



Palladium-Phosphine Catalysts

HERAEUS – YOUR EXPERT FOR PALLADIUM PHOSPHINE CATALYSTS

INTRODUCTION

Coupling reactions play an important part in the syntheses of sophisticated active ingredients for pharmaceutical, agro- and fine-chemistry.

Many of these coupling reactions run with the help of homogeneous palladium phosphine catalysts. Heraeus offers a variety of such C-C and C-N coupling catalysts.

C-C COUPLING REACTIONS

Figure 1 shows an example of the original Suzuki coupling reaction. By adaption of the palladium phosphine complex, a broad variety of molecules can be utilized in this reaction. Other coupling reactions like Stille and Heck also make use of such palladium phosphine complexes. Heraeus offers a choice of palladium complexes, which provide the best catalytic efficiency for each coupling reaction of interest, as shown in the table below.

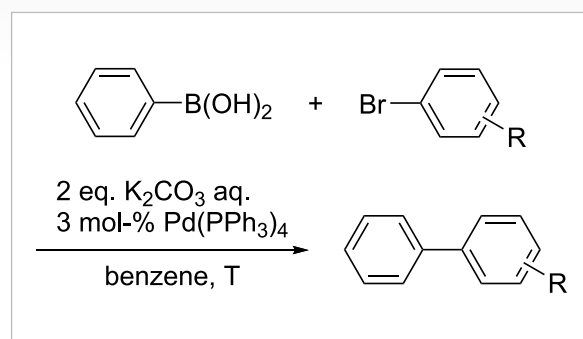


Figure 1: General example of a Suzuki coupling reaction.

PALLADIUM PHOSPHINE COMPLEXES FOR C-C COUPLING REACTIONS

Heraeus has developed industrial processes for multiple palladium phosphine catalysts. Each catalyst has its own strength depending on

the choice of coupling conditions. Our catalysts are available from sample to bulk quantities and can be shipped globally.

	Buchwald Hartwig	Heck	Hiyama	Negishi	Sonogashira	Stille	Suzuki
Pd(dppe)Cl ₂		×		×			×
Pd(dppp)Cl ₂				×	×		×
Pd(dppb)Cl ₂		×		×		×	×
Pd(dppf)Cl ₂		×		×	×	×	×
Pd(Amphos) ₂ Cl ₂							×
Pd(P(oTol) ₃) ₂ Cl ₂	×	×		×		×	×
Pd(PCy ₃) ₂ Cl ₂		×	×		×		×

PALLADIUM PHOSPHINE CATALYSTS AVAILABLE PORTFOLIO

Dichloro-[1,2-bis-(diphenylphosphino)-ethane]-palladium(II)



Pd(dppe)Cl₂
CAS 19978-61-1
17.5–19.5% Pd
Purity > 97%

Dichloro-[1,3-bis-(diphenylphosphino)-propane]-palladium(II)



Pd(dppp)Cl₂
CAS 59831-02-6
17.0–19.0% Pd
Purity > 97%

Dichloro-[1,4-bis-(diphenylphosphino)-butane]-palladium(II)



Pd(dppb)Cl₂
CAS 29964-62-3
16.6–18.6% Pd
Purity > 97%

Dichloro-[1,1'-bis-(diphenylphosphino)-ferrocen]-palladium(II)



Pd(dppf)Cl₂
CAS 72287-26-4
13.5–15.5% Pd
Purity > 97%

Dichloro-bis-(di-tert-butyl-(4-dimethylaminophenyl)-phosphine)-palladium(II)



Pd(Ampos)₂Cl₂
CAS 887919-35-9
14.0–16.0% Pd
Purity > 97%

Dichloro-bis-(tri-o-tolylphosphine)-palladium(II)



Pd(P(oTol))₃Cl₂
CAS 40691-33-6
12.5–14.5% Pd
Purity > 97%

Dichloro-bis-(tricyclohexylphosphine)-palladium(II)



Pd(PCy₃)₂Cl₂
CAS 29934-17-6
13.4–15.4% Pd
Purity > 97%

YOUR PALLADIUM PHOSPHINE CATALYST OF CHOICE

Upon request, we can provide many
other palladium phosphine catalysts
of your choice.

ADVANTAGES OF WORKING WITH HERAEUS

Global Presence – Benefit from logistics and personal contacts in every region of the world

From Sample Sizes to Bulk Manufacturing – high product quality no matter the size

Trading – Global precious metal trading, sales, purchasing and leasing-based financing

Recycling – Regain scarce precious metals from end-of-life products with advanced recycling services

Expert for all Precious Metals Compounds – Take advantage of a broad product portfolio

ABOUT HERAEUS PRECIOUS METALS

Heraeus Precious Metals is one of the world's leading players in the precious metals industry.

As part of the Heraeus Group, the company covers the value chain from trading to precious metals products to refining and recycling. It has extensive expertise in all platinum group metals as well as gold and silver.

With about 2,500 employees at 11 sites worldwide, Heraeus Precious Metals offers a broad portfolio of products that are essential for many industries such as the automotive, chemicals, semiconductor, aerospace, pharmaceutical and hydrogen industry.

Heraeus Precious Metals

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