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## Nexgen Purifications Metal Scavenging

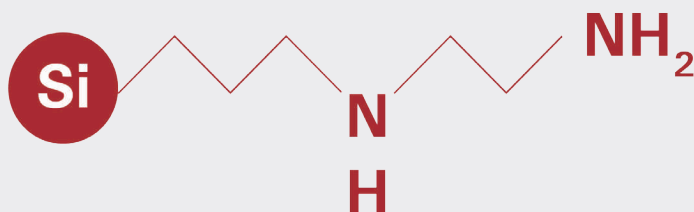
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Primary/Secondary Amine (PSA)

Nexgen Purifications Metal Scavenging Line is designed to retain excess organometallic catalysts commonly utilized in industrial synthesis enabling purification by simple filtration. Specific impurities are targeted including precious metals such as Pd, Pt, Ru and Rh to isolate the final desired product. Our Nexgen Purifications Metal Scavengers are highly selective in achieving the necessary purity levels for metal contamination, cost-effective, and available in cartridge format or bulk quantities.

# NEXGEN- METAL SCAVENGING PRIMARY/SECONDARY AMINE (PSA)

## Nexgen – Metal Scavenging Primary/Secondary Amine (PSA)

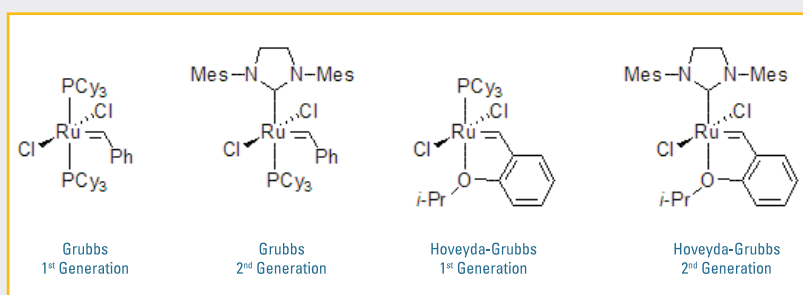


**Organic Loading:**  $\geq 0.80$  mmol/gm  
**Surface Area:** 500 m<sup>2</sup>/g  
**Average Pore Size:** 60Å  
**Pore Volume:** 0.77 cm<sup>3</sup>/g

### Metals Targeted

**Best Metals Scavenged:** Cr, Pd, Pt, Ru, W, & Z  
**Good Metals Scavenged:** Cd, Co, Cu, Fe, Hg, Ni, Pb, Se, & Sc

Olefin metathesis has become a well-established synthetic technique for the clean development of innumerable classes of chemical structures. Ruthenium-based catalysts are traditionally the go-to in the aforementioned reactions (ROM(P) and RCM), where a majority of the successful examples in the below reaction are achieved via Grubbs and Hoveyda-Grubbs catalysts. In order to successfully reach the maximum tolerated concentrations of residual ruthenium, various functionalized silica based sorbents were evaluated for their scavenger efficiency.



### Case Study: Removal of Residual Ruthenium Concentrations Using 3 Different Metal Scavengers

Initial Ru (ppm)	Scavengers	Conditions	# of treatment	Ru (ppm)	% Yield of API
2000	Competitor 1 - Diamine	20 wt%, THF, RT, 16 h	Pass 1	950	~95.4
			Pass 2	710	
			Pass 3	600	
2000	Nexgen PSA	20 wt%, THF, RT, 16 h	Pass 1	800	~99.8
			Pass 2	390	
			Pass 3	340	
2000	Competitor 2- Complex Amine Resin	20 wt%, THF, RT, 16 h	Pass 1	1300	~92.8
			Pass 2	1100	

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