

# ATA-21: A new standard for transalkylation catalysis

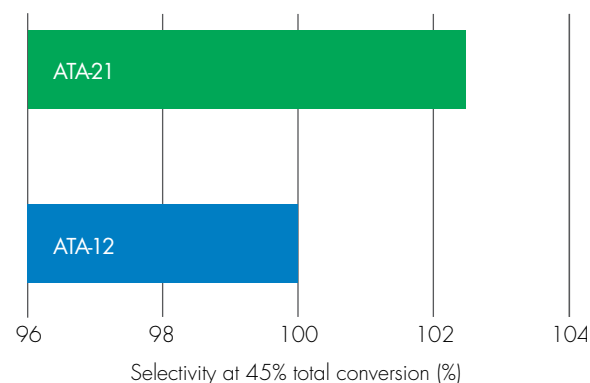
Increased efficiency and activity deliver a range of benefits

ATA-21 is the latest product from the partnership between Zeolyst International and SK Innovation in the ATA series of high-performance transalkylation catalysts. The ATA series is an established leader in transalkylation offering highly stable activity and performance in the treatment of heavy feedstocks.

## Key features of ATA-21

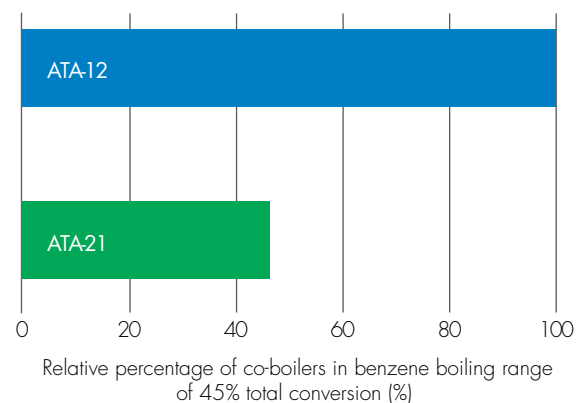
- **Feedstock flexibility** enables plant operators to optimise the economics of their transalkylation units.
- **Efficient operation** as a result of very low aromatics loss
- **Excellent product quality** with a benzene purity of up to 99.95% without extraction
- **High activity** enables operation at a high weight hourly space velocity up to 4.5 h<sup>-1</sup> with no significant change in yields at low deactivation rates.
- **Utility cost reduction** based on low hydrogen requirements
- **Outstanding stability** with typical cycle lengths in the range four to eight years, depending on operating conditions

Building on the success of ATA-11 and ATA-12, the new ATA-21 catalyst enhances performance through increased efficiency, lower aromatics loss, reduced gas production and lower hydrogen consumption.



ATA-21 offers higher benzene and C8 aromatics selectivity than ATA-12

ATA-21 offers a significant activity advantage of about 30%. This activity gain enables plants to operate at lower temperatures, extend cycle lengths or reduce catalyst volumes. The benzene product quality improves, as there are fewer co-boilers in the benzene boiling range.



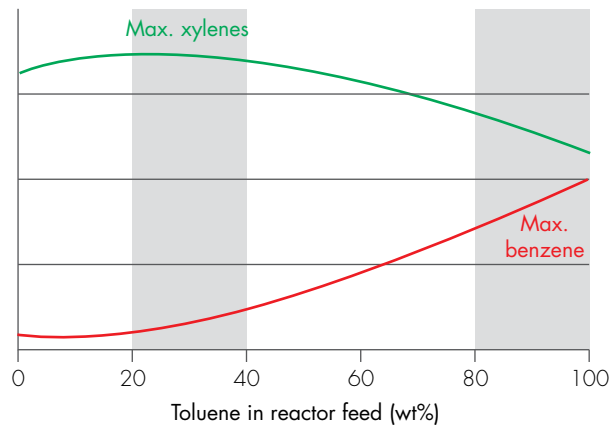
ATA-21 delivers a higher quality benzene product than ATA-12

## Applications

ATA-21 catalysts are utilised in aromatics complexes in toluene disproportionation units or in transalkylation units to convert toluene and C9+ aromatics to mixed xylenes and, when desired, selectively produce benzene. Processing C9+ aromatics in a transalkylation unit increases xylene production. The transalkylation process makes it possible to produce a higher volume of mixed xylenes from low-value toluene and heavy aromatics. Incorporating a transalkylation unit into an aromatics complex utilising a naphtha feedstock can more than double the yield of paraxylene.

## Advantages of ATA-21

ATA-21 offers excellent feed flexibility and can process feedstocks that are benzene-rich, 100% toluene or 100% C9+ aromatics. This enables plant operators to optimise feed sources, increase margins and respond to changing market conditions.



Benzene and C8 aromatics yield on reactor feed at 45 wt% total conversion

ATA-21 catalyst provides transalkylation plant operators with significant economic advantages through

- lower total fill costs with reduced ATA-21 catalyst loading for specific feedstocks
- the reduced platinum content (20%) of ATA-21
- increased benzene purity
- increased cycle length.

For more information on how Zeolyst International, Criterion Catalysts & Technologies and Shell Global Solutions can contribute to your operations, please contact your nearest Criterion sales representative or visit our website at [www.zeolyst.com](http://www.zeolyst.com).

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