Agilent Technologies

Agilent J&W GS-GasPro

A collection of citations to advance your research

Table of contents

Energy and chemicals

Determination of Sulfur in Natural Gas by ASTM Method D 6228-11

LC.GC, **September** (2011)
Laura Chambers, Gary Engelhart

Tags
Select Low Sulfur, GS-GasPro, energy & chemicals, natural gas

Abstract
Agilent J&W Select Low Sulfur and GS-GasPro GC columns were used to asses sulfur in natural gas according to ASTM D 6228-11. Published by Advanstar.

Iron Particle Size Effects for Direct Production of Lower Olefins from Synthesis Gas

Journal of the American Chemical Society, **134**, 16207-16215 (2012)
Hirsa M. Torres Galvis *et al.*

Tags
CP-Sil 5 CB, DB-17, GS-GasPro, 7890 GC, energy & chemicals, natural gas

Abstract
The Fischer–Tropsch synthesis of lower olefins (FTO) is an alternative process for the production of key chemical building blocks from non-petroleum-based sources such as natural gas, coal, or biomass. The influence of the iron carbide particle size of promoted and unpromoted carbon nanofiber supported catalysts on the conversion of synthesis gas has been investigated at 340–350 °C, H2/CO = 1, and pressures of 1 and 20 bar. The surface-specific activity (apparent TOF) based on the initial activity of unpromoted catalysts at 1 bar increased 6–8-fold when the average iron carbide size decreased from 7 to 2 nm, while methane and lower olefins selectivity were not affected. The same decrease in particle size for catalysts promoted by Na plus S resulted at 20 bar in a 2-fold increase of the apparent TOF based on initial activity which was mainly caused by a higher yield of methane for the smallest particles. Presumably, methane formation takes place at highly active low coordination sites residing at corners and edges, which are more abundant on small iron carbide particles. Lower olefins are produced at promoted (stepped) terrace sites that are available and active, quite independent of size. These results demonstrate that the iron carbide particle size plays a crucial role in the design of active and selective FTO catalysts. Reprinted with permission from the Journal of the American Chemical Society © 2012 American Chemical Society.

---

www.agilent.com/chem

Printed in the UK
October 1, 2013

5991-3026EN

The Measure of Confidence

Agilent Technologies