

## Evolve™

### Fluid Catalytic Cracking (FCC) additive for butylenes maximization

BASF's newest additive, Evolve, maximizes butylenes selectivity and production in the FCCU for refineries who value butylenes production.

#### Technology

Evolve™ is BASF's newest FCC additive that is designed to deliver LPG with preferential selectivity towards butylenes over propylene versus conventional olefin additives. This additive is well suited for refineries that aim to maximize alkylate. Evolve converts gasoline range molecules into valuable LPG products. Refiners that operate at an LPG yield constraint can improve selectivity of FCC olefin products; the butylenes ratio is higher, providing more economic benefit over conventional olefin additives. Evolve leaves conversion unchanged, much like ZSM-5.

#### Synergize with the best

Evolve works best when combined with a base FCC catalyst that selectively produces high gasoline range olefins for cracking to LPG. This can be realized by matching Evolve with FCC catalyst that maximizes C6 through C9 olefins, providing optimal feed for Evolve to convert to LPG.

#### Applications

Evolve is a preferred additive for refiners looking to optimize operations via:

- Butylenes selectivity
- Butylenes maximization
- Increased LPG yields
- Increased Alky unit feed

#### Packaging

- 55 gal drums
- 1 ton supersacks
- 1 ton tote bins
- Bulk (>15 tons)

#### Typical Fresh Properties

##### Surface Area

TSA, m <sup>2</sup> /g	215
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##### Density

ABD, g/cm <sup>3</sup>	0.8
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##### Chemical Composition

Na <sub>2</sub> O, wt%	0.3
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##### Particle size\*

APS, μm	85
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0-40	10
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\* Particle size distribution is customized to optimize performance depending on individual FCC unit requirements.

## About Us

BASF's Catalysts division is the world's leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world and ensure efficient production of a wide variety of chemicals, plastics and other products, including advanced battery materials. By leveraging our industry-leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF's Catalysts division develops unique, proprietary solutions that drive customer success.

**BASF - We create chemistry**

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