

# Pd EnCat™ polyTPP30

Pd EnCat™ polyTPP30 is an enhanced form of microencapsulated palladium catalyst containing bound polymeric phosphine ligand and giving extremely low levels of palladium and phosphine contamination in crude products.

## Key benefits:

- Very low levels of metal and ligand contamination in required crude product - typically <5 and <20 ppm for palladium and phosphorous, respectively
- Good catalytic activity in many C-C bond forming reactions
- Ease of handling and ease of recovery of catalyst
- Potential for recycling and use in flow processes -due to low metal and ligand losses
- Adaptable to high through-put medicinal chemistry processes to deliver improved purity product libraries

## Characteristics:

Name	Pd metal content (w/w%)	P content (w/w%)	Pd Loading (mmol/g)	Particle Size Range $\mu\text{m}$ (average)
Pd EnCat™ polyTPP30	4.3-4.9	0.6-0.8	0.40-0.46	50-310 (185)

Please note: as with standard Pd(II) EnCat™ catalysts, and as documented in the literature, levels of metal found in the crude product can depend on solvent employed, and also on the substrate and other reaction conditions.

**Pd EnCat™ polyTPP30 is a development catalyst currently available directly from Reaxa Ltd. For further information please email [info@reaxa.com](mailto:info@reaxa.com)**

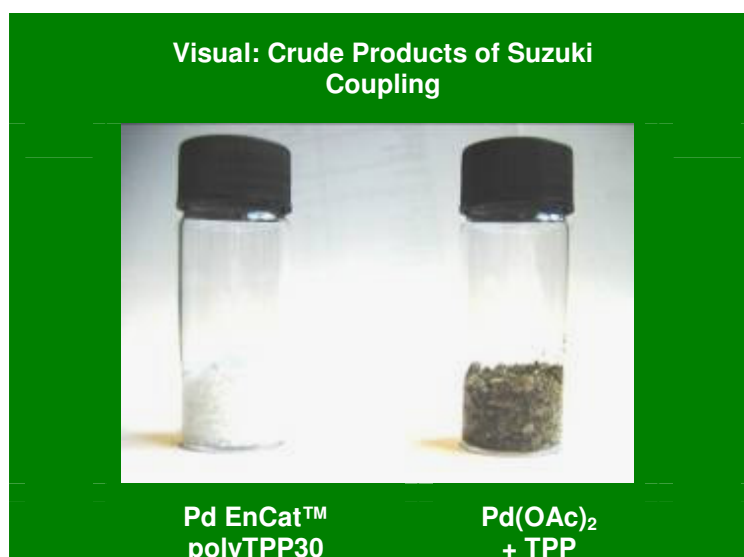
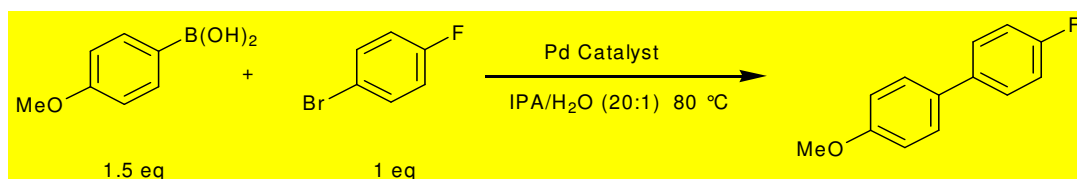


## Pd EnCat™ polyTPP30 Applications

Pd EnCat™ polyTPP30 successfully catalyses many C-C bond forming processes including Suzuki, Heck, Stille and carbonylations. In addition to use in classical batch processes, its properties enable successful applications in flow reaction processes. Pd EnCat™ polyTPP30 has, in addition to conventional heating, been successfully employed under microwave enhanced conditions wherein both low metal and low ligand contamination of crude products was again observed.

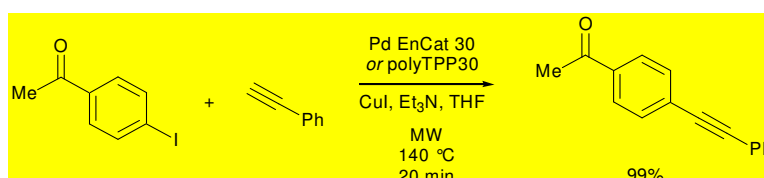
### Examples:

#### 1. Highly reduced palladium and phosphine contamination of crude products



Reaction Results	Pd EnCat™ polyTPP30	Pd(OAc) <sub>2</sub> + TPP
Product yield (%)	99	91
Pd in Crude Product (ppm)	7	985
P in Crude Product (ppm)	18	1200

#### 2. Improved tolerance towards microwave conditions versus Pd EnCat™ 30



Pd Contamination of Crude Product (ppm):	
Pd EnCat™ 30	83
Pd EnCat™ polyTPP30	14