



BCMT™-MD FCC additives – Bottoms cracking to maximize distillate production

BCMT-MD is a premier bottoms conversion and metal tolerance additive geared toward maximizing the distillate production of an FCC unit. It is very effective in improving bottoms cracking while maintaining excellent coke selectivity with heavy feedstocks and high levels of metal contamination.

The superior results obtained when using Albemarle's BCMT-MD additive can be ascribed to a unique combination of characteristics. BCMT-MD

- provides highly concentrated accessibility
- contributes metals-tolerant, coke-selective zeolite activity
- has maximum meso-porosity for bottoms cracking
- passivates nickel
- has the highest iron and tolerance of any additive.

The combination of these features results in improvements in bottoms cracking and metals tolerance without the penalties of lower zeolite cracking and poor coke selectivity. BCMT-MD is formulated to minimize overcracking of LCO into gasoline while ensuring sufficient wet gas yield to maintain volume expansion.

BCMT-MD also improves catalyst accessibility by enhancing the diffusional architecture of the catalyst system, which enables the feed molecule to precrack before entering the zeolite. Feed precracking facilitates more effective cracking into valuable products. BCMT-MD delivers a concentrated dose of highly accessible catalytic sites and upgrades the metals tolerance of the unit while only making up a small fraction of the circulating inventory. Because it is an additive, BCMT-MD can quickly be added to the inventory to help improve the profitability of an FCC unit.

The benefits of BCMT-MD

- Increased processing of opportunity crudes
- Increased amount of residue feedstock
- Decreased bottoms yield and gravity
- Increased liquid product yield (LCO, gasoline and LPG)

BCMT-MD enables refiners to quickly meet an FCC unit's bottoms targets.

How to decide if you need BCMT-MD

You need BCMT-MD if you have any of the following:

- a high Z/M surface area ratio in equilibrium catalyst
- an economic premium for diesel over gasoline at your refinery
- a bottoms density less than 1.07 g/cm³ (or greater than 0°API)
- mono- or di-aromatic compounds in the bottoms
- high metals (Ni, V, Ca, Fe, Na) in equilibrium catalyst.

Typical properties of BCMT-MD

TYPICAL PRODUCT ANALYSIS	BCMT-MD
Application	Yield improvement additive
Attrition index, wt%	3.6
Average bulk density, g/ml	0.79
Surface area, m ² /g	185
Al ₂ O ₃ , wt%	65
Na, wt%	0.32
Re ₂ O ₃ , wt%	0.75
Pore size distribution (0–40), %	14
Pore size distribution (0–20), %	1

For more information on this or other Albemarle products and technologies, please contact your Albemarle representative.

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