

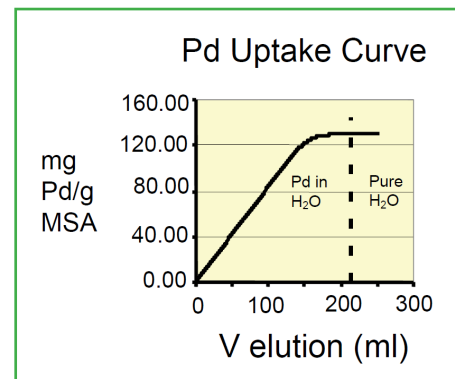
Sold in collaboration with BASF for research purposes only.

BASF metals scavenging agents (MSA's) are alumina, carbon or silica-based air stable, free flowing powders with proprietary surface coatings. These are suitable for the removal of precious and base metal species from organic, aqueous, protic and aprotic reaction mixtures with metal loading capacities up to 13 wt% (depending on metal and process conditions). MSA's are designed for fixed bed or slurry applications, are temperature stable up to 150°C and do not exhibit swelling seen with polymer-based systems. Metals removed include: Pt, Pd, Rh, Ru, Ir, Ni, Cu, Fe.

Research quantities available from Strem.

Commercial quantities available from BASF.

For more details please visit [www.strem.com/msa](http://www.strem.com/msa).



(H<sub>2</sub>PdCl<sub>4</sub> from H<sub>2</sub>O) with MSA 14-4353

96-6700	BASF Metals Scavenging Agent Kit (Contains 10g unit of each of the following)		
Product#	13-6300	06-0805	14-4353
BASF#	MSA-FC AI-1	MSA-FC C-1	MSA-FC Si-3
Description	Phosphotungstic acid modified alumina	Phosphotungstic acid modified activated carbon	Mercaptopropyl modified silica
Max metal loading capacity (wt%)	1%	5%	13%
Color & Form	white powdr.	black powdr.	white to slightly yellow powdr.
Stability	air stable	air stable	air stable
Suitable Reaction mixtures			
Aqueous	Yes	No	Yes
Organic	Yes	Yes	Yes
Polar & Apolar	Yes	Yes	Yes
Slurry or fixed bed application	Yes	Yes	Yes
Temperature Stability	≤150°C	≤110°C	≤110°C
Comments	---	Presence of water and small chain alcohols may impact total uptake capacity.	Especially suitable for scavenging Pd remains.
Typical Applications	<ul style="list-style-type: none"> <li>• Pd(PPh<sub>3</sub>)<sub>4</sub> from THF</li> <li>• Ir(COD)Cl<sub>2</sub> from EtOH</li> <li>• Ru(BINAP)Cl<sub>2</sub> from isopropanol</li> <li>• Rh(DiPFc)(COD)BF<sub>4</sub> from EtOH</li> </ul>	<ul style="list-style-type: none"> <li>• Pd-acetate with 2 equivalents of PPh<sub>3</sub> from acetone</li> <li>• Rh(DUPHOS)(COD)BF<sub>4</sub> from isopropanol</li> <li>• Reaction mixture of a hydrogenation reaction using Rh(DUPHOS)</li> <li>• Rh(PPh<sub>3</sub>)Cl from toluene</li> </ul>	<ul style="list-style-type: none"> <li>• Pd from Heck reaction mixture</li> <li>• H<sub>2</sub>PdCl<sub>4</sub> from EtOH</li> <li>• H<sub>2</sub>PdCl<sub>4</sub> from H<sub>2</sub>O</li> </ul>

Visit [www.strem.com](http://www.strem.com) for new product information and a searchable catalog.

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**BASF Metals Scavenging Agent Kit (MSA Kit)****96-6700** Sold in collaboration with BASF for research purposes only.

1 kit

Components also available for individual sale. Contains 10g unit of each of the following:

**13-6300 Metals scavenging agent, Phosphotungstic acid modified alumina (BASF MSA-FC AI-1) (1344-28-1)** 10g  
d50=159µm; white powdr.; d. 1.00 g/ml 50g

## Technical Note:

1. Alumina-based, air-stable, metal scavenging agent (MSA-FC AI-1) powder suitable for the removal of dissolved metal species from organic and aqueous polar and apolar reaction mixtures. Can be used in slurry and fixed bed type applications. Temperature stable up to 150°C. Metal loading capacity up to 1 wt% depending on metal and process conditions. Particularly effective in polar solvents. Metals scavenged: Pd, Ir, Ru, Rh [examples – Pd(PPh<sub>3</sub>)<sub>4</sub>, Ir(COD)Cl<sub>2</sub>, Ru(BINAP)Cl<sub>2</sub>, Rh(DiPFc)(COD)BF<sub>4</sub>]

**06-0805 Metals scavenging agent, Phosphotungstic acid modified activated carbon (BASF MSA-FC C-1) (7440-44-0)** 10g  
d50=27µm; black powdr.; d. 0.60g/ml 50g

## Technical Note:

1. Carbon-based, air-stable, metal scavenging agent (MSA-FC C-1) powder suitable for the removal of dissolved metal species from organic polar and apolar reaction mixtures. Can be used in slurry and fixed bed type applications. Temperature stable up to 110°C. The presence of water and small chain alcohols may impact the total uptake capacity. Metal loading capacity up to 5 wt% depending on metal and process conditions. Metals scavenged: Pd, Rh [examples - Pd(PPh<sub>3</sub>)<sub>2</sub>(OAc)<sub>2</sub>, Ru(DUPHOS)(COD)BF<sub>4</sub>, Rh(PPh<sub>3</sub>)<sub>3</sub>Cl]

**14-4353 Metals scavenging agent, Mercaptopropyl modified silica (BASF MSA-FC Si-3) (112926-00-8)** 10g  
d50=83µm; white to slightly yellow powdr.; d. 0.88g/ml 50g

## Technical Note:

1. Silica-based, air-stable, metal scavenging agent (MSA-FC Si-3) powder suitable for the removal of dissolved metal species from organic and aqueous polar and apolar reaction mixtures. Can be used in slurry and fixed bed type applications. Temperature stable up to 110°C. Especially suitable for use in the removal of palladium remains. Metal loading capacity is up to 13% depending on metal and process conditions. Metals scavenged: Pd [examples – H<sub>2</sub>PdCl<sub>4</sub>]

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