



“Gheorghe Asachi” Technical University of Iasi, Romania



NEW CATALYSTS USED IN THE HYDROGENOLYSIS REACTION OF GLYCEROL

**Adriana Marinoiu¹, Claudia Cobzaru^{2*}, Elena Carcadea¹, Mircea Raceanu¹,
Dorin Schitea¹, Mihai Varlam¹, Ioan Stefanescu¹**

¹*National R D Institute for Cryogenics and Isotopic Technologies- ICIT, 4 Uzinei Street, Rm Valcea, Romania,*
²*“Gheorghe Asachi” Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection,
73 Prof.dr.doc. D. Mangeron Street, 70050 Iasi, Romania*

Abstract

The catalytic hydrogenolysis of glycerol, a by-product of the biodiesel manufacturing process was studied on copper chromite catalysts with different chemical composition. The obtaining of propylene glycol was studied under mild reaction conditions (180-240°C temperature range, 8 hours reaction time and moderate pressures). These important parameters have significant effects on the glycerol conversion and that is way the actual study was concerned to the obtaining of a superior selectivity to propylene glycol by optimizing the reaction conditions. The water content in the raw material seems to damage the process development, coming out the requirement to use small amounts of water in order to achieve an increased reactor productivity.

Keywords: biodiesel, copper chromite catalysts, glycerol, propylene glycol

Received: December, 2014; Revised final: May, 2015; Accepted: May, 2015; Published in final edited form: January, 2019

* Author to whom all correspondence should be addressed: e-mail: ccobzaru@yahoo.com; ccobzaru@tuiasi.ro