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Product Data Sheet

0.15% Pd 0.15% Pt/AS R45084

BASF DeOxo R45084 is used for the purification of CO_2 or N_2 in polyethylene terephthalate (PET) solid state polycondensation units.

General

DeOxo R 45084 is a catalyst in the form of spheres with a nominal diameter of 2 – 4 mm and with Palladium and Platinum as active components. The lower surface alumina carrier has been carefully chosen for providing optimum activity and high temperature stability.

Product Application

DeOxo R45084 is typically used for the combustion of ethylene glycol, acetaldehyde, dimer and light olefins coming from the solid-state polymerization of polyethylene terephthalate (PET).

Low levels of H_2 will also be removed. The combustion products are CO_2 and water vapor.

The different combustion reactions might be described as follows:

$C_xH_yO_z + (x + y/4 – z/2)\ O_2 \rightarrow x\ CO_2 + y/2\ H_2O$ (v) (1)

$H_2 + ½\ O_2 \rightarrow H_2O$ (v) $\quad (\Delta_RH) = -242$ kJ/mol (2)

Due to the high exotherm of the reactions indicated, 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 150 – 550°C / 300 – 1 000°F. The maximum allowable temperature is 700°C / 1 300°F.

Special Operations

Before unloading, the material should be oxidized.

Poisons

As every Pd and Pt containing catalyst DeOxo R45084 is sensitive against Sulfur and its components. Heavy metals like As and Hg (as well as the compounds containing them), silicon compounds and oil mist from compressors can also have a detrimental effect on their performance.

Storage

DeOxo R45084 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)	0.15 % wt./wt. Pd and 0.15% Pt on special Alumina
Typical Physical Properties	
Packed Bulk Density, g/ml	0.66
Total Surface Area (BET), m^2/g	90

* These indicative properties do not represent process capabilities nor specifications.

Packaging

210 l steel drum with up to 100 kg net

Points of Shipment

Rome, Italy

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