

Ion-metrix™

A success story

Ion-metrix™ was designed to cater to the need for a solution to combat leaks and foul odours from air-conditioning units. These problems arose from the accumulation of condensation in the drain pans of air-conditioning units, which create a favourable environment for the breeding of micro-organisms such as viruses, moulds, algae and the harmful Legionella bacteria. The end result was choked drainpipes and poor air quality.

Hydro^e mission formulated Ion-metrix™ — the first polymer material that uses biodegradation for the release of actives to protect against harmful bacteria, viruses, algae, moulds, fungus, corrosion, scaling and foul odours. It works 24 hours a day, 7 days a week to keep air-conditioning drain pans and lines clear of condensation.



The science behind Ion-metrix™

The fundamental approach in developing Ion-metrix™ was to integrate Poly-metrix™ technology into a product to control the release of the disinfectants — copper (Cu²⁺) and silver (Ag⁺) ions.

The end product, Ion-metrix™, was tested and proven to be effective in maintaining Cu²⁺ and Ag⁺ at their effective range of 0.40 ppm and 0.04 ppm for a period of 6 months when appropriately sized. This led to the superior control of biological growth in drain pans, resulting in significant cost savings in terms of power consumption, better air quality and increased productivity. Hydro^e mission further enhanced Ion-metrix™ by incorporating cleaning, fresh-smelling, anti-scale and corrosion properties into the product.

Composition of Ion-metrix™

Actives of Ion-metrix™

Bactericidal Cu²⁺ and Ag⁺

Cleaning agents

Corrosion and scale inhibitors

Scented compounds

Features of Ion-metrix™

Timed release of Cu²⁺ and Ag⁺

Unique polymer layer to minimise skin contact

Flexible strip design to ease placement in hard-to-reach areas

100% biodegradable

No slimy feel

Adhering property to pan to prevent blocking of drain hole

No product residue, no need for product removal

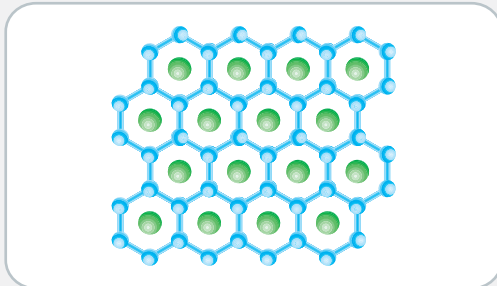
Lasts 6 months

How does Poly-matrix™ work?

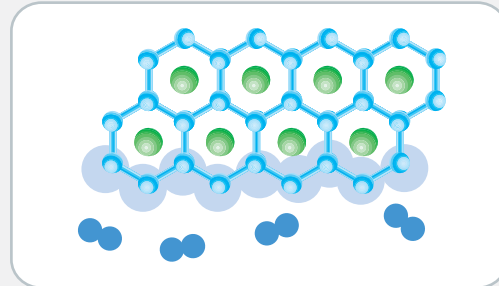
Poly-matrix™ consists of two components:

1. Active ingredients
2. Biodegradable polymers that hold and subsequently release the active ingredients into a water-based environment

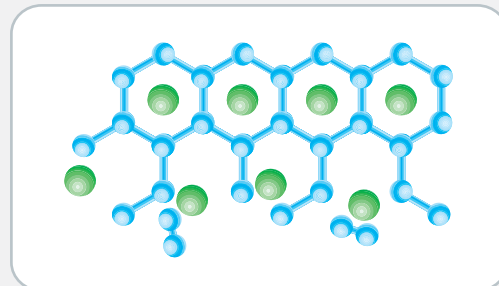
When the polymers are put together with any active ingredient, chemical bridges form between the polymeric units. This produces pockets that house the active ingredients. This matrix — comprised of polymer units and active ingredients — is known as Poly-matrix™



A. Matrix Structure



B. Formation of polymer coat



C. Breakage of bonds and release of compounds

Hydro^emission creates customized applications of Poly-matrix™ that are innovative, cost-efficient and environmentally friendly. Hydro^emission products are simple to use, absolutely safe, totally biodegradable and require minimal maintenance. High technology that contributes to making our lives more hassle-free and our world a safer, healthier place.

