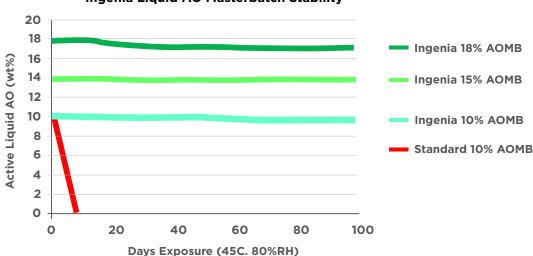


Ingenia Polymers' Novel Liquid Phosphite Masterbatch

In recent years, new liquid phosphite chemistries have been developed for the stabilization of polyolefins offering a number of technical and regulatory advantages over more traditional alternatives. However, liquid additives are not the preferred physical form for incorporation into the polymer, especially when a liquid feeder is not readily available. Liquid phosphites are additionally challenging as a liquid feeding system will need to be carefully temperature controlled to manage metering viscosity and nitrogen blanketed to prevent additive degradation.

Through innovative processing and formulation, Ingenia Polymers has developed non-blooming, shelf-stable, high concentration masterbatches of liquid phosphites.

These novel masterbatches can be customized in terms of desired loading level, inclusion of additional additives as well as selection of preferred carrier resin.



Ingenia Liquid AO Masterbatch Stability

Figure 1: Masterbatch Shelf Life: Pellets were exposed in an environmental chamber at 45C and 80% relative humidity. In less than 7 days, a standard 10% liquid AO masterbatch is fully hydrolized (0% active phosphite). Comparatively, Ingenia masterbatches at 10%, 15% and 18% loadings show excellent hydrolytic stability over months of exposure.



Figure 2a: Ingenia's 10% Liquid AO masterbatch technology: Non-greasy, free-flowing pellets

Figure 2b: Standard 10% masterbatch; pellets with poor flowability and greasy to the touch.

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About Ingenia

With a passion for excellence, a relentless drive for innovation and an entrepreneurial spirit that's unmatched in the industry, Ingenia Polymers is one of the most trusted providers to the worldwide thermoplastics industry today, and the preferred supplier to some of the most trusted household brands.

As the premier integrated solutions provider for the global polymers industry, we have the people, the technology and the expertise to service a variety of markets. Every day our customers trust Ingenia to handle their most demanding applications.

Today, Ingenia Polymers is composed of two complementary business units. Our Primary Producer Division provides thermoplastic custom compounding, size reduction, custom densified additive blend solutions and product development support for resin producers. Our Proprietary Products Division provides a full array of engineered products such as white and black Masterbatches, additive and color concentrates as well as specialty products that serve the film, pipe and rotomolding market segments. With innovation and customer partnerships at the forefront, Ingenia Polymers is supporting our customers' drive to succeed in their support of the Circular Economy for Plastics and to reach their Sustainability goals. Through our technical and analytical capabilities, we develop custom solutions to support our flexible packaging customers, while maintaining stock of industry standard products for immediate response to customer needs. Together each division works to add value to our customers' supply chains around the world. To learn more visit our website at: www.ingeniapolymers.com.



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