

# Active Material Science Solutions to Maintain Potency & Efficacy of Probiotic Powders

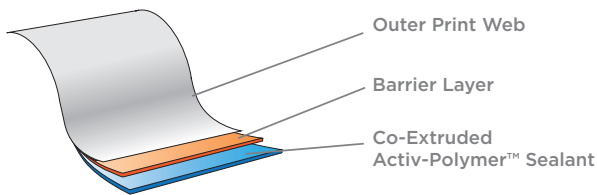
## Fully-integrated moisture protection for probiotic powders

Probiotics packaged in stick packs face unique challenges when it comes to maintaining potency to meet end of shelf life label claims. The small format doesn't allow for a traditional "drop-in" desiccant solution, like a sachet or canister, to protect the contents. However, Aptar CSP has partnered with ProAmpac to offer a moisture-adsorbing flexible packaging solution powered by CSP's 3-Phase Activ-Polymer™ technology. This high-performance solution can be seamlessly integrated into probiotic stick packs or pouches to adsorb moisture, effectively controlling water activity throughout shelf life to help maintain strain viability. The solution is also suitable for protecting bulk hydroscopic powders and blends, maintaining potency and reducing clumping.



## Moisture Protect Flexible Film Solution

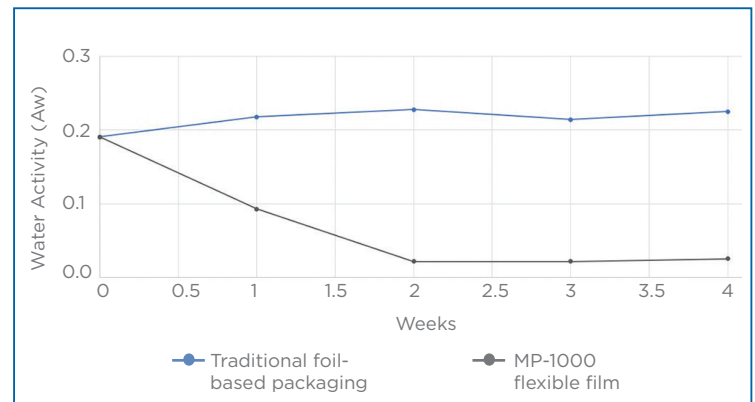
High-Performance Moisture Adsorbing Film Powered by 3-Phase Activ-Polymer™ technology



In collaboration with



## Water Activity in Stick Packs 37.8°C, 70% RH



## Benefits

- **Enhanced viability of cultures = reduced overages and higher margins:**  
Maintains viability of cultures and enables brands to reduce overage levels typically required to meet end-of-shelf-life label claims.
- **Extend shelf life, enhance stability and efficacy:**  
Extend shelf life performance over traditional packaging options.
- **Expanded formulation development opportunities:**  
Enables unique combinations of ingredients that aren't feasible in solutions that provide less protection.
- **Premium moisture protection:**  
High moisture capacity flexible film adsorbs residual moisture from product as well as moisture entering through seal areas.
- **Simplify manufacturing, seamless integration:**  
Ready to deploy on existing high-speed flexible packaging filling lines.
- **Capable of Hermetic Sealing:**  
Active technology has no negative impact on sealing. Lock seal achieved with no impact to manufacturing line speed.