

CHIMET CATALYST KIT



Chimet Catalyst Kit is made by supported Platinum Group Metals (PGMs) catalysts in the form of powder with use in slurry phase catalytic processes and in particular in hydrogenation of different functionalities in organic substrates.

Chimet Catalyst Kit constitutes an indispensable tool for the development of synthetic processes. All the samples in the Chimet catalyst kit are commercially available on a production scale.



D1124
PALLADIUM, 10% ON ACTIVATED CARBON, REDUCED, 50% WATER WET [7440-05-3]

Recommended for a broad range of reactions commonly catalyzed by palladium on carbon, such as hydrogenation of alkenes, alkynes, aromatic carbonyls, aromatic nitro groups, aromatic rings, nitriles, as well as reductive alkylation and hydrodehalogenation.



D1196
PALLADIUM, 10% ON ACTIVATED CARBON, UNREDUCED, 50% WATER WET [7440-05-3]

Recommended for a broad range of reactions commonly catalyzed by palladium on carbon, in particular for debenzilation and hydrogenolysis in general with molecular hydrogen.



D1198
PALLADIUM, 5% ON ACTIVATED CARBON, UNREDUCED, DRY [7440-05-3]

Recommended for a broad range of reactions commonly catalyzed by palladium on carbon, in particular for debenzilation and hydrogenolysis in general with molecular hydrogen. To be used when water is detrimental to the reaction.



D5086
PALLADIUM, 5% ON ACTIVATED ALUMINA POWDER [7440-05-3]

Recommended for a broad range of reactions commonly catalyzed by palladium on alumina, such as hydrogenation of alkenes, alkynes, as well as decarbonylation.



H1306
RHODIUM, 5% ON ACTIVATED CARBON, REDUCED, 50% WATER WET [7440-16-6]

Recommended for a broad range of reactions commonly catalyzed by rhodium on carbon, such as hydrogenation of aromatic rings, pyridine rings, alkenes.



T0735
PLATINUM, 5% ON ACTIVATED CARBON, REDUCED, DRY [7440-06-4]

Recommended for a broad range of reactions commonly catalyzed by platinum on carbon, such as hydrogenation of alkenes, aliphatic carbonyls, nitro groups, halonitroaromatics, aromatic rings, pyridine rings, as well as reductive alkylation. To be used when water is detrimental to the reaction.



T0737
PLATINUM, 5% ON ACTIVATED CARBON, REDUCED, 50% WATER WET [7440-06-4]

Recommended for a broad range of reactions commonly catalyzed by platinum on carbon, such as hydrogenation of alkenes, aliphatic carbonyls, nitro groups, halonitroaromatics, aromatic rings, pyridine rings, as well as reductive alkylation.



U0706
RUTHENIUM, 5% ON ACTIVATED CARBON, REDUCED, 50% WATER WET [7440-18-8]

Recommended for a broad range of reactions commonly catalyzed by ruthenium on carbon, such as hydrogenation of aliphatic carbonyls, aromatic rings, sugars.



D0279
PALLADIUM, 5% ON ACTIVATED PEAT CARBON, UNREDUCED, 50% WATER WET [7440-05-3]

Recommended for a broad range of reactions commonly catalyzed by palladium on carbon, in particular for debenzilation and hydrogenolysis in general with an hydrogen transfer agent.



D1102
PALLADIUM, 5% ON ACTIVATED CARBON, REDUCED, 50% WATER WET [7440-05-3]

Recommended for a broad range of reactions commonly catalyzed by palladium on carbon, such as hydrogenation of alkenes, alkynes, aromatic carbonyls, aromatic nitro groups, aromatic rings, nitriles, as well as reductive alkylation and hydrodehalogenation.



D1190
PALLADIUM, 5% ON ACTIVATED CARBON, REDUCED, 50% WATER WET [7440-05-3]

Recommended for a broad range of reactions commonly catalyzed by palladium on carbon, such as hydrogenation of alkenes, alkynes, aromatic carbonyls, aromatic nitro groups, aromatic rings, nitriles, as well as reductive alkylation and hydrodehalogenation.



D1197
PALLADIUM, 5% ON ACTIVATED CARBON, UNREDUCED, 50% WATER WET [7440-05-3]

Recommended for a broad range of reactions commonly catalyzed by palladium on carbon, in particular for debenzilation and hydrogenolysis in general with molecular hydrogen.



D1863
PALLADIUM, 5% ON ACTIVATED CARBON, UNREDUCED, 50% WATER WET [7440-05-3]

Recommended for a broad range of reactions commonly catalyzed by palladium on carbon, in particular for debenzilation and hydrogenolysis in general with molecular hydrogen.



T0722
PLATINUM, 1% ON ACTIVATED CARBON, REDUCED, DRY [7440-06-4]

Recommended for a broad range of reactions commonly catalyzed by platinum on carbon, in particular selective hydrogenation of aromatic nitro groups in halonitroaromatics.

PLATINUM GROUP METALS (PGMs) CATALYSTS

For each type of reaction/functional group, the metal exhibits a characteristic catalytic behaviour. A metal is chosen for its ability to promote the desired reaction, but also its inability to promote the unwanted reaction(s).

Palladium is the most versatile of the PGMs. Usually, it is the preferred metal for the hydrogenation of alkynes, alkenes, carbonyls in aromatic aldehydes and ketones, nitro compounds, as well as reductive alkylation, hydrogenolysis and hydrodehalogenation reactions

Palladium catalysts can be supplied in either reduced or unreduced state. Unreduced form is often suggested because more active, unless for acidic reaction media.

Platinum is usually preferred for the hydrogenation of alkenes, aliphatic carbonyls, nitro groups, aromatic rings, pyridine rings, as well as reductive alkylation and selective hydrogenation of halonitroaromatics.

Rhodium is used for the hydrogenation of carbocyclic and heterocyclic aromatic rings and alkenes.

Ruthenium is used for the higher pressure hydrogenation of aromatic rings and aliphatic carbonyls.

Mixed PGMs catalysts, available upon request, may provide additional benefits to both activity and selectivity.

Catalyst samples of the Chimet Catalyst Kit are made by any of the above mentioned PGM dispersed in the form of nanoparticles on proper porous supports.

Chimet catalyst supports are selected to incorporate good suspension, high attrition resistance to reduce catalyst losses by fines generation, and a fast filtration to minimize work up time.

The main support is **activated carbon** powder due to the high chemical resistance and adsorption capacity (typical surface area ranges between 500 and 1500 m²/g). The combination of raw materials (e.g.: wood or peat) together with activation processes produces activated carbons with large variety of physical and chemical properties (pore volume, pore size distribution, surface area, presence of surface oxidic groups, etc.) that can be appropriately selected to obtain the best compromise between activity and selectivity. Compared to other oxidic supports, activated carbon allows also an easy recovery of the precious metal by simple burning.

Alumina is an alternative to activated carbon as support for PGMs in particular applications requiring proper pore size and surface chemistry.

Calcium carbonate, Barium sulfate and other oxides can be used as support for PGMs in particular applications and are available upon request.

Carbon supported catalysts are more conveniently used in wet form as a paste that contains about 50% by weight of water which is held within the pores of the carbon. The dry form is used in reaction where the presence of water is not tolerated.

CHIMET CATALYST KIT

10g X6

5g X8



Tailor made PGMs catalysts, available upon request, may provide additional benefits to both activity and selectivity through:

- Support selection
- Metal or mixed metals
- Doping with a modifier

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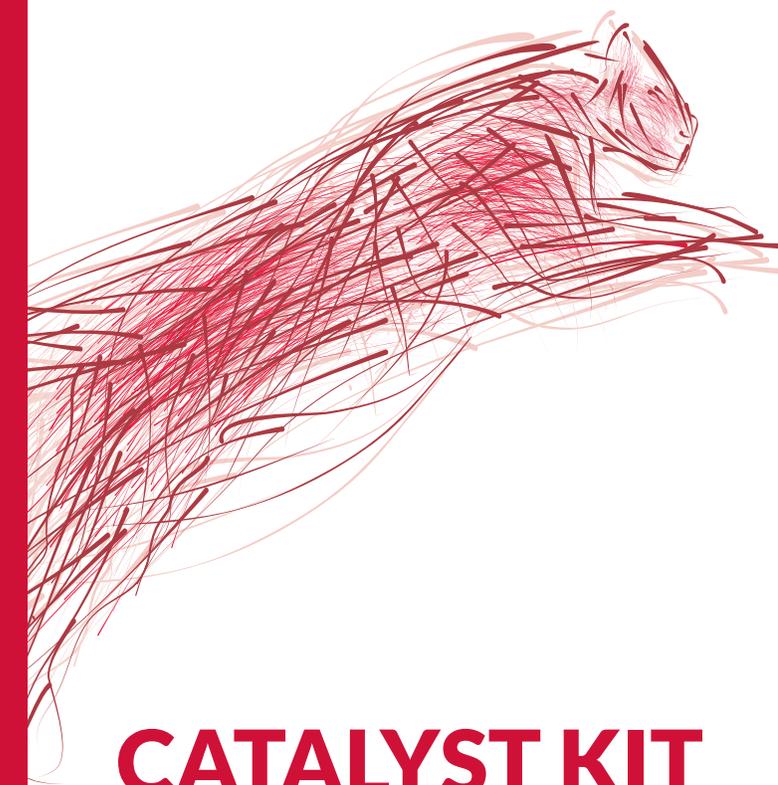
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