

# NanoSelect™ LF 200

Selective Hydrogenation Catalyst Environmentally friendly alternative for highly selective hydrogenation processes.

## 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 200 catalyst contains only 0.5 wt% of palladium and is lead-free (LF) on a support of titanium silicate powder. For this catalyst NanoSelect™ technology provides metal crystallite sizes of around 7 nm. Comparison of the performance of NanoSelect™ LF 200 with Lindlar catalysts in selective hydrogenation reactions reveals similar activity and selectivity.

## Product Application

BASF's NanoSelect™ LF 200 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](http://www.strem.com/basf). Commercial quantities are available directly from BASF.

## Target Properties

Active Metal	Palladium
Metal content, wt%	0.5
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](http://www.catalysts.basf.com).

**BASF - We create chemistry**

### Americas

BASF Corporation  
Phone : +1-732-205-5000  
Email: [catalysts-america@basf.com](mailto:catalysts-america@basf.com)

### Asia Pacific

BASF (China) Company Limited  
Phone: +86-21-2039 2549  
Email: [catalysts-asia@basf.com](mailto:catalysts-asia@basf.com)

### Europe, Middle East, Africa

BASF Services Europe GmbH  
Phone: +49-30-20055000  
Email: [catalysts-europe@basf.com](mailto:catalysts-europe@basf.com)

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required. © 2015 BASF

[www.catalysts.basf.com/chemicals](http://www.catalysts.basf.com/chemicals)