



SUCCESS STORIES



Fermentation Project: Successful development of a competitive, scalable and cost-effective process for natural biosurfactants derived from fermentation, including a number of demonstration runs

BACKGROUND

An international technology company approached ExSyn to help commercialize their line of natural biosurfactants derived from fermentation. The product line consisted of five different products, each requiring a different set of processing steps. At the inception of the project, the customer had only produced small lab scale volumes of each product to aid their marketing and application development efforts.

THE CHALLENGE

While these products displayed unique properties, their current manufacturing process made the products economically unattractive in comparison to other commercially available surfactants. The challenge was to develop a scalable cost-effective process and demonstrate it at a commercial scale.

THE APPROACH

ExSyn approached the project from a number of angles. These included:

1. Identification of a toll manufacturing partner
2. Process improvement
3. Raw material supply
4. Coordination of demonstration runs
5. Quality control
6. Regulatory compliance
7. Logistics support

THE SOLUTION

- Y ExSyn secured a toll manufacturing partner that possessed the equipment necessary not only to produce the initial scale up batches but also the planned commercial volumes.
- Y In cooperation with the customer and the toll manufacturer, ExSyn was able to improve yields of the overall process, as well as to incorporate recycle steps that minimized waste treatment requirements.
- Y ExSyn was able to identify and source all required raw materials, resulting in overall cost savings.
- Y ExSyn organized a series of demonstration runs that allowed the production of multiple batches of product demonstrating process repeatability.
- Y In cooperation with the customer and the toll manufacturer, ExSyn finalized all required analytical tests to certify the product.
- Y Several of the raw material inputs required special permits (at a local and national level). Along with the customer and the toll manufacturer, ExSyn's regulatory team ensured that all permits were obtained prior to any demonstration run.
- Y ExSyn's logistics team coordinated all movements of raw materials and finished goods.