



The Chemical Company

## Product Data Sheet

# Endurance<sup>®</sup>

## Fluid Catalytic Cracking (FCC) catalyst for moderate resid applications

BASF Catalysts proudly introduces Endurance, an FCC catalyst designed for moderate resid feed applications.

### Technology

Based on our award-winning and commercially proven Distributed Matrix Structures (DMS) technology platform, Endurance is designed to provide enhanced diffusion of resid feed molecules to pre-cracking sites that are located on the external, exposed surface of highly dispersed zeolite crystals. The feed pre-cracks on the zeolite itself, rather than on an active amorphous matrix material. This provides improved reaction selectivities and minimizes the secondary diffusion reactions to less valuable products.

The optimized porosity of the DMS technology provides reduced mass transfer limitations in FCC unit operation, leading to more effective zeolite utilization, and less overcracking to coke and gas. This allows high bottoms conversion with low coke, and higher yields of valued gasoline and light olefin products.

Endurance also incorporates BASF Catalysts' MaxiMet technology. Designed to improve the passivation of contaminant metals over previous resid technologies, MaxiMet minimizes non-selective secondary reactions that result in increased coke and dry gas formation.

### Applications

Endurance is ideal for operations that process moderate or hydrotreated residual feedstocks with total catalyst metals levels exceeding 3000 ppm (nickel plus vanadium). Endurance provides the following benefits:

- Helps relieve air blower and wet gas limitations to improve unit profitability
- Achieves higher catalyst activity in circulation limited units to improve economic performance
- Improves liquid yields achieved with coke and gas selectivity improvements

#### Typical Properties\*

##### Chemical Composition

Al <sub>2</sub> O <sub>3</sub> , wt. %	37–43
Na <sub>2</sub> O, wt. %	0.25–0.39
Surface area m <sup>2</sup> /g	200–310

##### Density

ABD, g/cm <sup>3</sup>	0.72–0.89
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##### Particle Size

APS, μm	75
0–40, %	12

\* Properties can be customized to individual refiners' needs. These are the typical ranges that can be achieved.

## About BASF

BASF Catalysts is the Global Leader in Catalysis, and is part of BASF - The Chemical Company. By leveraging our industry-leading R&D platforms, BASF's global research infrastructure and our passionate pursuit of innovation, we develop unique, proprietary technologies that drive customer success. Our catalytic solutions cover a wide range from chemical and refinery processes, to adsorbents and mobile emissions. In addition, we offer broad experience in trading base and precious metals.

### BASF - The Chemical Company

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