

Metal Scavenging for ICH Q3D Compliance

Since 2005, PhosphonicS has supported its pharmaceutical clients to develop effective purification processes and mitigate the need for multiple washes and recrystallisations.

Our functionalised silica products extract unwanted metal species from your APIs, to achieve regulatory compliance and accelerate drug development.

Pharmaceutical Application

- Highly efficient removal of trace metal impurities
- Applicable from discovery through to full-scale production
- Effective on a broad range of metals

Superior Purification

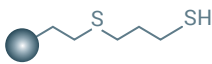
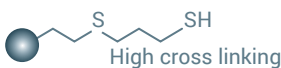
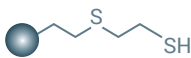
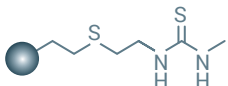
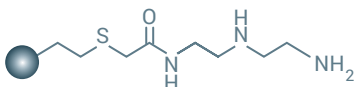
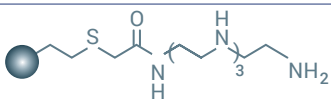
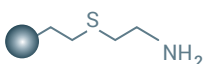
- Increased speed to market
- Meet and exceed regulatory requirements
- Easily and fully scalable

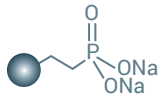
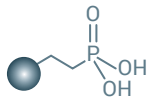
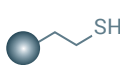
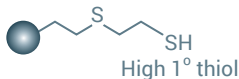
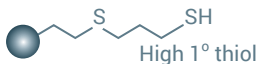


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Introducing PhosponicS Metal Removal Products

PhosponicS has innovated and patented a range of superior performing silica scavengers to meet the highest standards required by the pharmaceutical industry.

Product name	Product structure
SPM32	
SPM36f	
SEM26	
MTCf	
STA3	
SPA5	
SEA	

Product name	Product structure
P01	
POH1	
PhosPure-01	
PhosPure-02	
PhosPure-03	
PhosPure-CatchAll	Mixed ligand functionality Broad spectrum scavenging

PhosponicS customised metal removal kits contain convenient 10 g quantities of each of your selected products.



What Makes PhosponicS Unique?

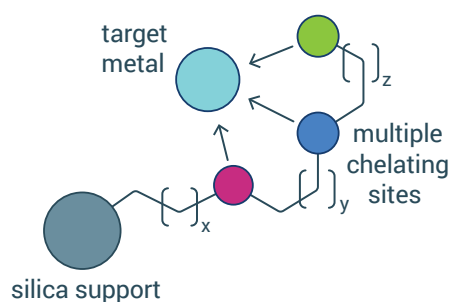
PhosponicS uses patented technology for attaching powerful ligands to a silica backbone. The ability to incorporate multiple chelating sites enables our silica products to outperform other solid supported products, at every concentration of metal in your stream.

Advantages of PhosponicS metal removal products

- Superior results consistently achieved across a wide range of APIs
- Higher product yields from your purification process
- Proven track record from lab through to plant scale

Advantages of silica as a support

- Highly porous for optimised stream flow and minimal back-pressure
- Stable in aqueous and inorganic media up to pH 9.5
- Larger surface area for higher metal loading, typical loading is 20-80 g/kg
- Non-contributory to product streams
- No pre-treatment required or swelling observed



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Case studies

Rh removal following a chiral coupling reaction

Stream

- 553 ppm Rh
- API: 4 x 30 kg batches

Result

- 22 ppm Rh (*within spec.*)
- 96% Rh removal
- Fixed bed

Ru removal from an oncology target molecule

Stream

- 1,500 ppm Ru
- Multi-kilogram batches

Result

- 4 ppm Ru
- >99.5% Ru removal
- Slurry mode

Cu removal from an indazole intermediate

Stream

- 875 ppm Cu
- Lab scale

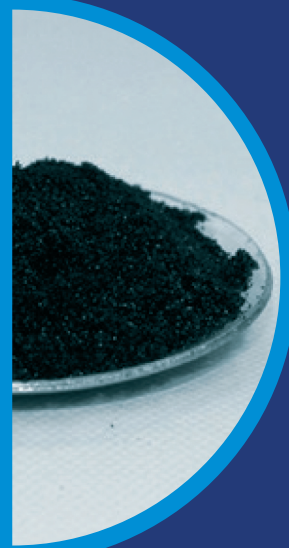
Result

- 8 ppm Cu
- 99.5% Cu removal
- Slurry mode
- MeCN

PhosphonicS supporting the pharmaceutical industry

Transition metal catalysts are widely used in the pharmaceutical industry to carry out an extensive range of coupling reactions and deprotections during early stage research through to full scale manufacturing of APIs.

The effective removal of unwanted traces of metal impurities improves the success rate of meeting stringent regulatory compliance requirements and accelerates drug development and commercialisation.



Ease of use, flexible formats

PhosphonicS can supply scavengers in a wide range of formats for ease of use at different scales of operation.

Our scavengers are most routinely applied in slurry mode with overhead stirring, but increasingly customers are developing more sophisticated methods for API production throughout the drug development process. From SPE cartridges for Med Chem applications through to customised cartridge units for full scale production, we ensure the right solution is tailored to your needs.



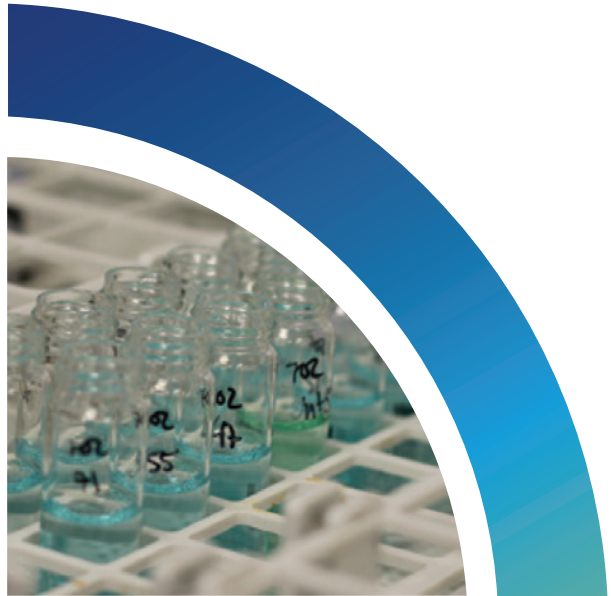
Order your customised purification test Kit

We can help you with product selection for your metal removal based on our broad application experience and your requirements.

Please ring us on +44 1635 953300 & request to speak to one of our technical team.

You can order your customised purification kit online at: www.phosphonics.com or by emailing our sales team at: sales@phosphonics.com.





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