

Precious Metals Compounds and Recovery: Fischer Tropsch Catalysts and Catalysts used in Hydroformylation and Oxo-Processes

Authors: Dr. Jan Schapp, Heraeusstr. 12-14, 63450 Hanau, Germany
Dr. Horst Meyer, 15524 Carmenita Road, Santa Fe Springs, CA
90670, USA
Michael Arndt, Heraeusstr. 12-14, 63450 Hanau, Germany

Solid phase Fischer Tropsch catalysts, which are used in the emerging field of interest known as “gas to liquid” (GTL), consist to a high percentage of cobalt. In addition they contain on a value basis a considerable amount of platinum group metals or Rhenium as promoters. Therefore there is an imperative need for economically feasible recycling processes triggered not only by the value of the metals contained in spent Fischer Tropsch catalyst but also the potentially limited availability of a promoter like rhenium. Heraeus, as an experienced precious metal specialist, will support this important technology with its profound know-how in developing tailor-made hydrometallurgical recycling processes for all kinds of catalyst system. Besides giving an overview about state-of-the art recovery processes, this presentation will clarify the economic and environmental aspects involved.

Hydroformylation and Oxo-Processes are technologies that consume a major percentage of homogeneous catalysts used world wide. The focus lies on organometallic compounds, containing rhodium as catalytic centre. The development of the precious metal market, with significant rises of the rhodium price, pushes many companies to look more closely at the involved recycling terms. Appropriately, Heraeus is proud to offer its recently developed HeraCycle®- recovery process for homogeneous catalysts. Furthermore Heraeus is able to produce the required amounts of fresh homogeneous catalysts that meet well known quality standards. Key economic, technical and environmental aspects, that have to be considered in dealing with the precious metal loop, will be covered by this presentation.