

## 95 in total

Trade name	Empirical formula	Metal	Theoretical metal content	CAS Number	Product number
Umicore CX231		Pd	15	1779569-04-8	3000111951
Umicore CX234	[(IPent)Pd(1- <sup>t</sup> Bu-Ind)Cl]	Pd	14		3000111950
Umicore Grubbs Catalyst M203	(IMes)Ru(PCy <sub>3</sub> )(Ind)Cl <sub>2</sub>	Ru	11	254972-49-1	3000110972
Umicore Grubbs Catalyst M104	Ru(PCy <sub>3</sub> ) <sub>2</sub> (2-thienylmethylene)Cl <sub>2</sub>	Ru	12	1190427-44-1	3000110958
Umicore Grubbs Catalyst M209	(IMes)Ru(PCy <sub>3</sub> )(2-thienylmethylene)Cl <sub>2</sub>	Ru	12	1190427-49-6	3000110971
Umicore Grubbs Catalyst M208	[(Me) <sub>2</sub> -IMes]Ru(PCy <sub>3</sub> )(2-thienylmethylene)Cl <sub>2</sub>	Ru	11	1190427-50-9	3000110970
Umicore CX135 - Pd( <sup>t</sup> BuXPhos)G3	Pd( <sup>t</sup> BuXPhos)[2-(2'-aminophenyl)](Ms)	Pd	13.4	1447963-75-8	3000087791

Your regional Umicore customer expert  
Umicore Precious Metals Chemistry USA, LLC

1305 Main Parkway  
Catoosa, OK 74015  
Tel. +1 (918) 266 4826  
phillip.chalabi@am.umicore.com

Trade name	Empirical formula	Metal	Theoretical metal content	CAS Number	Product number
Umicore Hoveyda-Grubbs Catalyst M700		Ru	17	203714-71-0	3000087581
Umicore CX136 - Pd(Xantphos)G3	Pd(Xantphos)[2-(2'-amino-1,1'-biphenyl)](Ms)	Pd	11	1445085-97-1	3000086860
Umicore CX133 - Pd(RuPhos)G3	Pd(RuPhos)[2-(2'-amino-1,1'-biphenyl)](Ms)	Pd	13	1445085-77-7	3000085984
Umicore CX123 - Pd(RuPhos)G2	Pd(RuPhos)[2-(2'-amino-1,1'-biphenyl)]Cl	Pd	14	1375325-68-0	3000085838
Umicore CX132 - Pd(XPhos)G3	Pd(XPhos)[2-(2'-amino-1,1'-biphenyl)](Ms)	Pd	13	1445085-55-1	3000085837
Umicore CX131 - Pd(SPhos)G3	Pd(SPhos)[2-(2'-amino-1,1'-biphenyl)](Ms)	Pd	14	1445085-82-4	3000085817
Umicore Grubbs Catalyst M102	Ru(PCy <sub>3</sub> ) <sub>2</sub> (benzylidene)Cl <sub>2</sub>	Ru	12	172222-30-9	3000083766
Umicore Grubbs Catalyst M204	(SI Mes) Ru(PCy <sub>3</sub> ) <sub>2</sub> (benzylidene)Cl <sub>2</sub>	Ru	12	246047-72-3	3000083765
Umicore CX76	[Pd(PCy <sub>3</sub> ) <sub>2</sub> (OAc) <sub>2</sub> ]	Pd	14	59840-38-9	3000083340
Umicore CX201	[Pd(1- <sup>t</sup> Bu-Ind)(P( <sup>t</sup> Bu) <sub>3</sub> )Cl]	Pd	21	1779569-15-1	3000083282

Your regional Umicore customer expert  
Umicore Precious Metals Chemistry USA, LLC

1305 Main Parkway  
Catoosa, OK 74015  
Tel. +1 (918) 266 4826  
phillip.chalabi@am.umicore.com

Trade name	Empirical formula	Metal	Theoretical metal content	CAS Number	Product number
Umicore CX122 - Pd(XPhos)G2	Pd(XPhos)[2-(2'-amino-1,1'-biphenyl)]Cl	Pd	13	1310584-14-5	3000036047
Umicore CX33	[(IPr*)Pd(cinnamyl)]Cl	Pd	9	1380314-24-8	3000036301
Chiralyst Ru1042	[RuCl(p-cymene)(S)-Xyl-BINAP)]Cl	Ru	9	1345887-44-6	3000020710
Umicore Grubbs Catalyst M207	(SI Mes) Ru(PCy <sub>3</sub> ) (butenylidene)Cl <sub>2</sub>	Ru	12	253688-91-4	3000082849
Umicore Grubbs Catalyst M103	Ru(PCy <sub>3</sub> ) <sub>2</sub> (butenylidene)Cl <sub>2</sub>	Ru	13	194659-03-5	3000036127
Umicore CX121 - Pd(SPhos)G2	Pd(SPhos)[2-(2'-amino-1,1'-biphenyl)]Cl	Pd	15	1375325-64-6	3000081669
Umicore CX98	[Pd(DPEphos)Cl <sub>2</sub> ]	Pd	15	205319-06-8	3000081575
Chiralyst Ru918	[RuCl(p-cymene)(S)-SEGPHOS)]Cl	Ru	11	944451-29-0	3000080085
Umicore CX71	[PdBr[P( <sup>t</sup> Bu <sub>3</sub> )]] <sub>2</sub>	Pd	27	185812-86-6	3000036049
Umicore CX82	[Pd(P( <sup>t</sup> Bu)Cy <sub>2</sub> ) <sub>2</sub> Cl <sub>2</sub> ]	Pd	16	104889-13-6	3000027105
Pt-Tetrakis	[Pt(PPh <sub>3</sub> ) <sub>4</sub> ]	Pt	16	14221-02-4	3000022280

Your regional Umicore customer expert  
Umicore Precious Metals Chemistry USA, LLC

1305 Main Parkway  
Catoosa, OK 74015  
Tel. +1 (918) 266 4826  
phillip.chalabi@am.umicore.com

Trade name	Empirical formula	Metal	Theoretical metal content	CAS Number	Product number
Chiralyst Ru1321	[Ru(SL-M001-1)(C <sub>7</sub> H <sub>11</sub> )(N-AcCN)]BF <sub>4</sub> ·2HBF <sub>4</sub>	Ru	8		3000036106
Wilkinson's catalyst	Rh(PPh <sub>3</sub> ) <sub>3</sub> Cl	Rh	11	14694-95-2	3000034541
	Ru(PPh <sub>3</sub> ) <sub>2</sub> (Ind)Cl	Ru	12	1360949-97-8	3000036089
Umicore CX62	[Pd(dippf)(vs)tol]	Pd	4	1708984-17-1	3000036052
Chiralyst Ru867	(C <sub>7</sub> H <sub>11</sub> )(N-AcCN)]BF <sub>4</sub>	Ru	12	1016168-44-7	3000034572
Chiralyst Ru1013	[Ru(SL-T001-1)(C <sub>7</sub> H <sub>11</sub> )(N-AcCN)]BF <sub>4</sub>	Ru	10	942042-51-5	3000036104
Chiralyst Ru929	[RuCl( <i>p</i> -cymene)(R)-BINAP]Cl	Ru	11	145926-28-9	3000036083
Chiralyst Rh986	[Rh(SL-T001-1)(cod)]BF <sub>4</sub>	Rh	10	673458-84-9	3000036063
Umicore CX97	[Pd(Xantphos)Cl <sub>2</sub> ]	Pd	14	205319-10-4	3000036050
Umicore CX83	[Pd[P( <sup>t</sup> Bu) <sub>2</sub> ] <sup>n</sup> Bu] <sub>2</sub> Cl <sub>2</sub> ]	Pd	18	1444507-24-7	3000036046
Umicore Grubbs Catalyst M201	(SI Pr)Ru(PPh <sub>3</sub> )(Ind)Cl <sub>2</sub>	Ru	10	1307233-23-3	3000036123

Your regional Umicore customer expert  
Umicore Precious Metals Chemistry USA, LLC

1305 Main Parkway  
Catoosa, OK 74015  
Tel. +1 (918) 266 4826  
phillip.chalabi@am.umicore.com

Trade name	Empirical formula	Metal	Theoretical metal content	CAS Number	Product number
Umicore Grubbs Catalyst M101	$\text{Ru}(\text{PCy}_3)_2(\text{Ind})\text{Cl}_2$	Ru	11	250220-36-1	3000034559
Pd(PEPPSI)IPr	$[(\text{IPr})\text{Pd}(3\text{-Cl-py})\text{Cl}_2]$	Pd	16	905459-27-0	3000036041
Umicore CX42	$[(\text{SIPr})\text{PdCl}_2]_2$	Pd	19	627878-09-5	3000034610
Umicore CX93	$[\text{Pd}(\text{dppf})\text{Cl}_2]$	Pd	14	72287-26-4	3000034524
Umicore CX96	$[\text{Pd}(\text{dtbpf})\text{Cl}_2]$	Pd	16	95408-45-0	3000034532
Pd-Tetrakis	$[\text{Pd}(\text{PPh}_3)_4]$	Pd	9	14221-01-3	3000034517
	$[(\text{PPh}_3)\text{AuCl}]$	Au	40	14243-64-2	3000036007
Umicore CX32	$(\text{SIPr})\text{Pd}(\text{cinnamyl})\text{Cl}$	Pd	16	884879-24-7	3000034527
Umicore CX31	$[(\text{IPr})\text{Pd}(\text{cinnamyl})\text{Cl}]$	Pd	16	884879-23-6	3000034528
Umicore CX81	$\text{Pd}(\text{P}(\text{tBu})_2\text{Ph})_2\text{Cl}_2$	Pd	17	34409-44-4	3000034531
Umicore CX51	$[(\text{IPr})\text{Pd}(\text{vs})]$	Pd	16	478019-87-3	3000036038
Chiralyst Ru1254	$\text{Ru}(\text{SL-W001-1})(\text{C}_7\text{H}_{11})\text{I}$	Ru	8	1021494-93-8	3000036107
Umicore CX52	$[(\text{IMes})\text{Pd}(\text{vs})]$	Pd	18	441018-46-8	3000036039
Chiralyst Rh756	$[\text{Rh}[(\text{R,R})\text{-DIPAMP}]\text{P}(\text{cod})]\text{BF}_4$	Rh	14	56977-92-5	3000036060
Ru HYDRIDO	$\text{Ru}(\text{PPh}_3)_3(\text{CO})(\text{H})\text{Cl}$	Ru	11	16971-33-8	3000036113
Chiralyst Ru880		Ru	12		3000036108
	$_{7}\text{H}_{11}(\text{N-AcCN})\text{BF}_4$				

Your regional Umicore customer expert  
Umicore Precious Metals Chemistry USA, LLC

1305 Main Parkway  
Catoosa, OK 74015  
Tel. +1 (918) 266 4826  
phillip.chalabi@am.umicore.com

Trade name	Empirical formula	Metal	Theoretical metal content	CAS Number	Product number
Umicore Grubbs Catalyst M110	$\text{Ru}^i(\text{Bu-phobane})_2(\text{Ind})\text{Cl}_2$	Ru	13	894423-99-5	3000034563
Chiralyst Ru914	$\text{Ru}[(\text{R})\text{-Xyl-MeO-BIPHEP}](\text{OAc})_2$	Ru	11	916197-27-8	3000036110
Chiralyst Rh1110	$[\text{Rh}(\text{SL-T002-1})(\text{cod})]\text{BF}_4$	Rh	10	827596-68-9	3000036064
	$\text{Ru}(\text{PPh}_3)_3\text{Cl}_2$	Ru	10	15529-49-4	3000034553
ROPAC	$\text{Rh}(\text{PPh}_3)(\text{CO})(\text{acac})$	Rh	20	25470-96-6	3000036057
Umicore CX92	$[\text{Pd}(\text{dppp})\text{Cl}_2]$	Pd	18	59831-02-6	3000036040
Umicore CX72	$[\text{Pd}(\text{PCy}_3)_2\text{Cl}_2]$	Pd	14	29934-17-6	3000034513
Umicore CX73	$[\text{Pd}(\text{PPh}_3)_2\text{Cl}_2]$	Pd	15	13965-03-2	3000034512
Rh HYDRIDO	$\text{Rh}(\text{PPh}_3)_3(\text{CO})\text{H}$	Rh	11	17185-29-4	3000036056
Umicore CX23	$(\text{SIPr})\text{Pd}(\text{allyl})\text{Cl}$	Pd	19	478980-01-7	3000034526
Umicore CX22	$[(\text{IMes})\text{Pd}(\text{allyl})\text{Cl}]$	Pd	19	478980-04-0	3000034522
Fu catalyst	$[\text{Pd}(\text{P}^i\text{Bu}_3)_2]$	Pd	21	53199-31-8	3000034529
Umicore CX84	$[\text{Pd}(\text{amphos})_2\text{Cl}_2]$	Pd	15	887919-35-9	3000034530
Chiralyst Rh1351	$[\text{Rh}(\text{SL-4})]$	Rh	8	827596-70-3	3000036062
Chiralyst Ru762	$\text{Ru}[(\text{R})\text{-2-Furyl-MeO-BIPHEP}](\text{OAc})_2$	Ru	13	952040-51-6	3000036103

Your regional Umicore customer expert  
Umicore Precious Metals Chemistry USA, LLC

1305 Main Parkway  
Catoosa, OK 74015  
Tel. +1 (918) 266 4826  
phillip.chalabi@am.umicore.com

Trade name	Empirical formula	Metal	Theoretical metal content	CAS Number	Product number
Chiralyst Ru1267	[Ru(SL-W008-1)(C <sub>7</sub> H <sub>11</sub> )(N-AcCN)]BF <sub>4</sub>	Ru	8	1021494-98-3	3000036105
Chiralyst Ru1255	[Ru(SL-W001-1)(C <sub>7</sub> H <sub>11</sub> )(N-AcCN)]BF <sub>4</sub>	Ru	8	1021494-95-0	3000036099
Chiralyst Ru1251	Ru[(R)-3,5- <i>t</i> -Bu-MeO-BIPHEP](OAc) <sub>2</sub>	Ru	8	194497-14-8	3000036111
Chiralyst Ru843	Ru[(S)-BINAP](OAc) <sub>2</sub>	Ru	12	261948-85-0	3000036102
Chiralyst Ru842	Ru[(R)-BINAP](OAc) <sub>2</sub>	Ru	12	325146-81-4	3000036101
Chiralyst Ru803	Ru[(S)-MeO-BIPHEP](OAc) <sub>2</sub>	Ru	13	134527-17-6	3000036098
Chiralyst Ru802	Ru[(R)-MeO-BIPHEP](OAc) <sub>2</sub>	Ru	13	133519-04-7	3000036097
Chiralyst Ru1011		Ru	10	942042-52-6	3000036095
	<sub>7</sub> H <sub>11</sub> I				
Chiralyst Ru1012		Ru	10	942042-53-7	3000036093
	<sub>7</sub> H <sub>11</sub> I				
Chiralyst Ru928	[RuCl(benzene)(S)-BINAP)]Cl	Ru	12	126251-92-1	3000036092
Chiralyst Ru930	[RuCl( <i>p</i> -cymene)(S)-BINAP)]Cl	Ru	11	130004-33-0	3000036085

Your regional Umicore customer expert  
Umicore Precious Metals Chemistry USA, LLC

1305 Main Parkway  
Catoosa, OK 74015  
Tel. +1 (918) 266 4826  
phillip.chalabi@am.umicore.com

Trade name	Empirical formula	Metal	Theoretical metal content	CAS Number	Product number
Chiralyst Rh1228	[Rh(SL- 4	Rh	8	673458-88-3	3000036066
Chiralyst Rh840	[Rh(SL- J002-1)(cod)]BF <sub>4</sub>	Rh	12	673458-86-1	3000036065
Umicore HS125	[Pt(PPh <sub>3</sub> ) <sub>2</sub> Cl <sub>2</sub> ]	Pt	25	15604-36-1	3000034506
Umicore Grubbs Catalyst M220	[( SI Mes) Ru(P(O <sup>i</sup> Pr) <sub>3</sub> (Ind)Cl <sub>2</sub> ]	Ru	12	1255536-61-8	3000036115
Umicore Grubbs Catalyst M200	[( SI Mes) Ru(PPh <sub>3</sub> )(Ind)Cl <sub>2</sub> ]	Ru	11	340810-50-6	3000036116
Umicore Grubbs Catalyst M202	( SI Mes) Ru(PCy <sub>3</sub> )(Ind)Cl <sub>2</sub>	Ru	11	536724-67-1	3000034561
Pd(PEPPSI)(SIPr)	[(SIPr)Pd(3-Cl- py)Cl <sub>2</sub> ]	Pd	16	927706-57-8	3000036044
Umicore CX41	[(IPr)PdCl <sub>2</sub> ] <sub>2</sub>	Pd	19	444910-17-2	3000034518
Umicore CX21	[(IPr)Pd(allyl)Cl]	Pd	19	478980-03-9	3000034520
Chiralyst Rh1119	[Rh(SL- 4	Rh	9	673458-82-7	3000034550
Umicore CX74	[Pd(P(o-tol) <sub>3</sub> ) <sub>2</sub> Cl <sub>2</sub> ]	Pd	14	40691-33-6	3000034511

Your regional Umicore customer expert  
Umicore Precious Metals Chemistry USA, LLC

1305 Main Parkway  
Catoosa, OK 74015  
Tel. +1 (918) 266 4826  
phillip.chalabi@am.umicore.com



Trade name	Empirical formula	Metal	Theoretical metal content	CAS Number	Product number
Umicore CX95	[Pd(dppf)Cl <sub>2</sub> ] x (CH <sub>3</sub> ) <sub>2</sub> CO	Pd	14	851232-71-8	3000036045
Umicore CX91	[Pd(dppe)Cl <sub>2</sub> ]	Pd	18	19978-61-1	3000034609
Umicore CX94	[Pd(dppf)Cl <sub>2</sub> ] x CH <sub>2</sub> Cl <sub>2</sub>	Pd	13	95464-05-4	3000034525

Your regional Umicore customer expert  
 Umicore Precious Metals Chemistry USA, LLC

1305 Main Parkway  
 Catoosa, OK 74015  
 Tel. +1 (918) 266 4826  
 phillip.chalabi@am.umicore.com