

NanoSelect™ LF 100

Superior performance without lead and with less precious metal content.

General

NanoSelect™ catalysts are characterized by unimodal metal particles on the nanometer scale. Nanotechnology is science and controlled engineering on the scale of nanometers (billionths of a meter). Reducing the size of metal particles to nanometers:

- Greatly increases the metal surface area available per gram.
- Boosts the catalytic activity.
- Demonstrates different catalytic behavior.

BASF used these basic principles to develop the innovative, patented NanoSelect™ technology. This technology utilizes a BASF reagent to combine reducing and stabilizing functions that produce highly unimodal, nano-sized metal colloids. These colloids can be deposited onto different support materials giving heterogeneous catalysts showing unique catalytic behaviors.

NanoSelect™ LF 100 catalyst contains only 0.6 wt% of palladium and is lead free (LF) on a support of carbon powder. For this catalyst NanoSelect™ technology provides metal crystallite sizes of around 7 nm. Comparison of the performance of NanoSelect™ LF 100 with Lindlar catalyst in selective hydrogenation reactions reveal similar activity and selectivity.

Product Application

BASF's NanoSelect™ LF 100 catalyst is recommended for use in hydrogenation reactions for the partial reduction of functional groups. Specifically, it is suited for the selective hydrogenation of alkynes to alkenes where a

high selectivity towards the cis-alkene is being observed.

Availability

Research quantities are available by order through Strem Chemicals, Inc. at www.strem.com/basf. Commercial quantities are available directly from BASF.

Target Properties

Active Metal	Palladium
Metal content, wt%	0.6
Type	Reduced, water-wet
Support	Titanium silicate powder
Mean particle size	25 micron

About Us

BASF is a leading global manufacturer of catalysts for the chemical industry, with solutions across the chemical value chain. The business comprises chemical catalysts and adsorbents, refinery catalysts and custom catalysts. In the process catalysts business, priority is given to developing new and improved products that enable the chemical industry transformation to net-zero emissions.

The division's portfolio also includes battery materials and recycling solutions, as well as environmental catalysts and metal solutions. Customers from a variety of industries including Automotive & Transportation, Chemicals, Plastics or Energy & Resources benefit from our innovative solutions. Further information on BASF's Catalysts division is available on the Internet at www.catalysts.basf.com.

BASF - We create chemistry

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