

# 0.3% Pt/AS R4758

## DeOxo RS

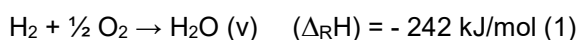
**BASF DeOxo RS / R4758 is a uniform grey alumina sphere used for safely removing H<sub>2</sub> from CO<sub>2</sub> in front of Urea units.**

### General

DeOxo RS is a catalyst in the form of spheres with a diameter ranging from 2.4 – 4 mm and with Platinum as the active component. The carefully selected surface area allows for high activity and high temperature stability. At the same time, the material shows low enough pressure drop in gas phase applications due to its size.

### Product Application

DeOxo RS is used to promote the catalytic conversion of hydrogen in the CO<sub>2</sub> stream upstream of Urea synthesis reactors with excess oxygen added. The reaction can be described by the following chemical formula



Hydrogen is a safety risk in this type of application and needs to be removed from levels of several thousand ppm by volume to below 10 ppm by volume.

BASF can provide, upon request, technical advice and recommendations on catalyst operating conditions and reactor layout.

An alternative material for this application can be

0.3% Pt/AT R4755 DeOxo R

Due to the high exotherm of reaction (1), proper instrumentation and safety measures always need

to be put in place to assure full control of the reaction.

Typical reaction temperatures are in the range of 130 – 200°C / 265 – 390°F. The maximum allowable temperature is 500°C / 930°F.

Other applications for this material, such as certain hydrogenations, are possible.

### Special Operations

DeOxo RS might gain maximum activity via a short activation procedure. Before unloading, the material should be oxidized.

### Poisons

DeOxo RS will last for very long times provided that it is not subjected to poisoning by certain impurities. The principal poisons are Sulphur, chlorine compounds, oil, unsaturated hydrocarbons and the vapors of some organic solvents. These materials will deactivate and may eventually poison the catalyst permanently.

### Storage

DeOxo RS does not deteriorate or constitute any hazard when stored in sealed containers. The containers should not be allowed to become damp or wet and should not be stored in contact with organic or easily oxidizing vapors.

## Target Properties

<b>Chemical Composition (dry basis)</b>	0.3 % wt./wt. Pt on Alumina
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## Typical Physical Properties

Packed Bulk Density, g/ml	0.65
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Total Surface Area (BET), m <sup>2</sup> /g	90
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## Packaging

- 210 l steel drum with up to 140 kg net

## Point of Shipment

- Rome, Italy

## 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.

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