Energy Efficient Plant Designs for Linear Alkylbenzene (LAB)

Energy efficient plant designs are being implemented into the latest LAB plant designs for a significant reduction in energy and capital requirements.

Linear Alkylbenzene Sulfonate (LAS) accounts for more than 40% of all surfactants used in household laundry detergents.

Solid Bed Alkylation (Detal-Plus) is the alkylation technology of choice for new LAB plants.

- Single Dividing Wall Column (DWC) replaces traditional 2-column unit for reduced capital and utility requirements.
- Newly developed catalysts result in operation at lower separator pressures.
- Increased catalyst space velocity reduces the catalyst requirement and the reactor size.
- Latest DeH-15 catalyst exhibits improved selectivity, reducing the size of the reactor.
- Optimized hydrogen-to-hydrocarbon ratio reduces utilities.
- Reduced Rotary Valve cycle times increase throughput.
- The addition of a tertiary flush, and reduction in circulation and reflux rates reduce the size of the columns in the unit and the utilities requirements.
- New ZDA-2 catalyst allows for significantly reduced benzene circulation rates, which results in reduced vessel sizes and utility requirements.
- Improved reactor and fractionation column designs also result in reduced vessel sizes and utility requirements.

25% reduction in energy costs and capital costs from latest LAB plant technologies!

25% reduction in energy cost + 25% reduction in capital cost = 50% improvement in the IRR.

* 100 KMTA LAB Plant