植被或大型漂浮物件則施放後效果不大</p>	<p>每月 1 次</p> <p>具抵禦水面上的波浪及強風 能有效穿透水面上的植被及物件</p>
表現 ²	<p>平均蚊蛹致死率：92.3%</p>	<p>平均蚊蛹致死率：100%</p>

^{1&2} Efficacy of Various Larvicides against Aedes aegypti Immatures in the Laboratory: http://www.researchgate.net/publication/251877934_Efficacy_of_Various_Larvicides_against_Aedes_aegypti_Immatures_in_the_Laboratory

³ 以上價錢以零售價錢計算