

NanoSelect LF 200

Selective Hydrogenation Catalyst

Environmentally friendly alternative for highly selective hydrogenation processes

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 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.

Typical applications

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.

Typical properties

Active metal	Palladium
Metal content	0.5 wt%
Type	Reduced, water-wet
Support	Titanium silicate 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. 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.

BASF Catalyst Headquarters

BASF Catalysts, LLC
25 Middlesex/Essex Turnpike
P.O. Box 0770
Iselin, New Jersey 08830-0770 USA
Tel: +1-732-205-5000
Fax: +1-732-205-5687
Email: catalysts-america@basf.com

Americas

Americas Customer Care

BASF Catalysts LLC
100 Campus Drive
Florham Park, NJ 07932 USA
Tel: +1-800-889-9845
+1-973-245-7445
Fax: +1-864-332-5087

Asia Pacific

Asia Customer Care

BASF East Asia Regional Headquarters Ltd.
45th Floor, Jardine House
No. 1 Connaught Place,
Central Hong Kong
Tel: +852-2731-0191
Fax: +852-2731-5634
Email: catalysts-asia@basf.com

Europe, Middle East, Africa

BASF Worldwide Headquarters

BASF SE
G-CCP, E100
67056 Ludwigshafen, Germany
Tel: +49-621-60-21153
Fax: +49-621-60-43023
Email: catalysts-emea@basf.com

Europe Customer Care

BASF Italia Srl – Catalysts
00131 Rome, Italy
Tel: +39-06-41992605
Fax: +39-06-41992338

www.nanoselect.catalysts.basf.com

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