Noblyst®

Product Information Noblyst® P1145

PRODUCT DESCRIPTION

Noblyst[®] P1145 5% Pd is a palladium on activated carbon catalyst for batch and continuous batch processes.

This catalyst shows superior catalytic performance along with excellent filtration properties. It can be produced at any one of our five production sites globally.

| Typical Properties | | | |
|--------------------|------|-----------------------------|--|
| Property | Unit | Value | |
| Appearance | | black, very fine pow der | |
| Support | | activated carbon | |

The data represents typical values (no product specification)

TYPICAL APPLICATIONS

- Hydrogenation of Nitro Groups, such as: Aliphatic Nitro Groups
- Hydrogenolysis Reactions, such as: Removal of the Cbz (Z) protection group Rosenmund Reduction Hydrodehalogenation of Aliphatics and Aromatics
- Reductive Alkylation and Amination, such as: Aldehydes and Ketones to Primary Amines Aldehydes and Ketones to Secondary Amines
- Dehydrogenations and Oxidations, such as: Dehydrogenation of Carbocyclic Rings to Aromatics

| Product Composition | | |
|------------------------|------|-------|
| Product Composition | Unit | Value |
| Palladium (Pd) Content | wt% | 5 |
| Water Content, max. | wt% | 65 |

The data represents typical values (no product specification)

BENEFITS & ADVANTAGES

Depending on the business model, Evonik may provide the following additional services:

- Technical support including handling recommendations and safety data sheets
- Spent catalyst analytics
- Development of customized catalysts in the context of a project

Evonik provides the full precious metal service loop including:

- · Precious metal sales and purchasing
- Refining services
- Leasing and financing
- Related services, e.g. swaps, transfers, logistical assistance

PACKAGING

Nobylst[®] P1145 5% Pd is delivered as a water wet, free flowing powder in 210 liter (55 gallon) steel drums with polyethylene bag liners.

For large volumes special packaging is available upon request.

STORAGE

Drums should be protected from freezing, not exposed to direct sunlight and stored in a dry place between 5 and $30^{\circ}C$ (40 to $83^{\circ}F$).



Disclaimer

This information and all further technical advice are based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third-party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.

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