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Ethylene Industry

Ethylene is the world's most widely used petrochemical. Its primary use is in various polyethylene plastics used in food packaging, construction components such as high efficiency windows, piping, electrical conduits, etc. It is also used in medical devices, sporting goods, automotive parts, coatings, adhesives, elastomers, paint and many home care uses. The current use is roughly 330 billion pounds per year, representing a \$200+ billion annual market.

Ethylene is made today through the thermal cracking of either naphtha (an oil derivative) or ethane (a natural gas liquid or NGL). The U.S. and Middle East use ethane as the primary feedstock and the rest of the world predominately relies on naphtha. Worldwide, there are 270 crackers in service and 4 to 7 world-scale plants are required every year to keep up with demand. While these feedstock costs vary around the world, the price/value of ethylene is largely set by global oil prices.

Siluria's ethylene process technology has some features in common with an ethane cracker's separation and purification portion of the process. The key distinction is in the front-end of the process. Siluria's technology uses natural gas (and optionally some ethane) in a direct catalytic reaction to produce ethylene. This is in contrast to steam cracking, which uses a furnace and ethane or naphtha as the feedstock. Siluria's process is also exothermic and generates energy (versus cracking which consumes substantial amounts of energy), which can drive other plant operations such as separations and recovery.

Much of the industry builds their plants and sources the latest technology through leading EPC firms such as The Linde Group, Technip, CB&I and KBR. Siluria has partnered with The Linde Group to offer an integrated package combining Siluria's OCM technology with Linde's separations and recovery systems, for licensing to the petrochemical industry for both revamps or expansions at existing ethylene plants and for new world scale ethylene plants. In addition, Siluria is pursuing joint ventures with established players in the industry such as Braskem, with whom Siluria recently announced a partnership.

Siluria in the News

Saudi Aramco invests in Siluria: will BIO rescue OCM and put the ROI back into GTL?
08-20-2014

Siluria's Oxidative Coupling Nears Reality
07-07-2014

Siluria Technologies, Linde Announce Ethylene Technology Partnership
06-02-2014

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