Advanced C4/C5 Hydrogenation Catalyst For Improved Butadiene Removal In Petrochemical Processing

Our Product Introduction

Basic Information

- Place of Origin: CHINA

Product Specification

- Stability: Long-term
- Surface Area: 100-200 M2/g
- Active Component Loading: ≥ 2 Wt%
- Palladium: 0.28%
- Temperature Range: 150-250°C
- Selectivity: >95%
- Pore Volume: 0.3-0.5 Cm3/g
- Hydrogen Flow Rate: 100-500 Nm3/h
- Pressure Range: 10-50 Bar
- Regenerability: Good
- Bulk Density: 0.6-0.8 G/cm3
- Material: Alumina
- Appearance: Gray Or Black Cylindrical Particles
- Support Material Content: ≥ 90 Wt%

Our Product Introduction

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Product Description

Description:

The catalyst designed for C4/C5 selective hydrogenation is specifically engineered for the effective removal of butadiene, a key objective in petrochemical processing. This catalyst features a support with an optimal pore structure, which enhances thermal stability and minimizes acidity, leading to lower carbon deposition.
One of the standout attributes of this catalyst is its excellent activity at low temperatures, which allows for efficient hydrogenation while maintaining a low loss rate of the active component, palladium (Pd). The catalyst ensures a high yield of butene with impressive selectivity, making it suitable for various industrial applications. Additionally, it demonstrates strong resistance to poisons, which is critical for maintaining performance in challenging operational environments.
The innovative control of the support's pore structure significantly improves the dispersion of palladium on the catalyst's surface, further enhancing both hydrogenation activity and selectivity. Operating under mild conditions, this catalyst has proven effective across multiple sets of devices, showcasing its versatility and reliability in the selective hydrogenation process. Overall, this catalyst represents a significant advancement in butadiene removal technologies, contributing to more efficient and sustainable petrochemical operations.

Specifications:

Specification	Details
Support Pore Structure	Optimized for thermal stability
Thermal Stability	Thermal Stability
Palladium	Dispersion Improved through support pore structure control
Operating Conditions	Mild
Applications	Multiple industrial devices for butadiene removal

Applications:

The catalyst for C4/C5 selective hydrogenation is specifically developed to efficiently remove butadiene from petrochemical feeds. Its design incorporates several technical features that enhance its performance in various industrial applications.
One of the primary applications of this catalyst is in the production of high-purity butenes. By selectively hydrogenating butadiene, the catalyst ensures a high yield of butene, which is crucial for further chemical processing and the manufacture of polymers. The catalyst's ability to operate effectively under mild conditions makes it particularly advantageous for large-scale operations, reducing energy costs and improving overall efficiency.
Additionally, the catalyst exhibits strong resistance to impurities and poisons, which are common challenges in industrial environments. This resilience helps maintain catalytic activity over extended periods, ensuring consistent performance and reducing the need for frequent replacements or maintenance.
The advanced pore structure of the support material allows for improved dispersion of palladium, the active component responsible for hydrogenation reactions. This enhancement boosts both the activity and selectivity of the catalyst, making it suitable for diverse processing conditions.
Furthermore, the catalyst's low-temperature hydrogenation capability is noteworthy, as it allows for effective reactions without requiring excessive energy inputs. This characteristic is particularly beneficial in applications where maintaining lower operational temperatures is desired to minimize thermal degradation of sensitive feedstocks.
In summary, the catalyst for C4/C5 selective hydrogenation is essential in petrochemical processes aimed at butadiene removal. Its combination of high yield, selectivity, resistance to poisons, and operational flexibility makes it a valuable tool in the industry, contributing to the production of quality intermediates for various chemical products.

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