Acetylene Hydrogenation Catalyst

Acetylene Hydrogenation Catalyst

The AHC-1 acetylene hydrogenation catalyst, also a Pd-D/Al_2O_3 catalyst, is used for selective hydrogenation to convert acetylene into ethylene. The catalyst is in the form of a sphere with diameter of 2.5-4.0mm.

Physical Properties

Item	Standard
Appearance	Pale-brown spheres (oxidation state)
Particle Size (mm)	Φ2.5~4.0
Bulk Density (g/ml)	0.70
Specific Surface Area (m^2/g)	40±10
Crushing Strength (N/particle)	70
Chemical Composition	Pd-D/Al_2O_3(D refers to second component)
Pd Content (wt %)	0.040

Operation Conditions

Space Velocity	2000-8000h^{-1}
Hydrogen to Acetylene Ratio (V/V)	0.8-2.6:1
Outlet Acetylene Content	≤1×10-6
Regeneration Cycle	2-6 months
Service Life	2-5 years

Specific Operating Conditions

1. When the content of acetylene reaches 1.2-2.5%, three-stage hydrogenation in the presence of the acetylene hydrogenation catalyst is necessary.

First Reactor

Pressure	1.0-4.0 Mpa
Inlet Temperature	35-90℃
Space Velocity	2000-8000h^{-1}
H_2 to Acetylene Ratio (v/v)	0.8-1.2:1
Acetylene Conversion Rate	30-55%
Ethylene Plus	0.00-0.50 %
Regeneration Cycle	Min. 2 months
Catalyst Service Life	2-5 years

Second Reactor

Pressure	1.0-4.0 Mpa
Inlet Temperature	35-90℃
Space Velocity	2000-8000h^{-1}
H_2 to Acetylene Ratio (v/v)	0.8-1.2:1
Acetylene Conversion Rate	30-55%
Ethylene Plus	0.00-0.50 %
Regeneration Cycle	Min. 2 months
Catalyst Service Life	2-5 years

Third Reactor

Pressure	1.0-4.0Mpa
Inlet Acetylene	0.10-0.3%
Inlet Temperature	40-90℃
Space Velocity	2000-8000h^{-1}
H_2 to Acetylene Ratio (v/v)	1.5-2.6:1
Outlet Acetylene	Max. 1×10-6
Regeneration Cycle	4-7 months
Catalyst Lifetime	4-6 years

2. When the content of acetylene reaches 1.0-1.9%, two-stage hydrogenation promoted by the acetylene hydrogenation catalyst will do well.

First Reactor

Pressure	1.0-4.0Mpa
Inlet Temperature	40-90℃
Space Velocity	2000-8000h-1
H_2 to Acetylene Ratio (v/v)	1.0-1.4:1
Acetylene Conversion Rate	40-90%
Outlet Acetylene	0.15-0.45%
Ethylene Plus	0.00-0.50%
Regeneration Cycle	Min. 3-6 months
Catalyst Service Life	2-5 years

Second Reactor

Pressure	1.0-4.0Mpa
Inlet Acetylene	0.10-0.45 %
Inlet Temperature	45-90℃
Space Velocity	2000-8000h^{-1}
H_2 to Acetylene Ratio (v/v)	1.2-2.6:1
Acetylene Conversion Rate	60-90%
Outlet Acetylene	Max. 1×10-6
Regeneration cycle	3-6 months
Catalyst Service Life	4-6 years

3. When the content of acetylene is lower than 0.6 (V %), one-stage hydrogenation with the help of the acetylene hydrogenation catalyst is sufficient.

Pressure	1.0-4.0Mpa
Inlet Acetylene	0.10-0.45 %
Inlet Temperature	45-90℃
Space Velocity	2000-8000h^{-1}
H_2 to Acetylene Ratio(v/v)	1.2-2.6:1
Acetylene Conversion Rate	60-90%
Outlet Acetylene	Max. 1×10-6
Regeneration Cycle	3-5 months
Catalyst Lifetime	4-6 years

Packing: Shrink wrap the acetylene hydrogenation catalyst in 200L steel drums lined with plastic bags, with 3 or 4 drums per pallet.

Chempack is a specialized Chinese acetylene hydrogenation catalyst manufacturer and supplier, providing an extensive line of carbon monoxide removal, adsorbent, molecular sieve, and other products. Since our beginning, we strive to make the highest quality chemical products at the best prices for worldwide customers. We achieve this by taking a series of measures, including purchasing qualified raw materials in rigid compliance with international standards, establishing a special inspection center and using precision instruments to implement strict control on the whole production process. These factors guarantee superior performance of our products. Hence, you can feel secure in purchasing our products. If you have any questions or concerns, please contact us via phone or email. We at Chempack are ready to help you.

FEED BACK FORM

E-mail:

Message:

Product Name: Acetylene Hydrogenation Catalyst

Your Name:

Company:

FAX / TEL:

MSN/SKYPE

Address: