



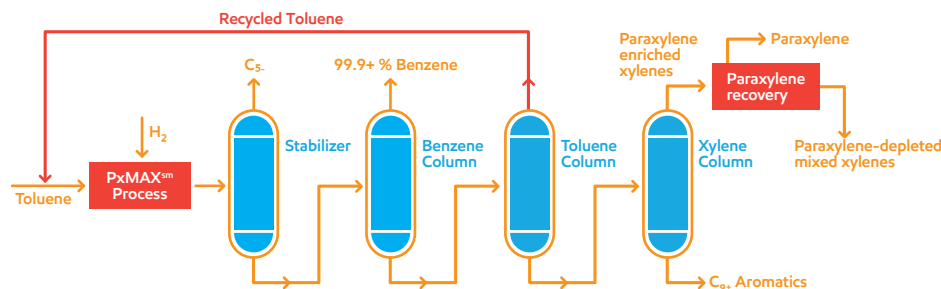
# Unmatched PX Selectivity and catalyst cycles in STDP service

The PxMax<sup>SM</sup> process offers improved yields, excellent stability, ease of operation, and extremely long catalyst cycles.

Energy lives here<sup>SM</sup>

ExxonMobil's PxMax<sup>SM</sup> process is the industry benchmark Selective Toluene Disproportionation (STDP) process. The technology, based on the ex-situ selectivated EM-2300 catalyst, offers unmatched paraxylene selectivity and product yields, as well as exceptionally long and stable cycles. The PxMax process is also licensed by our alliance partner, Axens, as part of the ParamaX<sup>®</sup> technology suite for grassroots aromatics complexes. ExxonMobil's Dividing-Wall Column (DWC) technology is also available for licensing in combination with the PxMax process.

PxMax flowscheme



## Key benefits

### Superior process performance

- Ultra-high PX selectivity
- Higher total xylenes yields
- Superior xylenes/benzene ratio
- Benzene product with greater than 99.9% purity
- Very low H<sub>2</sub> consumption
- Lower operating cost
- Performance improves over the cycle

### Extremely long catalyst cycles

- No in-situ regeneration needed (cycles > 15 years)

### Lower investment costs

- Reduced size of Reactor and PX recovery unit
- Lower metallurgy cost

## PxMax<sup>SM</sup> process: Ultra-high paraxylene selectivity, superior yields, extremely long catalyst cycles

The EM-2300 catalyst is at the heart of the unique performance and superior yields of the PxMax process. The catalyst is manufactured using a proprietary ex-situ selectivation technique which increases the relative diffusivity rate of paraxylene versus those of the larger isomers. As a result, the PxMax process yields ultra-high paraxylene selectivity at SOC (> 96%). Paraxylene selectivity further increases as the cycle progresses making the PxMax process by far the most paraxylene-selective STDP process on the market.

Compared with traditional STDP processes requiring in-situ coke selectivation, the PxMax process offers the following advantages:

- Ultra-high paraxylene selectivity (>96%) which increases throughout the cycle
- Higher total xylenes yield
- Superior xylenes/benzene ratio
- Benzene product with greater than 99.9% purity
- Very stable catalyst yielding extremely long cycles (more than 15 years)

- No in-situ selectivation requirement, resulting in:
  - Simplified operation (no lost time for selectivation)
  - Easier retrofit into existing equipment
  - Lower metallurgy investment cost and operating cost
- High weight hourly space velocity (WHSV)
- Very low H<sub>2</sub> consumption
- Reduced size for associated paraxylene separation unit resulting in lower investment and operating costs due to the very high paraxylene content in the C<sub>8</sub> aromatic product

## Support from initial consultation throughout the life of the operation:

- Initial discussions to confirm client objectives and tailor the solution
- Detailed yield estimate
- Feasibility study
- Commercial proposal
- Process design package
- Technology transfer, training, catalyst loading and start-up support
- Technology improvements
- Performance monitoring and technical assistance throughout the life of the catalyst

## 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.

## The PxMax process – unmatched PX selectivity and catalyst cycles from the industry leading STDP technology

Collaborate with us today.  
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