

### Solvent recycle of carbon-based resin using Aspen plus

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During semiconductor process, kind of process material used to Photo Lithography is very much by tens ~ hundreds kind, and each part or usage by PR's kind changes.

Therefore, manufacturing process of semiconductor materials is attained by small Scale's Batch form mainly, and pass through several purification process to get product of high purity.

Because most of by-products are organic solvent after purification process progress, develop

process that can reuse this solvent and to reduce the production cost.

In the case of Carbon-Based Resin, the process with 10 times of purification and 7 times of solvent exchange to produce 0.5 ton resin. Through this, quantity of solvent is about 11 tons which accounts for considerable portion in manufacturing cost of product.

In this study, process that separates each solvent from organic solvent waste that is produced in Carbon-Based Resin and obtains solvent of high purity was suggested and analyzed the economic efficiency.