

Accelerating the transition to the circular economy



Frequently asked Questions

Dissolvable Wet Wipes

What is Hydropol™?

Hydropol™ is an innovative technology based on thermally processible polyvinyl alcohol (PVOH/PVA). The polymer used to produce Hydropol™ is petroleum based, water-soluble, biodegradable, and non-toxic meaning that it is safe for marine and wastewater environments, addressing key environmental concerns related to traditional plastic waste.

Why was Hydropol™ developed?

PVOH/PVA has always had impressive environmental credentials, but historically it has been difficult to process which has limited applications and use. However, after years of R&D, Aquapak now offer products which have been fully optimised for manufacturing and the environment. These unique products can now be used to tackle pollution.

What is PVOH/PVA commonly used for?

PVOH/PVA is inherently biocompatible, biodegradable and used in a wide range of applications, including industrial, medical, pharmaceutical, textile/ paper and food. More commonly, it is used as a film for detergent pods.

PVOH/ PVA complies with strict regulatory requirements in many of these sectors. For example, in the cosmetic sector products utilising the benefits of PVOH/ PVA include skin care masks, colour cosmetics, sun care and hair care.

PVOH/PVA is also approved safe by FDA and Health Canada for food packaging. Additional applications include cartilage replacements, contact lenses and eye drops, drug delivery systems and a component of food supplements as it is odourless, tasteless, and non-toxic.

What is Hydropol™ used for?

Hydropol™ can be processed into films, coatings or fibers which are converted into a range of environmentally friendly products.

There has been commercial success using Hydropol™ in products to establish their commitment to the environment such as:

- [Recyclable crisp \(potato chip\) packets \(bags\)](#)
- [Garment bags for triathlon brand](#)
- [Marine-safe bags for outdoor adventure brand](#)

Fibers made from Hydropol™ offer a key advantage: their water solubility and eco-friendly disposal. Wipes made with these fibers are not only flushable but fully dissolve and biodegrade in wastewater plants, preventing pipe clogs and protecting sewer systems.

How does Hydropol™ dissolve?

Hydropol™ fibers absorb water and swell when exposed to aqueous environments within seconds, and they do so without fragmenting into harmful microplastics. These fibers then continue to dissolve into smaller chains, which triggers complete biodegradation. These smaller chains are an excellent food source for microbes, which break them down into carbon dioxide, water and biomass.

Hydropol™ does not attract toxins to its surface, such as fats, oils, and greases (FOG). Its hydrophilicity (water-loving property) means that the presence of Hydropol™ in sewer and wastewater systems will not contribute to common issues faced by wastewater companies such as roping, fatberg formation, and/or drain blockages.

Does Hydropol™ technology release any microplastics?

No, it does not. The U.S. Environmental Protection Agency (EPA) defines microplastics as plastic particles that range in size from 1 nanometre (nm) to 5 millimetres (mm). The EPA does not currently classify PVOH/PVA as a microplastic, primarily because it is marketed as water-soluble and biodegradable.

Is Hydropol™ biodegradable in water and do you have any data to support it?

Yes, Hydropol™ is biodegradable in water, and we have data to support this. Hydropol™ has been rigorously tested by an independent lab following international biodegradability standards. According to these tests, over 90% of the Hydropol™ fibers biodegraded the *prescribed test time*, meeting the stringent requirements for certification in fresh water under the OK Biodegradable WATER certification (based on the ISO 14851 method, equivalent to ASTM D5271).

Additionally, further tests conducted by AquaEnviro showed that Hydropol™ performs well in industrial and municipal wastewater systems. We can confirm that Hydropol™ has a 5 Day Biochemical Oxygen Demand BOD5:COD between 0.1-0.4. This results indicate that Hydropol™ breaks down effectively, releasing harmless byproducts like carbon dioxide, water, and biomass, which ensures that it does not cause environmental harm or strain wastewater treatment facilities. This makes Hydropol™ a reliable and safe solution for environmentally friendly products.

Does Hydropol™ change the viscosity of the wastewater and is it safe?

Hydropol™ does not change the viscosity of wastewater, meaning it does not make the water thicker or harder to flow. According to an independent ecotoxicity study conducted by Heriot Watt University, it was concluded that the amount of Hydropol™ needed to alter the viscosity of water would not be feasible in real world conditions. Additionally, Hydropol™ safely biodegrades, breaking down into harmless substances like carbon dioxide, water, and organic matter.

Where is Hydropol™ made?

The base polymer (PVOH/PVA) manufacturer is headquartered in New Jersey with manufacturing in Dallas, Texas. In addition, we have been informed that the raw material supplier of the base material is also located in this area. Hydropol™ is manufactured in Birmingham, UK.

Aquapak Sales representatives are based globally with a strong presence in the USA. Aquapak have multiple warehousing facilities within the USA where Hydropol™ is stored for fast and easy distribution within the region as we pride ourselves on good customer service.