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Commercialization of the New High-Function Resin “Nichigo G-Polymer”

Expanding our specialty business is NIPPON GOHSEI’s strategy priority. Thus we are focusing on developing high-function, high value added products. We would like to announce the start of commercialization of Nichigo G-Polymer, a unique multi-function, high-performance resin.

We have succeeded in developing a totally new, amorphous vinyl alcohol resin. It combines two contradictory functions; although it is an amorphous resin, it also has crystalline functions.

Specifically, in addition to having excellent gas barrier properties and good chemical resistance compared to PVOH (polyvinyl alcohol) and EVOH (ethylene-vinyl alcohol copolymer) resins, it has superior extrusion properties, orientability, shrinkability and transparency. It can be used in all extrusion processes: melt-spinning, oriented film, transparent container, injection and more. And because it is biodegradable, it lends itself to a variety of applications such as new packaging materials that reduce the burden on the environment.

Because it has not only oxygen barrier but the highest level of hydrogen barrier property, its use as a composite with other materials such as metal and inorganic materials can be expected in household power fuel cell systems and fuel-cell powered cars, hydrogen gas stations and the like.

Further, this product, in combination with other resins in all kinds of bicomponent fibers and nonwoven fabrics, filters, polymer alloy and multi-layer film, makes possible the development of high-strength, flexible, antistatic, and hydrophilic functional products.

Other unique character of Nichigo G-Polymer is a water solubility. It has exceptionally good inorganic substance dispersing and aqueous solution stabilizing properties, so its use as a sintered binder and coating agent for silica, aluminazol and other metals is anticipated in the manufacture of flat panel displays and their component parts.

In addition, it dissolves very rapidly in water, even in chilled water. It has superior solubility characteristics, being low foaming with good viscosity stability at low temperatures. It makes a major contribution to reducing the burden on the environment, because of biodegradable, free of antifoaming agent and increased operating and energy efficiency.

In order to make it dissolve completely in water, after-reactions such as acetalization, urethane and others take place uniformly in aqueous solution, making it possible to develop functional products with extremely uniform quality and structure.

When it is used as a polymer protective colloid agent in emulsion polymerization of various acrylic emulsions, it is possible to manufacture emulsions having good machine stability and stable viscosity at low temperatures. This allows the creation of surfactant-free acrylic emulsions and emulsion powders, which until now has been difficult to achieve. Such acrylic emulsions and emulsion powders are already manufactured and sold by NIPPON GOHSEI.

With all of these multi-functional, high performance characteristics, Nichigo G-Polymer opens the door to a wide range of application development.

NIPPON GOHSEI will set up a semicommercial facility at our Kumamoto Plant (Uto city, Kumamoto JAPAN) for annual production of 300 tons by the spring of 2009. We are also setting up a commercial production facility for 2000 tons per year, to be ready by the end of 2008 at our Kumamoto and Mizushima (Kurashiki city, Okayama JAPAN) Plants. We are examining expanded production capability with an eye to overseas production sites, as we head for our goal of annual sales of JPY 10 billion in five years.

Please refer to http://www.g-polymer.com for detailed information on Nichigo G-Polymer.

We intend to response in a timely way to access by our customers and develop the market. Through the commercialization of Nichigo G-Polymer, NIPPON GOHSEI is expanding and enhancing its specialty business, and our future product development will exploit its technical strengths.

< Information on Nichigo G-Polymer >

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