High activity hydroprocessing catalyst

Improve margins with Nebula® catalyst technology

Nebula® bulk metal hydroprocessing catalyst delivers up to two times the activity of traditional hydroprocessing catalysts. Jointly developed by ExxonMobil and Albemarle Corporation, pioneering Nebula catalyst technology provides exceptional hydrogenation power, increasing hydrodesulfurization (HDS), hydrodenitrogenation (HDN) and aromatic saturation activity.

Key benefits

Higher performance
- High activity hydroprocessing catalyst
- Stacked-bed maximizes total system performance

Low operating cost
- Improved margins after short payback period
- Low investment to meet regulatory requirements

Hydroprocessing value
Refiners use Nebula catalyst technology to upgrade difficult feeds to diesel and other high-value products, as well as to increase production volumes of on-spec distillate products.

Ultra-low sulfur diesel (ULSD)
- Small capital investment to meet regulatory requirements

LCO hydrocracking
- Increased throughput and LCO to diesel

VGO hydrocracking
- Improved yield and product quality

Up to 2 times more active than conventional catalysts
Short payback period – 2 to 3 months
Market-leading bulk metal catalyst for over 15 years
Ultra-high activity
Nebula® bulk metal catalysts have proven to be up to two times more active than conventional supported catalysts. Due to its high activity, and pairing with Albemarle’s STAX® technology, Nebula catalyst can be a drop-in solution for existing units. Nebula has more active sites per unit catalyst volume, and usually accounts for 15-35 percent of the reactor load.

LCO + CGO (%wt) - cycles comparison

Proven performance
The quality of the Nebula catalyst’s performance has already attracted more than 60 individual users with over 5,000 MT sold. This outstanding market acceptance has been followed by exceptional customer loyalty, with 85 to 90 percent repeat customers and more than one new customer every two months. Nebula is recognized for its extraordinary hydrotreating technology.

About us
ExxonMobil helps refiners and petrochemical manufacturers increase capacity, lower costs, improve margins, reduce emissions and operate safe, reliable and efficient facilities. Along with a commitment to helping to implement best practices and to achieve better results, we provide cutting-edge proprietary catalysts and license advantaged process technologies for refining, gas and chemical needs.

A refiner using Nebula® technology to maximize HDN processed twice the amount of LCO, CGO and aromatic extract over the run without impacting the targeted cycle length.