



Poly-Pore® 404HA Hyaluronic Acid Delivery System

Description: A multifunctional microparticle delivery system designed to provide sustained release of Sodium Hyaluronate (Hyaluronic Acid) in topical formulations.

Typical Properties

INCI Name:	Allyl Methacrylates Crosspolymer and Sodium Hyaluronate
Appearance:	White to off-white, moist powder.
Sodium Hyaluronate Concentration:	4.0%

Hyaluronic Acid/Sodium Hyaluronate (HA) benefits in topical formulations:

Hyaluronic acid (and its sodium salt sodium hyaluronate) is a natural biopolymer that is known for providing strong hydrating benefits to skin in topical formulations.

Poly-Pore® 404HA Benefits in Your Formulation

- Sustained release of HA to the skin
- Improved skin hydration
- Ease of use & compatibility in formulations
- Effective method to add HA to non-aqueous formulations

Sustained Release Studies of Poly-Pore® 404HA

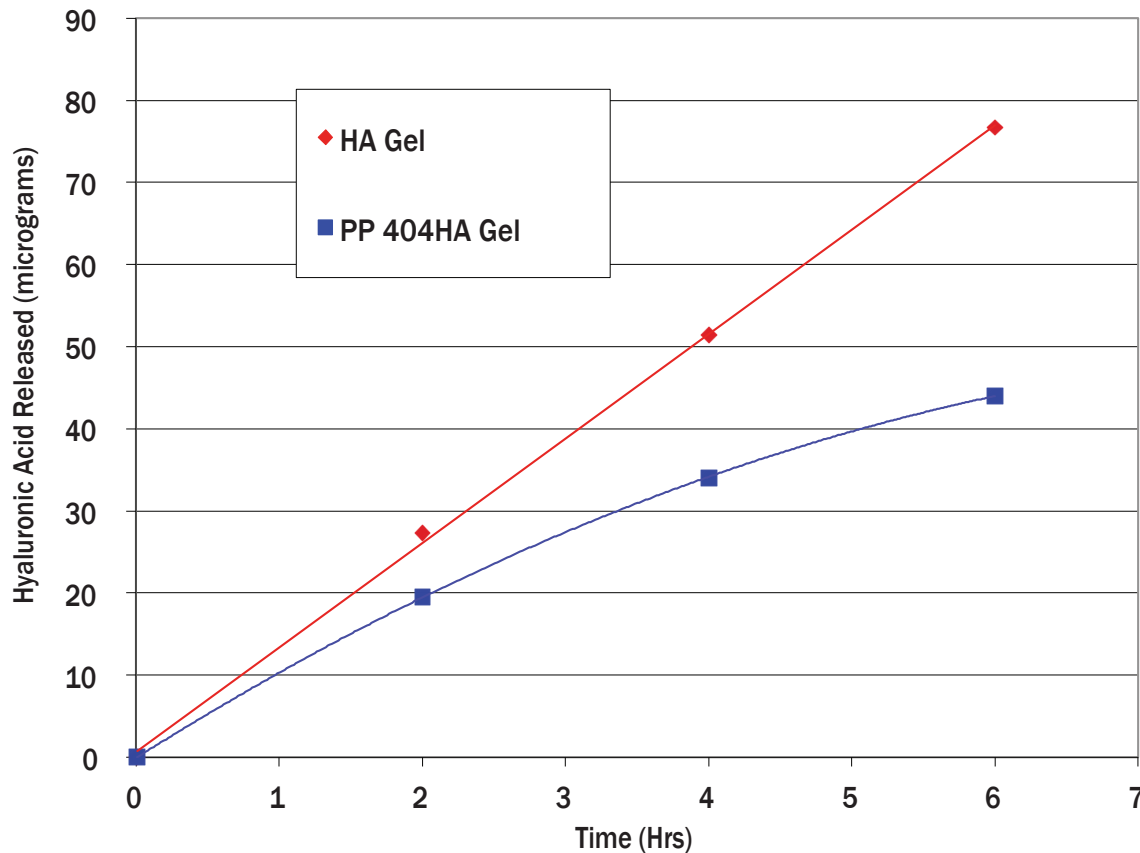
The purpose of the study was to show that adding a Poly-Pore® entrapment of HA into a formulation will change the release rate of hyaluronic acid in comparison to a control formulation where all the hyaluronic acid was free in the formulation. The change in release rate shows that the Poly-Pore® technology delivers the HA slowly over time extending the hydrating benefit for hours after the application of the formula to the skin.

The study was conducted with simple gel formulations – one with free HA dispersed in the formula and one with the HA entrapped the Poly-Pore microparticle. The time release testing was conducted using Franz Diffusion test cells fitted with a Spectrum Labs 300,000 MWCO dialysis membranes. The concentration of hyaluronic acid was measured by UV (195 nm) absorbance against a calibration curve that was developed for hyaluronic acid. Each of the formulations were run in triplicate and the results were averaged.





Franz Diffusion Cell Data - Free Hyaluronic Acid versus Poly-Pore 404HA



The results show that Poly-Pore® delivery system (PP 404HA) provides a slower release rate than the un-entrapped HA in the same formulation indicating that the Poly-Pore technology provides sustained release of the HA over the 6 hour duration of the experiment.

Formulation Guidelines

Poly-Pore® 404HA can be added in all commonly used formulations including oil-in-water, water-in-oil, water-in-silicone and both anhydrous and aqueous gels. The PP 404HA is typically added into the continuous phase of emulsion products after the emulsion has been produced. The PP 404HA is a robust particle so high shear mixing can be used to easily disperse the product into the formulation. No other special handling is required. Appropriate personal protection should be used when handling the PP 404HA, please consult the SDS for the product.

