New 2nd generation HyBRIM™ NiMo catalyst

Higher activity, **larger** volume swell - the **answer** is HyBRIM™

Topsoe's new superior TK-611 HyBRIM™ catalyst for high-pressure ultra-low sulfur diesel and hydrocracker pretreatment services

Now, more than ever, refiners are forced to search for the absolute top tier NiMo catalyst for their ULSD or hydrocracking pretreat reactors. Despite tremendous improvements in the catalyst technology within the past couple of decades, ultra-low sulfur fuel legislation and the shift towards maximizing diesel production from VGO hydrocracking pose new challenges. The answer – TK-611 HyBRIM™.

TK-611 HyBRIM™ offers 25% higher HDS and HDN activity than the successful 1st generation HyBRIM™ catalyst. It displays unmatched stability throughout the entire catalyst cycle and allows for superior volume swell leading to increased operating profitability.

Improved performance through superior activity

TK-611 HyBRIM™ is a cost-efficient, alumina-based catalyst with the highest possible activity to obtain the desired boost in performance and hydrogen consumption, leading to increased cycle lenghts and a more attractive yield pattern. In fact, TK-611 HyBRIM™ offers 25% higher HDS and HDN activity than its successful 1st generation predecessor TK-609 HyBRIM™, which has been sold to more than 100 units worldwide.

Aromatic saturation ensures density improvement

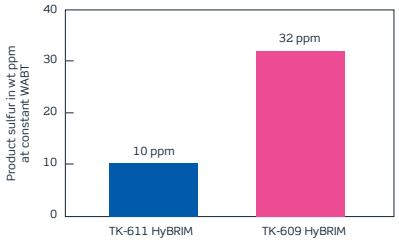
For units using HyBRIM™ catalysts, the poly-aromatics are saturated; this eases the severity of the subsequent hydrocracking process and entails a higher yield of diesel in ULSD operation. Due to the high hydrogenation activity, the volume swell obtained with the 2nd generation HyBRIM™ is 20% higher than for TK-609 HyBRIM™, significantly improving the density.

Unmatched stability achieved through years of research

Topsoe's HyBRIM™ catalysts build on Topsoe's advanced BRIM® technology and exhibit significantly high operating stability even when processing cracked distillate fractions. The HyBRIM™ catalysts are equipped with an increased amount of BRIM® sites, resulting in long operating cycles due to reduced deactivation rates of the catalyst.

Advantages

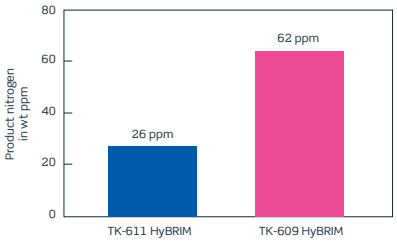
- Unmatched HDS and HDN activity
- High volume swell obtained by hydrogenation
- Unbeaten catalyst on-stream stability

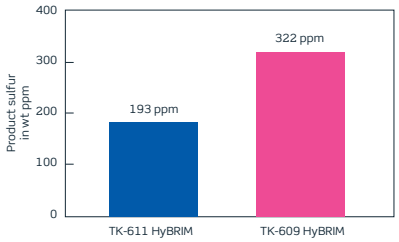


Ultra-low sulfur diesel service - benchmark of TK-611 HyBRIM™ vs. last generation TK-609 HyBRIM™.

Feed	Diesel
Sulfur, wt%	0.6
Nitrogen, ppm	700
Density, SG (API)	0.864 (32.3)

Test conditions	
Target temperature	10 ppm S
Pressure, bar (psi)	70 (1,020)
LHSV	1.0





Hydrocracking pretreatment service - benchmark of TK-611 HyBRIM™ vs. last generation TK-609 HyBRIM™.

Feed	VGO
Sulfur, wt%	1.9
Nitrogen, ppm	1,400
Density, SG (API)	0.92 (22.3)

Test conditions	
Target temperature	< 30 ppm N
Pressure, bar (psi)	140 (2,030)
LHSV	1.15

Get in touch today
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