

0.5% Pd/AT R4586

DeOxo D

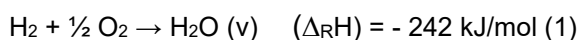
DeOxo D / R4586 is used for the removal of hydrogen by reaction with oxygen (De-oxo reaction).

General

R4586 is a catalyst in the form of tablets with a nominal diameter of 3 x 3 mm and with Palladium as active component. The alumina carrier has been carefully chosen for providing optimum activity and high selectivity.

Product Application

R4586 is typically 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 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)

Alternatively, the material can be used for the conversion of CO or hydrocarbons with oxygen. This is also referred to as Catalytic Oxidation (CatOx).

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 50 – 100°C / 120 – 210°F. The maximum allowable temperature is 500°C / 930°F.

Special Operations

R4586 might gain maximum activity via a short activation procedure when used in reduced state. Before unloading, the material should be oxidized.

Poisons

Pd containing catalyst R4586 is sensitive against Sulfur and its components. Heavy metal containing compound like AsH₃ can also have a detrimental effect on its performance. CO will have an impact on activity but can be compensated via temperature.

Storage

R4586 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)	0.5 % wt./wt. Pd on special Alumina
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Typical Physical Properties

Packed Bulk Density, g/ml	1.0
Total Surface Area (BET), m ² /g	95

Packaging

- 210 l steel drum with up to 180 kg net (R)
- 26 gallon fiber drum with up to 25 kg net (S)

Points of Shipment

- Rome (R), Italy; Seneca (S), S.C., U.S.A.

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