

Starbon® Case Study - Heterogeneous Sulphonic Acid Catalysis



Starbon[®] is an excellent support for heterogeneous catalysis where its unique and tuneable surface characteristics are appropriate for many reactions, including esterifications conducted in aqueous media. This is particularly important in biomass fermentation reactions which produce a range of organic acids that can be utilised as platform molecules in applications such as the production of polymers and higher value intermediates. Esterification is one of the key upgrading steps for these acids. The fermentation process is carried out in aqueous media and the resulting aqueous broths require resource intensive separation steps before the acids can be upgraded. Starbon[®]-supported sulphonic acid catalysts give very high conversion yields. Other reactions that these catalysts have excelled in, include aromatic amidations and acylations. Starbon® - nanometals catalysts perform well in other aqueous phase reactions including reductions with H_2 and oxidations with H_2O_2 .

STARBON[®] surface characterisation

Catalytic activity, conversion and selectivity of STARBON[®] acids in comparison to other solid acids (and supports) in aqueous ethanol esterification of succinic acid

