

## Hydroprocessing Catalyst Solutions At Lower Cost

### Description

Evonik delivers a wide range of high quality regenerated, rejuvenated and fresh catalysts to achieve your unit objectives in a variety of hydroprocessing applications from naphtha through VGO.

### Advantages

Evonik designs Full Reactor Solutions from the top grading and bed support materials through the main catalyst bed:

- Top Bed Grading
- CatGuard® metal traps
- Main bed:
  - Excel rejuvenated catalysts
  - Regenerated catalysts
  - Surplus fresh catalysts
- Inert Bed Support (Durocel-222)

### Global Inventory

- With regeneration and rejuvenation facilities in the Americas, Europe and Asia, Evonik is globally positioned to meet your worldwide HPC catalyst needs.

### Options & Flexibility

- **Full Reactor Solutions –**  
Grading/CatGuard/Inert Support  
Full Technical Support
- **Excel Rejuvenated Catalysts –**  
Near fresh activity level
- **Regenerated Catalysts –**  
High percentage of original activity
- **Evonik Catalysts–**  
Customized high performance catalysts
- **Fresh surplus –**  
Full activity at a discount

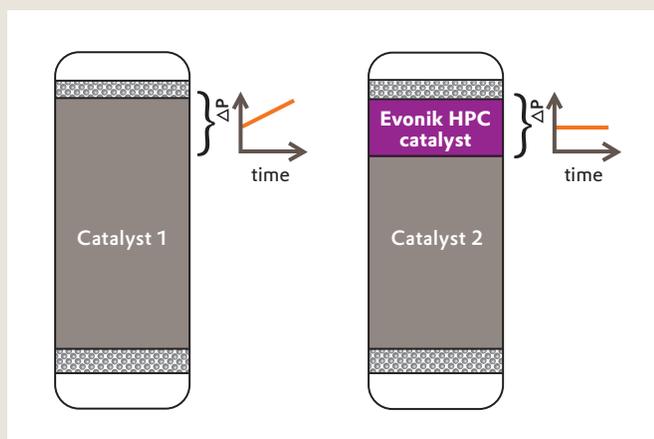


## Flexible Solutions/Combinations

- Excel® rejuvenated catalysts alone or combined with fresh catalysts in high demand applications
- Use of regenerated catalysts alone or with fresh or rejuvenated catalysts in the typical lower demand applications, such as:
  - Top off after reactor skimming
  - Guard beds
  - Short cycles
  - Spare charge for critical units

Evonik provides “a la carte” products and services to fit the specific customer needs. If maximum catalytic activity is critical, we offer Excel rejuvenated catalysts which have been specially processed to achieve near fresh activity level. Our solutions can be customized to meet each customer’s specific hydroprocessing requirements.

## Application: Reactor Skimming

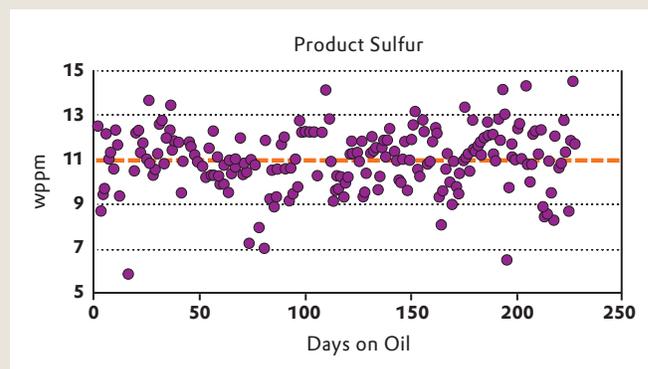


## Worldwide Technical Support

- Design of reactor catalyst loading
- Start and end of cycle predictions
- Start-up support
- HPC unit monitoring
- HPC troubleshooting

Evonik’s HPC Solutions provide an alternative to fresh catalyst in many refining applications with 30-70% the cost of fresh catalyst!

## Unit Monitoring



## Quality Assurance

Evonik thoroughly analyzes all HPC catalyst lots, so the refiner can make an informed decision. We can also perform activity tests using our in-house pilot plant. Test conditions can be customized to simulate your particular application.

### Disclaimer

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### EVONIK OPERATIONS GMBH Business Line Catalysts

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