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Mitsui Chemicals, Inc.

Mitsui Chemicals to Develop a Highly Active Catalyst for 1-Hexene Production

Mitsui Chemicals, Inc. (MCI) announces the development of its own homogeneous catalyst technology to produce 1-hexene (C6).

1-Hexene is mainly used as a comonomer for high performance polyethylene, and utilized as an auxiliary material for HAO-LL EVOLUE™, a core product of MCI's group company, Prime Polymer Co., Ltd.

※ HAO-LL: Linear low-density polyethylene of which comonomer is exchanged from 1-butene (C4) to 1-hexene (C6) or 1-octene (C8), with the aim of improving strength, heat-seal property and processability.

MCI has successfully developed the original homogeneous catalyst which selectively trimerizes ethylene by innovating olefin polymerization catalyst technologies the company has accumulated. So far, only a chromium catalyst technology has succeeded in producing 1-hexene through selective trimerization of ethylene. The newly developed catalyst exhibits high selectivity and high activity, 600 fold of the chromium catalyst. Furthermore, the excellent activity is achieved under conditions with low temperatures and low pressures, thus enabling simple and energy-saving process design. MCI is planning to establish a 1-Hexene Plant by using this catalyst technology (annual production of 30,000 t) around 2010.

MCI has set its basic strategy of the Basic Chemicals business as "Strengthening international competitiveness against the threat of the Middle East" in the Mid-term Business Plan, and determined concrete measures as "High-value production by differentiated technologies." The newly developed catalyst technology is expected to establish the optimized production structure including propylene by securing ethylene demand in the Chiba Area as well as differentiating the products from those made by Middle East competitors. Furthermore, it will contribute to strengthening competitiveness of EVOLUE™ manufactured by Prime Polymer Co., Ltd.