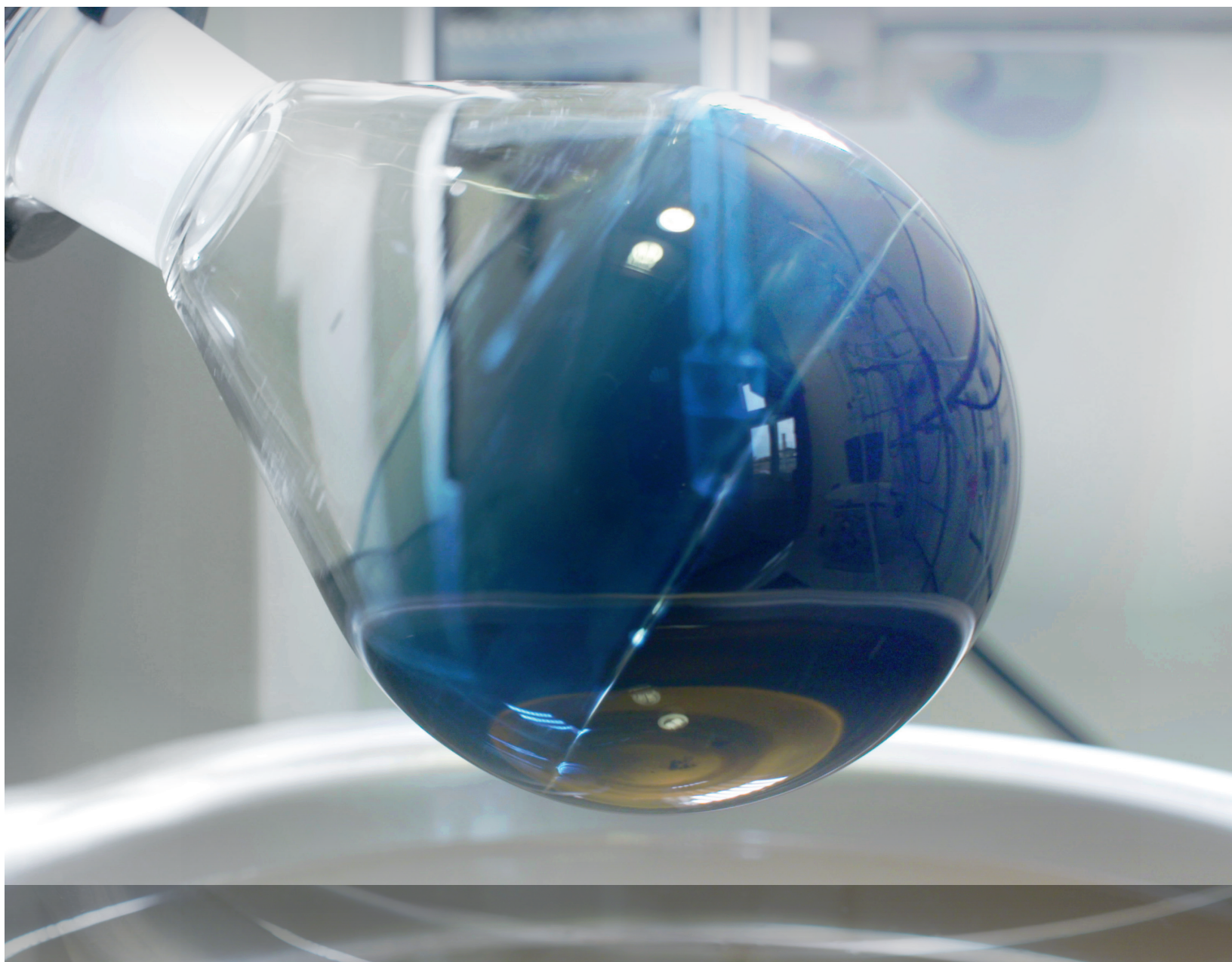


Heraeus



Heraeus Platinum Oxalate

Highly Active Precursor for Heterogeneous Catalysts





Heraeus Platinum Oxalate

Highly Active Precursor for Heterogeneous Catalysts

Platinum oxalate is an ideal precursor for the production of highly active catalysts. Its usage results in a more uniform distribution of the Pt-active sites while being easy to handle as no toxic gases are produced within the calcination step.

VARIOUS APPLICATION FOR PLATINUM OXALATE

Platinum oxalate is an ideal precursor for heterogeneous PGM catalysts, especially for oxidation, exhaust gas treatment and hydrogenation.

The dark blue solution in water with a Platinum content of 9–14 % can be supported on various carrier materials like alumina or silica.

With our broad experience in developing and producing heterogeneous catalysts, we also offer heterogeneous catalysts coated with Platinum Oxalate. Please feel free to contact us!

THE ADVANTAGES OF USING PLATINUM OXALATE

- With platinum oxalate as a platinum precursor, it is possible to generate **highly active catalysts** due to higher concentration of active centers on the surface.
- **Lower handling costs** as no system for exhaust gas treatment is needed.
- Opposed to toxic and corrosive byproducts of standard precursors, processing the heterogeneous catalyst coated with platinum oxalate **generates only carbon dioxide and water**. This brings advantages in terms of **greater safety**. Calcining without toxic gases, no chlorid and sulfur.
- Platinum oxalate can be used on **various carrier materials**.

TECHNICAL DATA

Product Name	Complex	Platinum content	Appearance
Platinum oxalate solution	Platinum oxalate	9 – 14 %	dark blue

The complex is dissolved in water.

SHELF LIFE AND STORAGE

Shelf Life: 3 months in originally sealed containers at 3–10 °C.

Recommended storage conditions: keep cold (3–10 °C)

SAFETY AND HANDLING

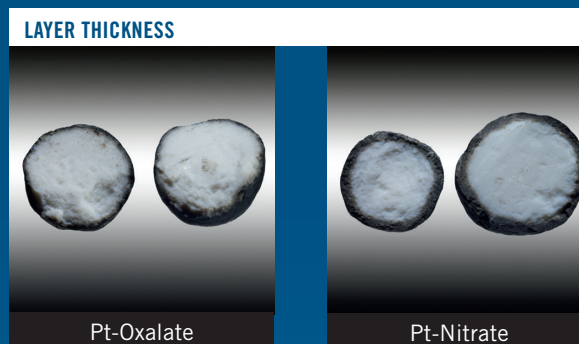
The rules and regulations for the handling and use of chemicals have to be observed. Please refer to the Material Safety Data Sheet for further details.

Tests have proven: Optimal Catalyst Performance in Exhaust Gas Treatment Reactions



TESTING CONDITIONS

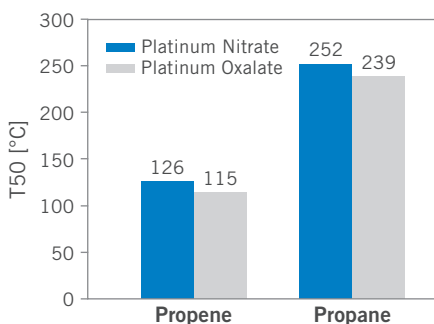
Two different catalysts were investigated in light off tests with Propene and Propane: One with platinum nitrate and one with platinum oxalate. The heterogeneous catalysts were prepared by wet impregnation of Al_2O_3 carriers and reduced with N_2/H_2 .



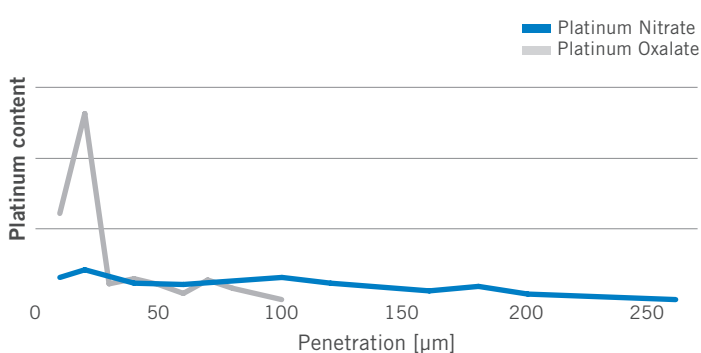
HIGHLY ACTIVE PLATINUM OXALATE CATALYSTS

The platinum oxalate based catalysts showed up to 10% lower T_{50} values than the catalyst prepared from platinum nitrate. We attribute this to the higher surface loading achieved by using the platinum oxalate as precursor. The amount of platinum found in the first 30 micrometers is significantly higher compared to the platinum nitrate catalyst. No platinum was found below 100 μm . This leads to a higher concentration of active centers on the surface of the catalyst and thus to higher activity.

LIGHT OFF TEMPERATURES



DEPTH OF PENETRATION





EN 02/2019 / Layout: www.datagraphis.de

The data given in this brochure are valid for February 2019. Subject to alterations.

chemicals@heraeus.com
www.heraeus-chemicals.com