



## NANOTECHNOLOGY EQUALS OPPORTUNITY FOR FLEXIBLE SNACK FOOD PACKAGING

Nanotechnology, the manipulation of matter on a molecular scale, is expected to have a significant impact on the packaging industry. Agrifood, a multinational food and agriculture consultant predicts that food packaging containing nanoparticles will be a \$20 billion market by 2020.

The flexible packaging industry is beginning to evaluate and embrace the opportunities that nanotechnology represents. The benefits from nanotechnology in food packaging are vast, with the snack-food category standing to potentially benefit the most. While not always considered the most tech-forward segment of the food packaging arena, by incorporating nanotechnology, snack food brands stand to make significant strides on many packaging fronts: environmental, performance and more.

Flexible packaging companies like LPS Industries are working with films coated with ultrathin layers of nanoparticles, essentially eliminating entire substrates. These nanoparticle-based coatings are only a fraction of a micron thick, yet offer outstanding oxygen barrier properties. One human hair is approximately 80 microns (1 micron equals 1 millionth of a meter) thick. By comparison, a nanoparticle coating consisting of 30 to 50 layers of particles is only 0.2 to 0.4 microns thick. Less material equals means less packaging material in the waste stream, a win from a business and consumer standpoint for snack food brands.

While one might assume that such a film would be difficult to produce, quite the opposite is true. An abundant, inexpensive material called vermiculite, often used as a gardening soil enhancer, is an ideal source of nanoparticle platelets, each approximately 1 to 3 nanometers (1 nanometer equals 1 billionth of a meter) thick and 10 to 30 microns in length and width.

This new packaging option, providing equal and sometimes greater barrier protection while simultaneously creating less material waste, has commanded the attention of consumer snack food brands. Currently, nanotechnology in flexible packaging can translate into significant competitive and environmental benefits to marketers of food products such as nuts, granola, dehydrated foods and salty snacks, to name a few.

Nanocoated film also can be used as an alternative to PVDC (Saran® coated) film which – while a long-time option in the flexible packaging industry – is beginning to be phased out in some countries in favor of more environmentally sound alternatives.

LPS Industries recently announced the availability of a new film featuring a nanoparticle coating in their portfolio of flexible packaging solutions.

For more information on LPS Industries and its flexible packaging products and services, please visit: [www.lpsind.com](http://www.lpsind.com).



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### About LPS Industries

LPS Industries was founded in 1959 by John M. Robinson as a converter of military specification barrier materials. Today, under the direction of Madeleine D. Robinson, CEO, LPS Industries is a diversified manufacturer and leader in the flexible packaging industry, providing packaging solutions for a diverse range of markets, including medical, food, transportation, electronics and agricultural. LPS Industries is an ISO 9001:2008 registered company and a woman owned and operated enterprise. For more information on the company's products and services, please visit [www.lpsind.com](http://www.lpsind.com).