

Pest Control *focus*



Insecticides painting technology and its features and advantages for controlling American cockroaches in sewage manholes

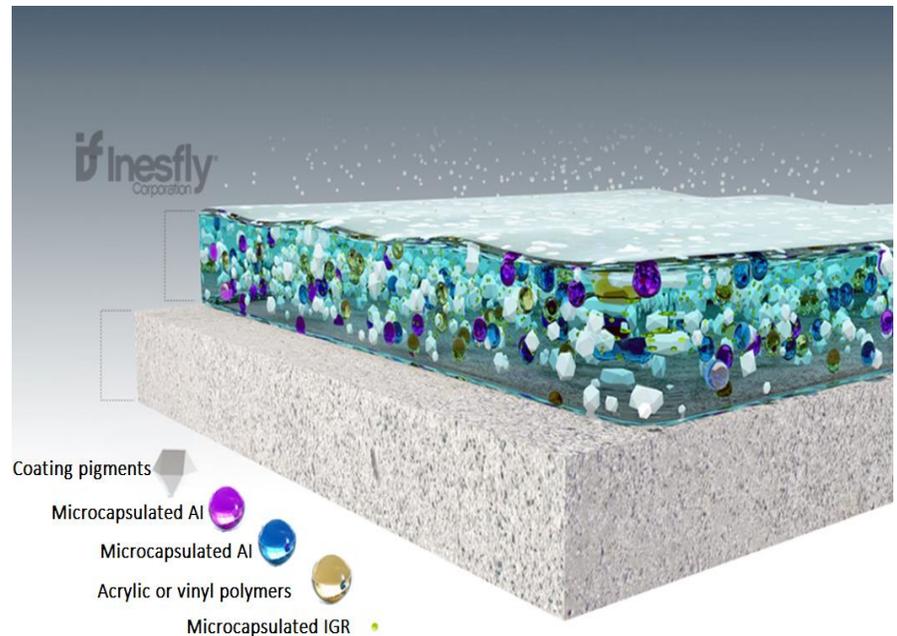
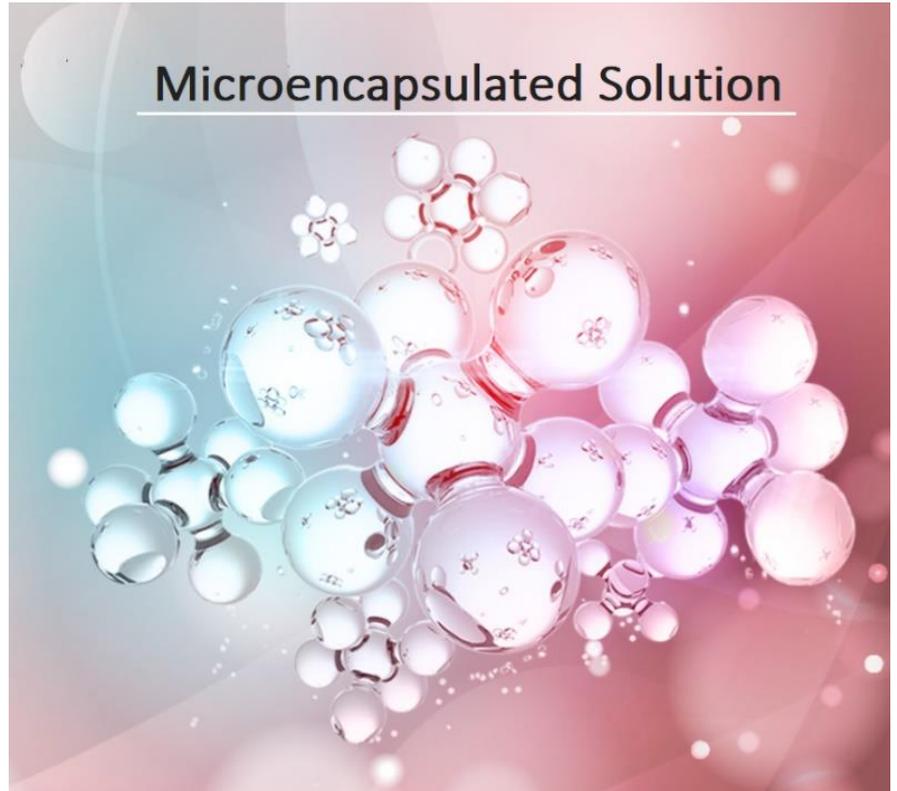
Abu Dhabi Emirate has a well-developed sewage system with highly interconnected network which it provides a very protected shelter for American cockroaches with high redundancy of food and moisture resources along with hot weather conditions that resulted in having a great challenge in controlling American cockroaches. Tadweer as public service provider has included American cockroach control in sewage manholes as one of its key scheduled services in order to maintain American cockroach population at low levels. Tadweer has been using various methods for controlling American cockroaches in sewage manholes, however, the high moisture content and high temperature require special insecticides formulations that can stand those conditions and provide high efficacy over American cockroach populations. Few years ago Tadweer introduced the new technology of insecticides painting. Insecticides paint is a new technology that is developed by Inesfly Corporation. Insecticides paint technology is based on using biopolymer coating materials that include insecticide active ingredients in leader polymers in microencapsulated formulations.



How does it work?

Insecticides painting technology is based on a physical and chemical process that allows the formation of polymeric microcapsules of insecticides and insect growth regulators, attractants, natural molecules (essential oils), etc., without interaction between them. The Inesfly technology microcapsules allow a gradual release of the active ingredients, thus achieving less harmful products, with a high efficacy and long lasting residual effect, which makes it an ideal and effective technology for controlling American cockroaches in sewage manholes.

The coating polymers hold the microencapsulated active ingredients, these microencapsulated ingredients will be contained active inside their capsules. When the cockroach step on it, the active ingredient will be released in low amounts and stock on cockroach body, and then they will come in direct contact with cockroach body and enter their bodies and cause death. The insecticides paint formulation aims to preserve the efficacy of active ingredients for a very long time that may reach up to three years depending on the conditions inside the sewer manhole.



Key features



Long lasting effect

In comparison with other formulations, insecticide paint provides very long-lasting effect that can reach up to three years thanks to its chemical and physical properties that can stand weather conditions and preserve the efficacy of active ingredients



Non repellent

As American cockroach is able to detect repellent insecticides, the unique formulation of insecticide paint technology is capable to manage and control the repellency of its active ingredients by which it becomes undetectable for American cockroaches providing higher efficacy than traditional insecticides



Environmentally friendly

Despite its long persistence, insecticides painting technology actually uses a very small amount of active ingredients and have very low toxicity level which makes environmentally safe product. It is also very effective in preventing insecticides leaching and prevent the insecticides spill and leaching to other non-target areas. In addition, its application in sewage manholes limits its effect on non-targeted organisms.



Unique combination

Inesfly technology allows the use of multiple active ingredients and IGR's which enable the insecticide paints to have a very unique chemical properties that would increase its efficacy as well as managing insecticides resistance development.

Advantages



Since its adoption by Tadweer several years ago, insecticide painting has proved its high efficacy against American cockroaches that is reflected in continuous decreasing of American cockroach infestation level.

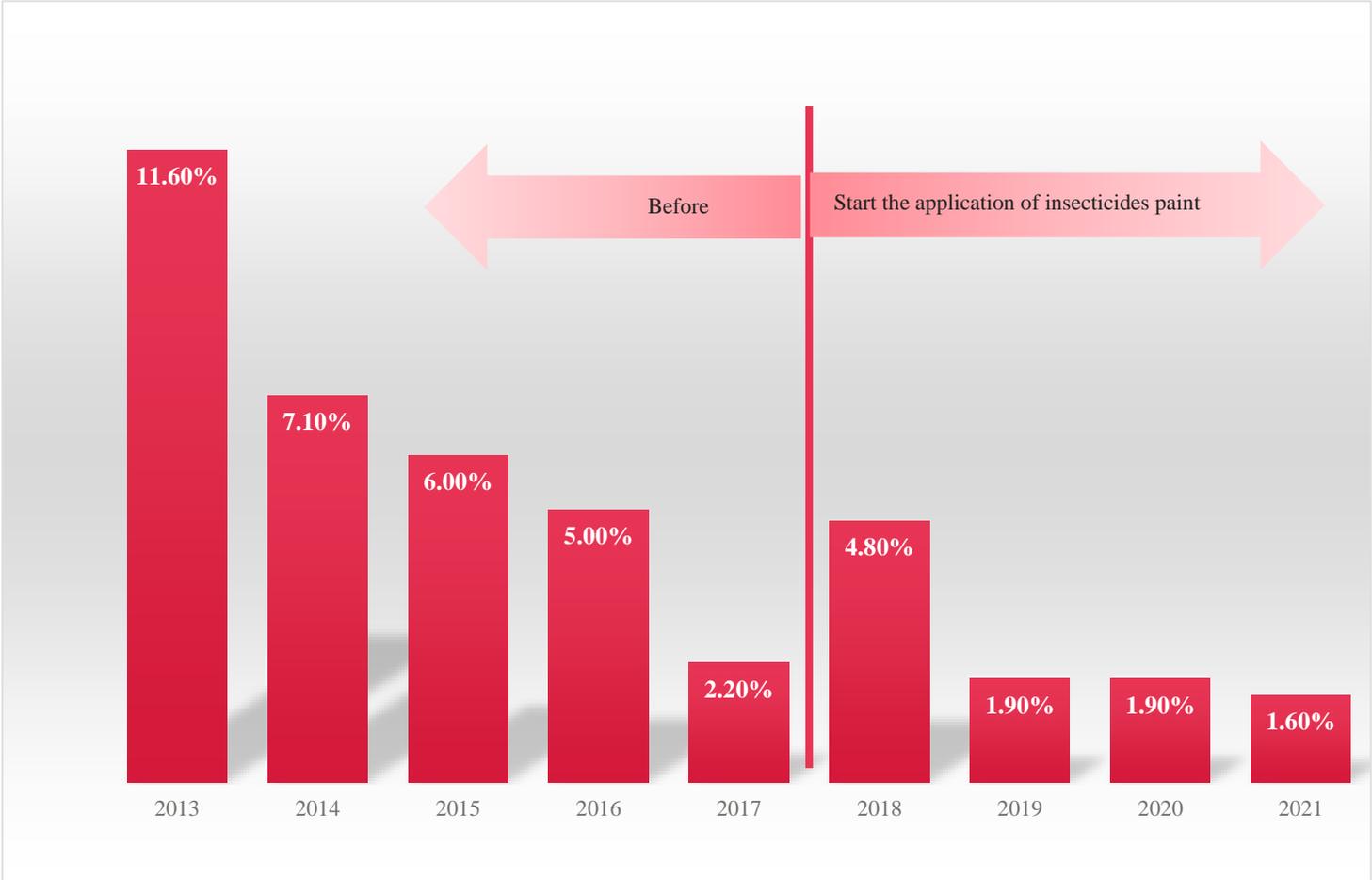


Figure 1: American cockroach infestation level in Abu Dhabi Emirate

Figure 1 Displays American cockroach infestation level history since 2013, and it shows how the infestation level was declining due to the intensive effort to control American cockroach population. In 2017 the multiple campaigns were launched to control American cockroach and it witnessed the introduction of Microencapsulated formulations that resulted in significant drop in infestation level, however, this drop did not last long the American cockroach population level recovered in 2018. The application of insecticides paints (Inesfly) started in 2018, and we can notice that since 2018 the infestation level has been declining to very low levels constantly as result of the high efficacy and long-lasting effect of insecticide paint



Even though the initial cost for applying insecticides paint is relatively high, comparing to traditional insecticides application, in the long run insecticide painting has proved its ability to significantly reduce the operational cost for treating American cockroaches in sewer manholes thanks to its long lasting residual that can reach up to 3 years. Accordingly, the amount of insecticides and needed manpower will be decreased which it does not require monthly repeated treatments as the case of other traditional insecticides

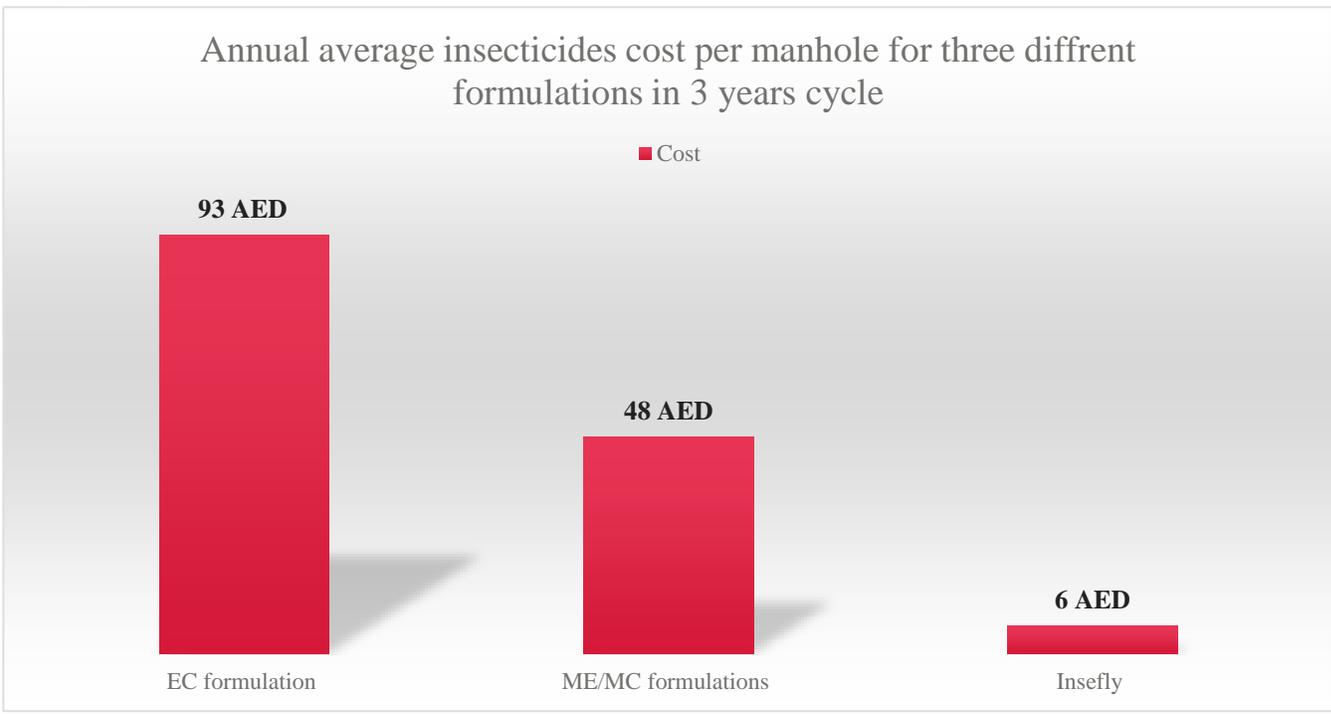


Figure 2: A comparison of the annual insecticide cost per manhole using different insecticides formulation in Abu Dhabi for the last three years

Figure 2 compares the annual average cost per manhole of different insecticides formulation, we can notice that using EC formulations cost is the highest due to short residual effect and high repellency that requires multiple applications within the same period. The cost for ME/MC formulation is a lower thanks to long lasting effect of these formulation which the number of applications is less than EC formulations. Inesfly (insecticides paint) by far was the lowest average cost which it requires very less number of treatment thanks to its long-lasting residual effect. This comparison proves the highly effective economic performance of using insecticides paint formulation in the long term for controlling American cockroaches in sewer manholes.

