

## NanoSelect LF 100

### Selective Hydrogenation Catalyst

## Superior performance without lead and with less precious metal content

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 Catalysts used these basic principles to develop an innovative, patented technology called NanoSelect™. This technology utilizes a BASF reagent to combine reducing and stabilizing functions that produce highly unimodal, nanosized metal colloids. These colloids can be deposited onto different support materials giving heterogeneous catalysts with unique and surprising 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 reveals similar activity and selectivity.

### Typical applications

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.

#### Typical properties

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

### Availability

Research quantities are available by order through Strem Chemicals, Inc. on the web at [www.strem.com/basf](http://www.strem.com/basf). Commercial quantities are available directly from BASF by calling one of the following regional offices:

+1-973-245-7447 (Americas)

+39 064-199-2605 (EMEA)

+91 22-616- 4159 (Asia Pacific)

## About BASF

BASF Catalysts, a business unit of BASF, is the global leader in catalysts offering a full line of products, including:

- Mobile Emissions Catalysts
- Process Catalysts and Technologies
- Precious and Base Metal Services

BASF Catalysts is the union of the resources of BASF and Engelhard. As the world's leading chemical company, BASF's portfolio ranges from chemicals, plastics, performance products, agricultural products and fine chemicals to crude oil and natural gas. BASF's intelligent system solutions and high-value products help its customers to be more successful. BASF develops new technologies and uses them to open up additional market opportunities. It combines economic success with environmental protection and social responsibility, thus contributing to a better future.

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