

## **BIOCHEM show case**

# **Develop alternative biobased calcium binder for use in detergents and anti-scaling formulations**

## **Problem**

Detergents and anti-scaling agents generally use strong calcium-binding components in their formulations. Calcium ion bridging binds soil to fabric, while unbound calcium can also react with surfactants or redeposit on cleaned surfaces. Traditionally these calcium binders have been phosphates and silicates or polyacrylic acids derived from petrochemical feedstocks.

## **Technical solution**

Itaconix, a green technology company, have developed a route to polyitaconic acid from corn and wood. The itaconic acid produced by microbial fermentation is then polymerized in a solvent free process. When tested for calcium binding properties, it was found to have three times the calcium binding capacity of polyacrylic acid making it an excellent water soluble detergent builder with anti-redeposition and stabilizing properties.

## **Benefits**

- **Manufactured in a low energy process with heat recovery**
- **Polymerization carried out in water**
- **No VOCs**
- **Concentrated product solution**
- **100% biobased polymer**

## **Further information**

Itaconix website <http://www.itaconix.com/>