

# **Product Data Sheet**

# 0.5% Pd / AS Escat 126

# Escat 126

BASF Escat 126 is used for the removal of oxygen by reaction with hydrogen or the removal of hydrogen by reaction with oxygen (De-Oxo reaction).

#### General

Escat 126 is a catalyst in the form of spheres with a nominal diameter of 2.36 - 4 mm and with Palladium as active component. The lower surface alumina carrier has been carefully chosen for providing optimum activity and good temperature stability.

## **Product Application**

Escat 126 is typically used for the conversion of hydrogen in the presence of oxygen or oxygen in the presence of hydrogen to form water (De-oxo reaction) according to the following chemical formula

$$H_2 + \frac{1}{2} O_2 \rightarrow H_2 O (v) \quad (\Delta_R H) = -242 \text{ kJ/mol (1)}$$

This reaction can be applied in the production of pure hydrogen or pure oxygen or in the production of inert gases like N2 or He.

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  $50 - 100^{\circ}\text{C} / 120 - 210^{\circ}\text{F}$ . The maximum allowable temperature is  $500^{\circ}\text{C} / 930^{\circ}\text{F}$ .

### **Special Operations**

Escat 126 might gain maximum activity via a short activation procedure. Before unloading, the material should be oxidized.

#### **Poisons**

As every Pd containing catalyst, Escat 126 is sensitive against Sulfur and its components. Heavy metal containing compound like AsH<sub>3</sub> can also have a detrimental effect on its performance. CO will have an impact on activity but might be compensated e.g. via temperature.

#### **Storage**

Escat 126 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<br>on special Alumina |
| Typical Physical Properties                 |  |
| Packed Bulk Density, g/ml                   | 0.66                                   |
| Total Surface Area (BET), m <sup>2</sup> /g | 90                                     |

## **Packaging**

210 I steel drum with up to 120 kg net in PE inliner

### **Points of Shipment**

Rome, Italy

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