

## Catalyst for C9 Fractions Hydrogenation

### APPLICATION

C9 petroleum resin is a thermoplastic polymer produced by the polymerization of the C9 fraction (mainly vinyl toluene and indene from PyGas). The dark color of C9 petroleum resin after preparation is due to the presence of aromatic rings and alkene structures. When the unsaturated bonds in C9 petroleum resin are hydrogenated, the resulting hydrogenated C9 petroleum resin is typically colorless, transparent, and stable, with improved physical properties. Catalytic hydrogenation is commonly employed to modify C9 petroleum resin for broader industrial applications. The purpose of catalytic hydrogenation is to remove ethylenic C=C bonds, aromatic rings, and residual halides formed during the polymerization process.

### DESCRIPTION

The catalyst is based on high-purity alumina as the carrier, palladium as the active component, and structural additives, processed using specialized preparation technology. Proprietary high-dispersion control technology for the active ingredient, palladium, is utilized during manufacturing. The catalyst exhibits high thermal stability, a long service life, and reliable operational stability. The support's weak acidity provides excellent anti-coking performance and high selectivity. The highly dispersed reactive components ensure good low-temperature hydrogenation activity and enable rapid achievement of steady-state operation.

### PHYSICAL & CHEMICAL PROPERTIES

Parameter	Unit	Specification
Form	-	sphere
Color	-	gray-black
Mean diameter	mm	2.2
Bulk Density	g/ml	0.65±0.05
Crushing Strength	N/cm	>40
Al <sub>2</sub> O <sub>3</sub>	%	>99
Active component		Pd

### PROCESS CONDITIONS & PERFORMANCE

Element	Unit	Specification
Pressure	MPa	2.5-2.8
Temperature	°C	40-120
WHSV	kg <sub>feed</sub> /kg <sub>catalyst</sub> ·h	1.0-1.5
Recycle ratio	-	4-6
Catalyst life	years	>3
Bromine number	gBr/100g	50~60
Gelatine	mg/100ml	<80