



December 14, 2011

Notice Concerning Involvement in Joint Development and Commercialization of Hard Carbon for Lithium-ion Secondary Batteries

KUREHA Corporation (headquartered in Chuo-ku, Tokyo; hereinafter "Kureha") and KURARAY Co., Ltd. (headquartered in Chiyoda-ku, Tokyo; hereinafter "Kuraray") have been jointly developing new hard carbon material "Biocarbon", a raw material derived from plants, for LiB anodes. A basic agreement has been reached that, by next spring, KURARAY will provide capital and human resources to Kureha Battery Materials Japan Co., Ltd. (headquartered in Chuo-ku, Tokyo; hereinafter "KBMJ"), a joint venture established by Kureha and ITOCHU Corporation (headquartered in Minato-ku, Tokyo, hereinafter "ITOCHU") to manufacture and sell battery materials, and that KBMJ and Kuraray Chemical Co., Ltd. (headquartered in Osaka City;) will set up a manufacturing joint venture to establish a mass production and supply system with annual production capacity of 1,000 tons by 2013.

Kureha commercialized Carbotron®P, a hard carbon material derived from petroleum pitch. Carbotron®P has since been used mainly in applications that take advantage of its charge-discharge properties and durability, such as large LiBs for industrial and automotive use. With the advancement of LiB for hybrid cars and electric vehicles, the requirements from the automakers and battery manufacturers are becoming more and more diverse and the unique properties and quality of hard carbon has been recognized increasingly.

Kuraray is focusing on the development of new hard carbon materials, drawing on its expertise in carbon materials gained through related operations such as its activated carbon business. Kuraray intends to expand into the growing LiB materials market through this joint commercialization of the new hard carbon anode material.

ITOCHU has stepped up its initiatives in the field of secondary batteries and, as part of this initiatives, ITOCHU is actively investing in the LiB materials business. In the field of anode materials, ITOCHU has been making full use of its extensive management resources, worldwide network and comprehensive strength to accelerate the global expansion of Carbotron®P.

With Kuraray's participation in its management, KBMJ will strengthen its new product development capability and stable supply system, in pursuit of better cost performance.

The market for LiB is expected to expand rapidly, not only for use in hybrid cars and electric vehicles, but also for stationary power source, smart community and household applications. In ten years' time, annual demand for anode materials is expected to top 100,000 tons, compared with current annual demand of several thousand tons. Kureha, Kuraray and ITOCHU intend to establish a unique position in the field of anode materials through a full and extensive line-up of hard carbon products with a stable supply-ability.