

0.3% Pd/AS R4578

DeOxo DS3

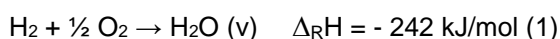
R4578 / DeOxo DS3 is used for the removal of hydrogen by reaction with oxygen (De-Oxo reaction).

General

R4578 / DeOxo DS3 is a catalyst in the form of spheres with a nominal diameter of 2.4 – 4 mm and with Palladium as active component. The lower surface alumina carrier has been carefully chosen for providing optimum activity and high selectivity. The material is delivered dry and pre-reduced.

Product Application

R4578 / DeOxo DS3 is used for the conversion of hydrogen in the presence of oxygen to form water (De-Oxo reaction) according to the following chemical formula:



This reaction can be applied in the production of pure hydrogen (e.g. as green hydrogen) or in the production of inert gases like N₂ or He, when adding hydrogen to remove oxygen. An alternative material for this application can be

0.5% Pd/AS R4577 (DeOxo DS).

Typical reaction temperatures are in the range of 50 – 100°C / 120 – 210°F. The maximum allowable temperature is 500°C / 930°F.

Special Operations

R4578 / DeOxo DS3 might gain maximum activity via a short activation procedure. Before unloading the material should be oxidized.

Poisons

As every Pd containing catalyst R4578 / DeOxo DS3 is sensitive against Sulfur and its components. Heavy metal containing compounds like AsH₃ can also have a determinantal effect on its performance. CO will have an impact on activity but might be compensated via higher temperature.

Storage

R4578 / DeOxo DS3 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*

Chemical Composition (dry basis)	0.3% wt./wt. Pd on special Alumina
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Typical Physical Properties

Packed Bulk Density, g/ml	Approx. 0.7
Total Surface Area (BET), m ² /g	Approx. 90

*These indicative properties do not represent process capabilities nor specifications

Packaging

- 210 l steel drum with nominal up to 140 kg net
- 30 l fiber drum with nominal up to 30 kg net

Point of Shipment

- Rome, Italy

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