BASF
We create chemistry

ENGELHARD
Materials Services

Precious Metal Chemicals: Hydroformylation Rhodium Catalysts

Your benefits

Products

We offer a wide range of homogeneous catalysts and heterogeneous catalyst precursors for industrial applications.

Development

Can't find what your looking for? Let us help – give us a call.

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Analytical Expertise

Our analytical laboratories around the world are working relentlessly to give you peace of mind. The quality of products supplied or the accuracy and transparency of spent catalyst settlements – we have you covered.

Resource Recovery

At the end of your catalyst life cycle, you want your precious resources recovered quickly, and at competitive terms.

We can help with that – worldwide, at competitive rates and with sustainability in mind.

Metal Trading

With our portfolio comes access to one of the world's largest precious metal trading organizations.

Buying, selling, hedging, leasing… find it all here.

Global Presence

Globally operating companies need globally operating partners.

Wherever you go, chances are you will find us there, ready to help.

Hydroformylation Rhodium Catalysts

Catalyst	Name	Rh Content	CAS No.	Product Code
Rh-CARAC	Acetylacetonato-dicarbonylrhodium(I)	40%	14874-82-9	PMC5205
ROPAC	Acetylacetonatocarbonyl-triphenylphosphinerhodium(I)	20%	25470-96-6	PMC5206
Rh-HYDRIDO	Carbonylhydridotris-triphenylphosphinerhodium(I)	11%	17185-29-4	PMC5208
Rh-2EH	Rhodium tris(2-ethylhexanoate)	2%	20845-92-5	PMC5210
$Rh(OAc)_3$	Rhodium (III) acetate solution	5%	42204-14-8	PMC5101

Hydroformylation, or Oxo Synthesis, is used to produce aldehydes from alkene compounds in a reaction with syngas (a mixture of hydrogen and carbon monoxide). Catalyzed by organorhodium or organocobalt compounds, a hydrogen atom and a formyl group are added to an alkene creating the desired aldehyde. The products of hydroformylation processes are the basis for synthesis of many other compounds including alcohols, amines, carboxylic acids, etc. Additionally, catalysts with bulky ligand spheres are used in the chiral synthesis of more complex fine chemicals and pharmaceuticals.

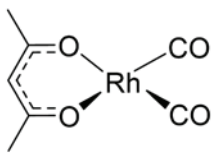
The petrochemical industry produces large amounts of 1-alkenes each year, with significant quantities being converted by hydroformylation to subsequent products. The process is adaptable to every length of the hydrocarbon through optimization of the catalyst and the process. However, the most common starting materials are ethylene and propylene, which are transformed to propionaldehyde, n-butyraldehyde and iso-butyraldehyde. They are used as intermediates before being hydrogenated to form plasticizers, surfactants and detergents.

The overall reaction mechanism is well-understood and the choice of process conditions and catalyst result in the formation of either linear or branched aldehydes. BASF's rhodium-based hydroformylation catalysts are produced with the target to yield high ratios of linear aldehydes, which are preferred in most industrial applications. At the same time, they should enable our customers to operate their processes at lower temperature and pressure while maintaining long catalyst lifetimes.

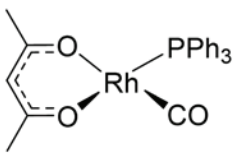
Benefits

- Targeted to yield high ratios of linear aldehydes
- Enable operation at lower temperature & pressure while maintaining long catalyst lifetimes

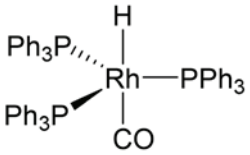
ROPAC



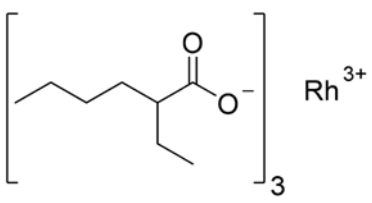
Rh CARAC



ROPAC



Rh Hydrido



$Rh(2\text{-}EH)_3$

Precious Metal Chemicals

Catalysts drive performance. Whether you specialize in industrial or fine chemicals, pharmaceuticals, petrochemicals or fuel cells, our compounds and solutions consistently provide high performance standards you can rely on. Our global network of production sites has you covered, no matter where you operate. With laboratories around the world, we guarantee a smooth development process.

Our Team

Nancy Ren
Asia & Australia
Tel: +86-186-1679-6276

Adam Lazewski
Americas
Tel: +1-248-205-6120

Ben Browning
Europe & Africa
Tel: +44-7767-006430

About Us

BASF's Catalysts division is the world's leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world and ensure efficient production of a wide variety of chemicals, plastics and other products, including advanced battery materials. By leveraging our industry-leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF's Catalysts division develops unique, proprietary solutions that drive customer success.

BASF – We create chemistry

www.catalysts.basf.com/pmc

Americas

BASF Corporation
554 Engelhard Drive
Seneca, SC 29678-1700, USA
Toll free: +1-800-336-8559

Europe, Middle East, Africa

BASF Italia S.r.l.
Divisione Catalizzatori
Via di Salone, 245
00131, Rome, Italy
Tel: +39-06-41992-2289

Asia Pacific

BASF Chemical Company Limited
8 Chu Hua Road 201507
Shanghai, P.R. China
Tel: +86-21-6758-1176

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