

# Maximum Propylene Solution

## Fluid Catalytic Cracking (FCC) Catalyst for maximizing propylene and light olefins yields

**Maximum Propylene Solution (MPS) combines Y-zeolite and ZSM-5 for synergies delivering high activity, propylene selectivity, and minimum delta coke.**

### Technology

BASF's **Maximum Propylene Solution (MPS)** is an advanced FCC catalyst designed to deliver high performance for units desiring high light olefins yields, including propylene for petrochemical use.

MPS synergistically combines Y-zeolite with ZSM-5 to achieve high activity without the penalty of activity dilution by adding ZSM-5 additive separately. The Y-zeolite is based on BASF's award winning Distributed Matrix Structures™ (DMS) to provide best-in-class™ coke selectivity and high activity. The catalyst is formulated for low H-transfer to generate more olefins and light olefin precursors. The Y-zeolite makes the right type of molecules to feed to the stable ZSM-5, which is optimized for high LPG olefins yields and gasoline octane enhancement.

### Applications

MPS is the ideal catalyst for refiners looking to expand their window of operability for high olefins yields.

**MPS** is particularly well-suited for use in the following scenarios:

- Units desiring the highest light olefins selectivity, including propylene
- Units requiring the highest degree of coke selectivity for high conversion
- Units using high levels of ZSM-5 wanting to avoid the dilution impact of using ZSM-5 additives
- Units wanting the lowest bottoms-to-coke ratio
- Excellent LCO selectivity with higher LCO cetane

### Target Properties

#### Chemical Composition

Al <sub>2</sub> O <sub>3</sub> , wt%	37-45
Na <sub>2</sub> O, wt%	0.17-0.29
Surface Area, m <sup>2</sup> /g	250-310

#### Density

ABD, g/cm <sup>3</sup>	0.65-0.85
------------------------	-----------

#### Particle Size

APS, μm	75
0-40, %	12

\* Catalyst properties are 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**

### Americas

BASF Corporation  
25 Middlesex/Essex Turnpike  
Iselin, New Jersey, 08830, USA

### Asia Pacific

BASF South East Asia Pte Ltd  
7 Temasek Boulevard  
#35-01 Suntec Tower One  
Singapore 038987

### Europe, Middle East, Africa

BASF SE  
67056 Ludwigshafen, Germany

### Global Email

[refining-catalysts@basf.com](mailto:refining-catalysts@basf.com)

*Distributed Matrix Structures is a trademark of BASF.*

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required. © 2015 BASF

[www.catalysts.basf.com/refining](http://www.catalysts.basf.com/refining)

BF-10507 Rev. 12/17