

Sucrochemistry Biorefineries: potential of chemicals produced from sugar cane in Brazil

Santos, M.F.R.F. dos¹; Borschiver, S¹; Couto, M.A.P.G.¹

¹ – Escola de Química da UFRJ, Brazil

Although Brazil has the ninth largest net sales of Chemical World, it is clear that there is a large trade deficit in the sector which increased from approximately US\$ 1 billion in 1990 to US\$ 25 billion in 2010.

A great opportunity to reverse this situation would be to promote greater diversification of raw materials used in the Chemical Industry, which has the oil, traditionally its main raw material source of non-renewable. This industry segment, worldwide and in Brazil, has intensified its efforts in Research and Development in search of products that can be obtained from renewable sources in order to reduce dependence and vulnerability of the oil.

Thus, the use of biomass, a major source of carbohydrates available, it is encouraged as an opportunity to attenuate the problems associated with the use of oil. Brazil finds itself in a privileged position to assume global leadership in the full exploitation of biomass presenting a series of comparative and competitive advantages, such as his extensive experience in the agroindustrial sector of biofuels, due to its pioneering role in the production of ethanol derived from the cane sugar. Besides ethanol, sugar and electricity, new chemicals such as organic acids, polyols, polymers, methanol and ammonia can be obtained from organic residues in so-called sucrochemistry biorefineries. This study points out the major movements of companies in Brazil regarding the production of chemicals from sugar cane, still seeking to identify projects for installation of pilot plants in the country. The products covered were acetic acid, acrylic acid, butanol, sorbitol/mannitol, citric acid, polyhydroxybutyrate, ethylene and propylene glycol and polyethylene. The results show that major chemical, energy and sugar companies develop projects on the use of biomass coming from the sugar cane for production of chemicals, seeking greater integration with the mills producing sugar and ethanol in order to ensure the supply of renewable raw materials.

Keywords: Sucrochemistry, Biorefinery, Chemicals, Brazil.

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