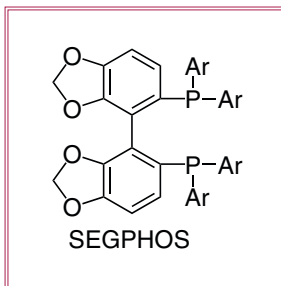


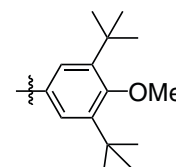
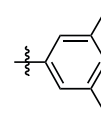
SEGPHOS® Catalyst & Ligand Kits for asymmetric hydrogenation & other catalytic applications

SEGPHOS® works particularly well in asymmetric hydrogenation of α -, β -, and γ -functionalized ketones. In most cases, catalytic activities and enantioselectivities achieved by SEGPHOS®-ruthenium complexes are higher than those by BINAP counterparts. Other SEGPHOS®-metal complexes also afford excellent results in a wide variety of asymmetric reactions.

DM-SEGPHOS® has slightly bulkier pendant groups than SEGPHOS®, and DM-SEGPHOS® is great at producing high enantioselectivity in reductive amination of β -keto esters to β -amino acids. Replacing XylBINAP with DM-SEGPHOS® as a ligand in Noyori's $[\text{RuX}_2(\text{P}^*\text{P}(\text{N}^*\text{N}))]$ complex has been known to improve enantioselectivity in difficult reduction reactions. DTBM-SEGPHOS® provides an extremely sterically demanding environment around the metal center. One of the most remarkable results is asymmetric hydrogenation of 2-substituted 3-oxocarboxylates, accompanied by dynamic kinetic resolution. Due to its unique structural and electronic features, many complexes of DTBM-SEGPHOS® such as gold, palladium and especially copper complexes show excellent activities and enantioselectivities in a variety of asymmetric reactions



Ar:



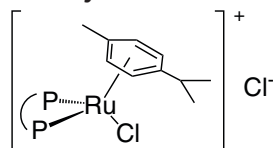
These kits contain 250mg of each of the items listed below it. All items are available for individual sale in 250mg, 1g & 5g unit sizes.

96-6900 Takasago SEGPHOS® Ligand Kit

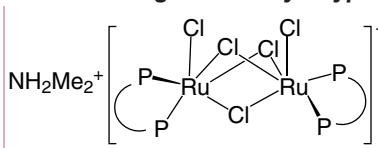
Item#	Acronym	CAS#	Item#	Acronym	CAS#
15-0066	(R)-(-)-DTBM-SEGPHOS®	566940-03-2	15-0067	(S)-(+)-DTBM-SEGPHOS®	210169-40-7
15-0136	(R)-(+)-SEGPHOS®	244261-66-3	15-0137	(S)-(-)-SEGPHOS®	210169-54-3
15-0478	(R)-(+)-DM-SEGPHOS®	850253-53-1	15-0479	(S)-(-)-DM-SEGPHOS®	210169-57-6

96-6901 Takasago SEGPHOS® Ru Catalyst Kit

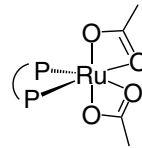
Metal catalysts in this kit are from the following four catalyst types:



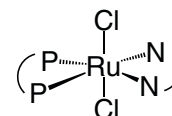
$[\text{RuCl}(\text{p-cymene})(\text{P}^*\text{P})]\text{Cl}$ (I)



$[\text{NH}_2\text{Me}_2][\{\text{RuCl}(\text{P}^*\text{P})\}_2(\mu\text{-Cl})_3]$ (II)



$[\text{Ru}(\text{OAc})_2(\text{P}^*\text{P})]$ (III)



$[\text{RuCl}_2(\text{P}^*\text{P})(\text{N}^*\text{N})]$ (IV)

Item#	Acronym (Ligand P*P)	CAS#	Item#	Acronym (Ligand P*P)	CAS#
<i>[RuCl(p-cymene)(P*P)]Cl (I)</i>					
44-0096	(R)-SEGPHOS®	944451-28-9	44-0097	(S)-SEGPHOS®	944451-29-0
44-0098	(R)-DM-SEGPHOS®	944451-30-3	44-0099	(S)-DM-SEGPHOS®	944451-31-4
44-0102	(R)-DTBM-SEGPHOS®	944451-32-5	44-0103	(S)-DTBM-SEGPHOS®	944451-33-6
<i>[NH2Me2][{RuCl(P*P)}2(mu-Cl)3]Cl (II)</i>					
44-0518	(R)-SEGPHOS®	346457-41-8	44-0519	(S)-SEGPHOS®	488809-34-3
44-0520	(R)-DM-SEGPHOS®	935449-46-0	44-0521	(S)-DM-SEGPHOS®	944451-14-3
<i>[Ru(OAc)2(P*P)](III)</i>					
44-0168	(R)-SEGPHOS®	944450-48-0	44-0169	(S)-SEGPHOS®	373650-12-5
44-0174	(R)-DM-SEGPHOS®	944450-50-4	44-0176	(S)-DM-SEGPHOS®	944450-50-4
44-0180	(R)-DTBM-SEGPHOS®	1025477-38-6	44-0181	(S)-DTBM-SEGPHOS®	1025476-84-9
<i>[RuCl2(P*P)(N*N)](IV)</i>					
44-0214	(R)-DM-SEGPHOS® (daiphen)	944450-43-5	44-0215	(S)-DM-SEGPHOS® (daiphen)	944450-44-6
44-0228	(R)-DM-SEGPHOS® (dpen)	944450-45-7	44-0229	(S)-DM-SEGPHOS® (dpen)	944450-46-8

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Strem Chemicals, Inc.
 7 Mulliken Way
 Newburyport, MA 01950
 U.S.A
 Tel: 978.499.1600
 Fax: 978.465.3104
 Email: info@strem.com

Strem Chemicals, Inc.
 15, rue de l'Atome
 Zone Industrielle
 67800 BISCHHEIM France
 Tel: (33) 03 88 62 52 60
 Fax: (33) 03 88 62 26 81
 Email: info.europe@strem.com

Strem Chemicals, Inc.
 Postfach 1215
 77672 KEHL
 Germany
 Tel: 0 78 51/ 7 58 79
 Email: info.europe@strem.com

Strem Chemicals UK Ltd.
 An Independent Distributor of Strem Chemicals Products
 Newton Hall, Town Street
 Newton, Cambridge
 England CB22 7ZE
 Tel: +44 (0)1223 873 028
 Fax: +44 (0)1223 870207
 Email: enquiries@strem.co.uk