

LK-853 FENCE™

New low temperature shift catalyst

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The new LK-853 FENCE™

– taking Topsøe's world-leading position one step further

Ground-breaking research within the area of catalysts for ammonia and hydrogen production has resulted in a new generation of low methanol LTS catalyst. Based on recent scientific advances and Topsøe's unique FENCE™ technology, the LK-853 FENCE™ presents new opportunities for ammonia and hydrogen producers.

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World-leading in low temperature shift

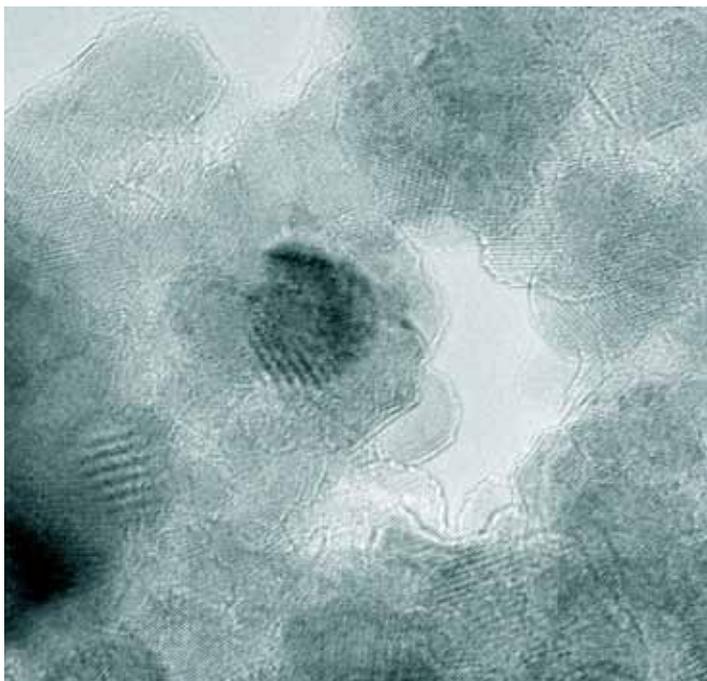
Almost 50 years of industrial experience as a world-leading supplier of LTS catalysts provides an invaluable basis for new catalyst developments.

The vast knowledge gathered throughout the years constitutes the foundation for the FENCE™ technology and the development of LK-853 FENCE™. This new generation of low methanol LTS catalyst takes Topsøe's world-leading position one step further, offering extraordinary advantages for ammonia and hydrogen producers.

FENCE™ technology

It is well known that the main reasons for deactivation of LTS catalysts are thermal sintering and poisoning. In order to inhibit sintering of the active copper crystals and increase poison capacity, Topsøe has developed the FENCE™ technology.

The FENCE™ technology enables separation of nano-sized copper particles by multiple metal oxide barriers, thereby stabilising the catalytic active sites. The stabilisation and separation of the copper particles in LK-853 FENCE™ results in superior activity, increased poison resistance and longer lifetimes.



TEM image of LK-853 FENCE™ illustrating separation of nano-sized copper particles by multiple metal oxide barriers.

Features of LK-853 FENCE™

- Superior high and stable activity
- Outstanding poison resistance
- Excellent selectivity

Superior high and stable activity – LK-853 FENCE™ is based on the unique FENCE™ technology and offers superior high and stable activity. The result is consistently high CO conversion rates and significantly prolonged catalyst lifetimes.

Outstanding poison resistance – The poison capacity is directly related to the copper surface area in the catalyst. The FENCE™ technology ensures a larger copper surface area available for poison uptake. As a result, LK-853 FENCE™ provides increased poison resistance and longer lifetimes.

Excellent selectivity – The promoter content in LK-853 FENCE™ has been carefully optimised to inhibit by-product formation. The result is a remarkable selectivity that minimises undesirable methanol formation.

Catalysing profit margin

The focus for Topsøe's research efforts within low temperature shift conversion is to provide state-of-the-art products for cost effective ammonia and hydrogen production.

The performance of the LTS catalyst has a significant impact on overall plant efficiency, making it one of the most important catalysts in ammonia and hydrogen plants.

With the use of Topsøe's new LK-853 FENCE™, numerous benefits can be achieved. The advantages described above will reduce operating costs, improve process efficiency and increase daily ammonia and hydrogen production.