

Development of Production Process of Novel Super-Fast-Drying Superabsorbent Polymer

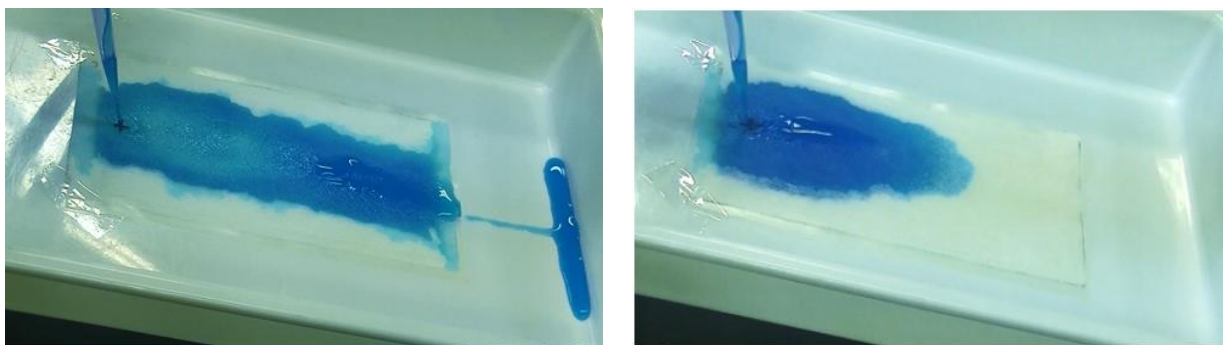
NIPPON SHOKUBAI CO., LTD. (Headquarters: Osaka, Japan, President: Yujiro Goto, hereinafter "Nippon Shokubai"), developed a novel superabsorbent polymer (SAP) with super-fast-drying absorption property, which could not be achieved in the past.

In the sanitary articles industry, where superabsorbent polymers (SAP) are primarily used, not only the demand for disposable diapers for infants but also the demand for sanitary articles for adults (disposable diapers, napkins, pads for light incontinence) has been expanding in recent years. SAP properties required for sanitary articles for adults are different from those required for disposable diapers for infants. Specifically, the ability to quickly absorb liquid (fast-drying) and the ability to prevent the absorbed liquid from leaking (liquid retention) are particularly important.

Nippon Shokubai developed a SAP that is super-fast-drying in comparison with existing products and has about three times better liquid retention property with a new production process. The idea of the new production process was derived from an experiment carried out by a researcher who happened to shift the viewpoint while aiming to develop a production process with improved efficiency. Based on the idea, research, process technology, production, and engineering departments joined their expertise and succeeded in establishing a commercial production process.

Sanitary articles using this SAP is fast-drying and the surface immediately dries up upon absorption of liquid. Also, due to the excellent liquid retention property and absorbency against pressure, they securely retain the absorbed liquid without allowing leakage. We believe that these remarkable characteristics would be able to add great value to sanitary articles for adults, which are expected to grow further in the future.

Currently, we are building a 15,000 t/y plant in our Himeji Plant, and expect to start production and sales from June 2021. Taking advantage of the unprecedented novel properties, we will also explore possibility of creating new markets other than sanitary articles.



Pictures: Comparison of liquid retention when liquid is applied to a SAP-containing sheet laid on a slope (left: conventional SAP, right: newly developed SAP)

About NIPPON SHOKUBAI Co., Ltd.: Since 1941, Nippon Shokubai has grown up its business with unique catalyst technology. Nippon Shokubai has supplied, for example, ethylene oxide, acrylic acid, automobile catalysts, process catalysts and so on. Among all, our global market share of superabsorbent polymers is the largest in the world now. Nippon Shokubai is a global chemical company operating under its corporate mission "TechnoAmenity-Providing affluence and comfort to people and society with our unique technology." <https://www.shokubai.co.jp/en/>

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