



US008754266B2

(12) **United States Patent**
Holladay et al.

(10) **Patent No.:** **US 8,754,266 B2**
(45) **Date of Patent:** **Jun. 17, 2014**

(54) **CHEMICAL PRODUCTION PROCESSES AND SYSTEMS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **13/892,083**

(22) Filed: **May 10, 2013**

(65) **Prior Publication Data**
US 2013/0253231 A1 Sep. 26, 2013

Related U.S. Application Data

(62) Division of application No. 12/104,394, filed on Apr. 16, 2008.

(51) **Int. Cl.**
C07C 27/00 (2006.01)

(52) **U.S. Cl.**
USPC **568/861**; 568/840; 568/852

(58) **Field of Classification Search**
None
See application file for complete search history.

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(57) **ABSTRACT**

Hydrogenolysis systems are provided that can include a reactor housing an Ru-comprising hydrogenolysis catalyst and wherein the contents of the reactor is maintained at a neutral or acidic pH. Reactant reservoirs within the system can include a polyhydric alcohol compound and a base, wherein a weight ratio of the base to the compound is less than 0.05. Systems also include the product reservoir comprising a hydrogenolyzed polyhydric alcohol compound and salts of organic acids, and wherein the moles of base are substantially equivalent to the moles of salts or organic acids. Processes are provided that can include an Ru-comprising catalyst within a mixture having a neutral or acidic pH. A weight ratio of the base to the compound can be between 0.01 and 0.05 during exposing.

8 Claims, 8 Drawing Sheets