



# Precious metal compounds and catalysts

고순도 특수 금속 및 특수 애플리케이션용 원소 제조는 Alfa Aesar의 핵심 사업분야입니다. 당사는 순도가 매우 높은 제품을 전문적으로 개발하고 있습니다. Alfa Aesar는 고순도 귀금속 제품(금, 이리듐, 오스뮴, 팔라듐, 백금, 로듐, 루테튬 및 은) 및 귀금속 화합물, 귀금속 촉매제 등을 다양하게 공급하고 있습니다.

## Precious Metal Compounds & Catalysts

Alfa Aesar는 350여 가지 이상의 광범위한 귀금속 화합물 및 촉매제를 공급하고 있습니다. 대부분의 재료는 생산 수량에 맞춰 재고로 확보하고 있기 때문에 즉시 배송이 가능합니다. 엄격한 품질 관리 기준과 종합적인 성분 분석표(Certificates of Analysis, CoA)를 통하여 제품의 품질에 중점을 두고 있습니다. 맞춤형 제조, 특수 포장 및 신속한 배송은 당사가 고객님께 약속 드리는 중요한 서비스입니다.

## Precious Metal Compounds and Homogenous Catalysts

Alfa Aesar는 다양한 귀금속염 및 용액제를 엄격한 사양에 따라 제조하여 공급하고 있습니다. 균일 촉매제는 킬랄 치환을 비롯하여 고도의 특이 반응이 필요한 경우에 적합한 제품군입니다. 당사의 균일 촉매제는 여러 가지 화학변환에 사용될 수 있습니다.

## Catalysts in Varying Purities and Concentrations

귀금속 화학 물질은 선택도가 높아 수소화, 수소화구소 첨가, 이성질체화, 카르보닐화 등 다양한 반응에서 불균일 촉매제로 가장 먼저 손꼽힙니다. Alfa Aesar는 제약 산업의 유기 합성을 비롯하여 다양한 연구에 맞는 순도와 농도를 제공합니다. 또한, Sponge Nickel™ 촉매제는 물론 비대칭 수소화 반응, 노벨 팔라듐 커플링 촉매제, 백금족 금속(PGM) 기반의 불균일 촉매제를 위한 일련의 킬랄 리간드를 제공합니다. 당사의 촉매 최적화 서비스에는 다단계 합성에서의 촉매 공정 개발, 지식-기반형 촉매제 선택, 제품 정제 기술(Smopex®) 및 공정 확장 등이 있습니다.

## Fuel Cell Catalysts for Anodes, Cathodes, Electrodes

Alfa Aesar는 연료 전지의 연구 및 개발을 위한 촉매제와 관련 제품군을 벌크 또는 세미-벌크 수량의 재고로 독점 공급하고 있습니다. 귀금속 촉매제 HiSPEC® 계열은 연료 전지 연구를 위한 양성자 교환막(PEM) 및 직접 메탄올 연료 전지에서 뛰어난 성능을 갖고 있습니다. HiFUEL® 연료 개질 촉매제와 가스 처리 제품군은 연료 전지 및 기타 분산형 수소 처리 실험에 사용되는 비금속 촉매제입니다. Alfa Aesar는 Nafion® 교환막, Toray™ 카본지, 음극, 양극 및 막 전극 접합체(MEA) 제품을 비롯하여 다양한 연료 전지 구성 요소를 제공하고 있습니다.

## Smopex® Scavenger Systems

금속 촉매제는 제약산업에서 미립자를 효율적으로 치환 또는 결합할 수 있도록 쓰이고 있습니다. 이는 금속 촉매제가 아니면 불가능한 일입니다. 하지만, 이런 금속은 최종 제품에서 불순물로 남습니다. Smopex 금속 스캐빈저는 이러한 금속 불순물들을 제거하는 가장 효율적인 옵션 중 하나입니다.

## Specialty Silver Compounds

Alfa Aesar는 고순도 은 제품에 특화된 선도 기업으로 잘 알려져 있습니다. 또한, 여러 가지 출발 물질을 채택하여, 특정 불순물을 지속적으로 제어해 나갈 수 있습니다. 당사는 한번 생산에 25 ~ 200kg까지 생산할 수 있는 능력도 보유하고 있습니다. 대다수의 은 화합물은 감광성이 있습니다. 당사의 모든 특수 은 화합물은 차광 기능의 용기에 포장됩니다. 또한, Alfa Aesar는 여타의 은 화합물도 맞춤형으로 개발하거나 제조하고 있습니다.

## 01 Gold Compounds

Item No.	Description	Size
040431	Hydrogen tetranitratourate(III) hydrate, Premion <sup>®</sup> , 99.99% (metals basis), Au 38.9-40.1%	1g, 5g
040433	Hydrogen tetrabromoaurate(III) hydrate, Premion <sup>®</sup> , 99.99% (metals basis), Au 32% min	1g, 5g
012162	Gold(III) bromide, Premion <sup>®</sup> , 99.99% (metals basis), Au 44.6% min	1g, 5g
040432	Gold(I) chloride, Premion <sup>®</sup> , 99.99% (metals basis), Au 84.2% min	0.25g, 1g, 5g
043365	Gold(I) chloride, 99.9% (metals basis)	1g, 5g
016617	Gold(I) iodide, 99%	1g, 5g
040428	Sodium tetrabromoaurate(III) hydrate, Premion <sup>®</sup> , 99.99% (metals basis)	1g, 5g
039740	Sodium aurothiomalate(I), 99.9% (metals basis)	1g, 5g
012159	Gold(III) hydroxide, Au 79% min	1g, 5g, 10g
012161	Gold(III) oxide, Premion <sup>®</sup> , 99.99% (metals basis), Au 88.6% min	0.25g, 1g, 5g
012163	Gold(III) chloride, Au 64.4% min	0.25g, 1g, 5g
043360	Gold(III) chloride, Premion <sup>®</sup> , 99.99% (metals basis), Au 64.4% min	1g, 5g
012148	Sodium tetrachloroaurate(III) dihydrate, Premion <sup>®</sup> , 99.99% (metals basis), Au 49-50%	1g, 5g
040434	Ammonium tetrachloroaurate(III) hydrate, Premion <sup>®</sup> , 99.99% (metals basis)	1g, 5g
041007	Chloro(triphenylphosphine)gold(I), Premion <sup>®</sup> , 99.99% (metals basis), Au 39.3% min	0.5g, 1g, 5g
041002	Bromo(triphenylphosphine)gold(I), Premion <sup>®</sup> , 99.99% (metals basis)	1g, 5g
012664	Potassium tetrabromoaurate(III) dihydrate, Premion <sup>®</sup> , 99.99% (metals basis), Au 33% min	1g, 5g
039741	Gold(I) sodium thiosulfate hydrate, 99.9% (metals basis)	1g, 5g, 25g
039742	Gold(III) acetate, 99.9% (metals basis)	0.5g, 1g, 5g
044744	Hydrogen tetrachloroaurate(III), solution, Au 40-44% w/w (cont. Au)	c1g, c5g
036400	Hydrogen tetrachloroaurate(III) trihydrate, ACS, 99.99% (metals basis), Au 49.0% min	1g, 5g
012150	Potassium tetrachloroaurate(III) hydrate, Premion <sup>®</sup> , 99.99% (metals basis), Au 49% min	1g, 5g
012325	Hydrogen tetrachloroaurate(III) hydrate, 99.9% (metals basis), Au 49% min	1g, 5g, 25g
042803	Hydrogen tetrachloroaurate(III) hydrate, Premion <sup>®</sup> , 99.999% (metals basis), Au 49% min	1g, 5g
040429	Lithium tetrachloroaurate(III) hydrate, Premion <sup>®</sup> , 99.99% (metals basis)	0.25g, 1g, 5g

## 02 Iridium Compounds

Item No.	Description	Size
011887	Potassium hexachloroiridate(III) hydrate, Ir 32.8% min	1g, 5g, 25g
012212	Iridium(III) bromide hydrate, Ir 35.9% min	1g, 5g
012632	Ammonium hexachloroiridate(III) hydrate	1g, 5g
038327	Iridium, 0.5% on activated carbon powder, reduced, nominally 50% water wet	5g, 25g, 100g
038330	Iridium, 1% on activated carbon powder, reduced, nominally 50% water wet	5g, 25g, 100g
041009	Dihydrogen hexabromoiridate(IV) hexahydrate, 99.9% (metals basis), Ir 24.1% min	1g, 5g
041305	Iridium, 5% on calcium carbonate powder	5g, 25g, 100g
045570	Iridium, 1% on 5mm alumina spheres, reduced, anhydrous	10g, 50g, 250g
012158	Iridium(III) chloride, anhydrous, Ir 62% min	1g, 5g
043380	Iridium(III) chloride, anhydrous, Premion <sup>®</sup> , 99.99% (metals basis), Ir 63.9% min	1g, 5g

Item No.	Description	Size
012184	Iridium(IV) chloride, Premion <sup>®</sup> , 99.95% (metals basis), Ir 56.5% min	0.25g, 1g, 5g
011031	Dihydrogen hexachloroiridate(IV) hydrate, 99% (metals basis), Ir 38-42%	1g, 5g, 25g
043396	Iridium(IV) oxide, Premion <sup>®</sup> , 99.99% (metals basis), Ir 84.5% min	1g, 5g
012749	Chloro(1,5-cyclooctadiene)iridium(I) dimer, Ir 57.2%	0.25g, 1g, 5g
044967	Methoxy(cyclooctadiene)iridium(I) dimer, Ir nominally 58%	1g, 5g
044966	Chlorobis(cyclooctene)iridium(I) dimer, Ir nominally 42.9%	1g, 5g
011889	Sodium hexachloroiridate(III) hydrate, Ir 31.5% min	1g, 5g
045565	Dichloro(pentamethylcyclopentadienyl)iridium(III) dimer	500mg, 2g
039411	Dicarbonyl(2,4-pentanedionato)iridium(I)	0.5g
039413	Carbonylchlorobis(triphenylphosphine)iridium(I)	0.25g, 1g, 5g
011030	Iridium(III) chloride hydrate, 99.8% (metals basis)	1g, 5g, 25g
010514	Iridium(III) 2,4-pentanedionate, Ir 37.5% min	0.25g, 1g, 5g
041006	Chloropentaammineiridium(III) chloride, 99.9% (metals basis), Ir 49.6% min	0.25g, 1g, 5g
010713	Ammonium hexachloroiridate(III) hydrate, Premion <sup>®</sup> , 99.99% (metals basis)	1g, 5g
011888	Potassium hexachloroiridate(IV), Ir 39% min	1g, 5g, 25g
010712	Ammonium hexachloroiridate(IV), Premion <sup>®</sup> , 99.994% (metals basis), Ir 41% min	0.1g, 1g, 5g
012326	Ammonium hexachloroiridate(IV), 99% (metals basis), Ir 43% min	1g, 5g
041005	Carbonylhydridotris(triphenylphosphine)iridium(I), Ir 18.6% min	1g, 5g
010505	Dodecacarbonyltetrairidium, 98%	1g, 5g
012651	Potassium hexabromoiridate(IV), Ir 25.4% min	1g, 5g
041012	Potassium hexabromoiridate(IV), 99.9% (metals basis), Ir 25.2% min	1g, 5g
011890	Sodium hexachloroiridate(IV) hexahydrate, Ir 33.9% min	1g, 5g
012649	Sodium hexabromoiridate(IV), Ir 24.1% min	1g, 5g
043051	Iridium(IV) oxide dihydrate, Premion <sup>®</sup> , 99.99% (metals basis), Ir 73% min	1g, 5g
018809	1,5-Cyclooctadienebis(methyldiphenylphosphine)iridium(I) hexafluorophosphate	0.5g, 2g
010528	Potassium hexanitroiridate(III), Ir 32.3% min	1g, 5g
042057	1,5-Cyclooctadiene(pyridine)(tricyclohexylphosphine)iridium(I) hexafluorophosphate, 99%	50mg, 250mg
012071	Iridium black, 99.8% (metals basis)	0.5g, 2g, 10g
039493	Iridium(IV) bromide, Premion <sup>®</sup> , 99.99% (metals basis), Ir 37.1% min	0.5g, 2g
040424	Iridium(V) iodide, Premion <sup>®</sup> , 99.95% (metals basis), Ir 27.0% min	1g, 5g
H27752	Dichlorotetrakis[2-(2-pyridyl)phenyl]diiridium(III)	100mg, 500mg

## 03 Osmium Compounds

Item No.	Description	Size
040412	Sodium hexabromoosmate(IV), Premion <sup>®</sup> , 99.95% (metals basis), Os 26.1% min	1g, 5g
042527	Dihydrogen hexabromoosmate(IV) hydrate, 99.9% (metals basis)	0.25g, 1g, 5g
044117	Osmium anchored homogeneous catalyst, FibreCat <sup>™</sup> 3003	5g, 25g, 100g
012647	Potassium osmium(VI) oxide dihydrate, 98+%	0.25g, 1g
039497	Osmium(IV) oxide, Os 83% min	0.25g, 1g, 5g
010823	Ammonium hexachloroosmate(IV), Premion <sup>®</sup> , 99.99% (metals basis), Os 42.8% min	0.5g, 1g, 5g
042874	Ammonium hexachloroosmate(IV), 99.9% (metals basis), Os 42.5% min	1g, 5g
039235	Bis(cyclopentadienyl)osmium	250mg, 1g
012176	Sodium hexachloroosmate(IV) dihydrate, Os 38.7% min	0.25g, 1g, 5g
033480	Osmium(III) chloride trihydrate, Premion <sup>®</sup> , 99.99% (metals basis), Os 52-56%	0.25g, 1g, 5g

Item No.	Description	Size
013038	Dodecacarbonyltriosmium, 99%	0.5g, 2g
012177	Potassium hexachloroosmate(IV), Os 38.7% min	0.25g, 1g, 5g
039507	Potassium hexabromoosmate, Premion <sup>®</sup> , 99.99% (metals basis)	0.5g, 2g
041020	Tetraamminedioosmium(VI) chloride, Os 52.2% min	1g
012103	Osmium(VIII) oxide, 99.8% (metals basis), Os 74.4% min	0.5g, 1g, 10x1g
045384	Osmium(VIII) oxide, 2% aq. soln.	2ml, 10ml
045385	Osmium(VIII) oxide, 4% aq. soln.	2ml, 10ml
012648	Ammonium hexabromoosmate(IV), 99.9% (metals basis), Os 26.5 % min	1g, 5g
012178	Dihydrogen hexachloroosmate(IV) hydrate, Premion <sup>®</sup> , 99.95% (metals basis), Os 37% min	0.5g, 1g, 5g

#### 04 Palladium Compounds

Item No.	Description	Size
011691	Palladium, 3% on activated carbon powder, eggshell, reduced	5g, 25g, 100g
011711	Palladium, 1% on alumina powder, reduced	25g, 100g
011713	Palladium, 5% on $\gamma$ alumina powder, reduced	5g, 25g, 100g
011721	Palladium, 5% on barium carbonate powder, reduced	5g, 25g, 100g
011722	Palladium, 5% on barium sulfate powder, reduced	2.5g, 25g, 100g
011723	Palladium, 5% on calcium carbonate powder, reduced	5g, 25g, 100g
021162	Palladium, 5% on barium sulfate powder, unreduced	10g, 50g
038289	Palladium, 0.5% on granular carbon, reduced	25g, 100g
038292	Palladium, 1% on activated carbon powder, standard, reduced, nominally 50% water wet	10g, 50g
038293	Palladium, 1% on activated carbon powder, standard, unreduced, nominally 50% water wet	5g, 25g, 100g
038295	Palladium, 3% on activated carbon powder, eggshell, unreduced, nominally 50% water wet	5g, 25g, 100g
038296	Palladium, 3% on activated carbon powder, standard, reduced, nominally 50% water wet	5g, 25g, 100g
038297	Palladium, 3% on activated carbon powder, standard, unreduced, nominally 50% water wet	5g, 25g, 100g
038299	Palladium, 5% on activated carbon powder, Type A401102-5, eggshell unreduced, nominally 50% water wet	5g, 25g, 100g
038301	Palladium, 5% on activated carbon powder, standard, unreduced, nominally 50% water wet	5g, 25g, 100g
038304	Palladium, 10% on activated carbon powder, standard, reduced, nominally 50% water wet	5g, 25g, 100g
038305	Palladium, 10% on activated carbon powder, standard, unreduced, nominally 50% water wet	5g, 25g, 100g
038306	Palladium, 20% on activated carbon powder, eggshell, reduced, nominally 50% water wet	5g, 25g, 100g
038307	Palladium, 20% on activated carbon powder, eggshell, unreduced, nominally 50% water wet	5g, 25g, 100g
038308	Palladium, 20% on activated carbon powder, standard, reduced, nominally 50% water wet	250mg, 2g, 10g, 50g
038309	Palladium, 20% on activated carbon powder, standard, unreduced, nominally 50% water wet	5g, 25g, 100g
038527	Palladium, 1% on activated carbon powder, eggshell, reduced, nominally 50% water wet	5g, 25g, 100g
038786	Palladium, 0.5% on 3.18mm (0.125in) alumina pellets, reduced	25g, 100g, 500g
039819	Palladium, 5% on strontium carbonate powder, reduced	2g, 10g, 50g
041011	Potassium disulfitopalladate(II), Premion <sup>®</sup> , 99.95% (metals basis), Pd 30.4% min	1g, 5g
041383	Palladium, 0.5% on 2-4 mm alumina spheres	25g, 100g
041825	Palladium, 5% on 3mm alumina pellets	5g, 25g, 100g

Item No.	Description	Size
042206	Palladium, 0.12%, Ruthenium, 0.12%; on 3mm alumina tablets	10g, 50g, 250g
042208	Palladium, 8%, Platinum, 2%; on activated carbon powder, nominally 50% water wet	2g, 10g
043172	Palladium, 5% on calcium carbonate, Type A306060-5, lead poisoned	5g, 25g, 100g
043473	Potassium bis(oxalato)palladate(II) dihydrate, Premion <sup>®</sup> , 99.99% (metals basis)	1g, 5g
043475	Ammonium bis(oxalato)palladium(II) dihydrate, Premion <sup>®</sup> , 99.99% (metals basis)	1g, 5g
044110	Palladium anchored homogeneous catalyst, FibreCat <sup>™</sup> 1007	100g, 25g, 5g
044111	Palladium anchored homogeneous catalyst, FibreCat <sup>™</sup> 1001	5g, 25g, 100g
044142	Palladium, 5% on activated carbon powder, standard, reduced, acidic catalyst, nominally 50% water wet	10g, 50g, 250g
044350	Palladium, 10% on activated carbon powder, Type 58, standard, reduced, nominally 50% water wet	5g, 25g, 100g
044696	Palladium, 10% on activated carbon powder, eggshell, reduced	50g, 250g
044729	Palladium anchored homogeneous catalyst, FibreCat <sup>™</sup> 1029	5g, 25g, 100g
044730	Palladium anchored homogeneous catalyst, FibreCat <sup>™</sup> 1032	5g
044820	Palladium, 1% on 1-2 mm alumina spheres, reduced	100g, 500g
044833	Palladium, 1%, Copper, 0.3% on 2 mm alumina sphere, reduced	25g, 100g, 500g
044865	Dihydrogen dinitrosulfatopalladate(II) solution, Pd 3.9-4.1% w/v (cont. Pd)	c0.5g, c2g, c10g
044872	Palladium, 1%, Copper, 0.3% on alumina granules, reduced	25g, 100g, 500g
044919	Palladium, 0.3% on granular carbon, reduced	25g, 100g
045051	Palladium, 5% on activated carbon powder, Type A405023-5, nominally 50% water wet	5g, 25g, 100g
045924	Palladium, 10% on activated carbon powder, Type 87L, standard, reduced, nominally 50% water wet	5g, 25g
046462	Palladium, 1% on granular carbon, reduced	25g, 100g, 500g
046789	Palladium, 10% on activated carbon powder, Type A402023-10, nominally 50% water wet	2g, 10g, 50g
047019	Palladium, 5% on activated carbon powder, Type A109047-5, standard, reduced, nominally 50% water wet	25g, 100g
089114	Palladium, 0.5% on 3.18mm (0.125in) alumina pellets, unreduced	25g, 100g, 500g
046669	Dibromo[1,1'-bis(di-tert-butylphosphino)ferrocene] palladium(II)	1g
011885	Potassium tetrachloropalladate(II), Premion <sup>®</sup> , 99.99% (metals basis), Pd 32.2% min	2g, 10g
011035	Palladium(II) nitrate hydrate, 99.8% (metals basis), Pd 39% min	2g, 10g, 50g
012621	Palladium(II) nitrate, solution, Pd 10% w/w (cont. Pd)	c1g, c5g
041647	Palladium(II) nitrate, solution, Pd 12-16% w/w (cont. Pd)	c1g, c5g
045512	Palladium(II) nitrate, solution, Pd 4-5% w/w (cont. Pd)	c1g, c5g, c25g
046780	Dichloro[bis(dicyclohexylphosphino)propane]palladium(II)	1g
046322	Palladium anchored homogeneous catalyst, FibreCat <sup>™</sup> 1037	1g, 5g
046325	Palladium anchored homogeneous catalyst, FibreCat <sup>™</sup> 1045	1g, 5g
046696	Dibromo[1,1'-bis(diisopropylphosphino)ferrocene] palladium(II)	1g
H27809	Dichloro[(R)-(+)-2,2'-bis(diphenylphosphino)-1,1'-binaphthyl]palladium(II), 99%	250mg, 1g
010005	Allylpalladium(II) chloride dimer, Pd 56.0% min	0.25g, 0.5g, 1g, 5g
010493	Dichloro(1,5-cyclooctadiene)palladium(II), Pd 36.7%	1g, 5g
012674	Palladium(II) sulfide, 99% (metals basis), Pd 72% min	1g, 5g
039496	Palladium hydroxide, 99%	0.25g, 1g, 5g
042578	Palladium hydroxide, Pd 20% on carbon, nominally 50% water, Pearlman's Catalyst	2g, 10g, 50g
045576	Palladium hydroxide, Pd 5% on carbon powder, Type A403002-5, nominally 50% water	2g, 10g
046492	Dibromo(1,5-cyclooctadiene)palladium(II), Pd 28.4%	1g

Item No.	Description	Size
046000	Bis[di-tert-butyl(4-dimethylaminophenyl)phosphine]palladium(0), Pd 16.7%	250mg, 1g
046332	Allyl(chloro)[di-tert-butyl(4-dimethylaminophenyl)phosphine]palladium(II)	1g
044980	Dibromo[1,1'-bis(diphenylphosphino)ferrocene]palladium(II), Pd 12.9%	1g, 5g
046529	Allyl(chloro)(di-tert-butylneopentylphosphine)palladium(II), may cont. up to ca 5% toluene	1g
046639	Chloro(crotyl)[1,2,3,4,5-pentaphenyl-1'-(di-tert-butylphosphino)ferrocene]palladium(II)	1g
046872	Dichloro[bis(dicyclohexylphosphinophenyl)ether]palladium(II), 98% min	1g
047174	Chloro(2-dicyclohexylphosphino-2',4',6'-triisopropylbiphenyl)(2'-aminobiphenyl-2-yl)palladium(II)	1g
011040	Palladium(II) oxide, anhydrous, 99.9% (metals basis), Pd 85% min	1g, 5g
046962	Chloro(crotyl)(tri-tert-butylphosphine)palladium(II)	1g
011878	Palladium(II) bromide, Premion <sup>®</sup> , 99.99% (metals basis), Pd 39.5% min	2g, 10g
043697	Palladium(II) bromide, Premion <sup>®</sup> , 99.998% (metals basis), Pd 39.5% min	1g, 5g
012165	Palladium(II) sulfate dihydrate, Premion <sup>®</sup> , 99.95% (metals basis), Pd 44.1% min	0.25g, 1g, 5g
042529	Palladium(II) sulfate dihydrate, 99% (metals basis)	1g, 5g
043698	Palladium(II) sulfate dihydrate, Premion <sup>®</sup> , 99.995% (metals basis)	1g, 5g
012622	Palladium(II) sulfate, solution, Pd 6% w/w (cont. Pd)	c1g, c5g
044956	Tetraamminepalladium(II) sulfate, 99.9% (metals basis), Pd 37.4% min	1g, 5g, 25g
035749	Tetraamminepalladium(II) nitrate solution, 99.9% (metals basis), Pd 5.0% max (cont. Pd)	c2g, c10g
010824	Ammonium tetrachloropalladate(II), Premion <sup>®</sup> , 99.998% (metals basis), Pd 37%	1g, 5g, 25g
011882	Ammonium tetrachloropalladate(II), Pd 36% min	1g, 5g
039447	Tetraamminepalladium(II) tetrachloropalladate(II)	1g, 5g
011886	Sodium tetrachloropalladate(II) hydrate, 99.95% (metals basis), Pd 30%	2g, 10g, 50g
043945	Sodium tetrachloropalladate(II) hydrate, Premion <sup>®</sup> , 99.999% (metals basis), Pd 30% min	1g, 5g
011883	Potassium tetrabromopalladate(II), Pd 20.0%	1g, 5g
010537	Potassium tetranitropalladate(II), Pd 28.3% min	1g, 5g
011036	Tetraamminepalladium(II) chloride monohydrate, 99.9% (metals basis), Pd 39% min	2g, 10g
010491	trans-Dichlorobis(triphenylphosphine)palladium(II), Pd 14.0% min	1g, 5g, 25g
041245	trans-Dichlorobis(triphenylphosphine)palladium(II), Premion <sup>®</sup> , 99.95% (metals basis), Pd 14.7% min	1g, 5g, 25g
010517	Palladium(II) 2,4-pentanedionate, Pd 34.7%	1g, 5g
010006	trans-Bis(benzonitrile)dichloropalladium(II), Pd 27.1%	0.5g, 1g
010548	Tetrakis(triphenylphosphine)palladium(0), 99.8% (metals basis), Pd 9% min	0.5g, 2g, 10g
011037	trans-Diamminedichloropalladium(II), Premion <sup>®</sup> , 99.95% (metals basis), Pd 49.9% min	0.5g, 2g, 10g
010535	Potassium tetracyanopalladate(II) hydrate	1g
H61853	Diacetatobis(triphenylphosphine)palladium(II), Pd 14.2%	1g, 10g
039249	trans-Diamminedibromopalladium(II), Premion <sup>®</sup> , 99.99% (metals basis), Pd 34.7% min	1g
010002	Bis(acetonitrile)dichloropalladium(II), Pd 40.5%	1g, 5g
047250	BrettPhos Palladacycle 3rd Generation, 98%	250mg, 1g, 5g
B20663	Dichlorobis(pyridine)palladium(II), 98%	1g, 5g
046370	Diacetato[1,3-bis(diphenylphosphino)propane]palladium(II), Pd 16.7%	1g
010496	Dichloro(ethylenediamine)palladium(II), Pd 44.8%	1g, 5g
017316	Lithium tetrachloropalladate(II)	1g, 5g

Item No.	Description	Size
011884	Potassium hexachloropalladate(IV), Pd 26.3% min	1g, 5g, 25g
043947	Potassium hexabromopalladate(IV), Premion <sup>®</sup> , 99.999% (metals basis), Pd 15.5% min	1g, 5g
044446	Di- $\wedge$ -m-bromobis(tri-tert-butylphosphine)dipalladium(II)	0.1g, 0.5g, 2g
011042	Ammonium hexachloropalladate(IV), 99.9% (metals basis), Pd 29%	2g, 10g
018779	Dichloro[1,2-bis(diphenylphosphino)ethane]palladium(II), Pd 18.5%	2g, 10g
044977	Dichloro[bis(diphenylphosphinophenyl)ether]palladium(II), Pd 14.8%	1g, 5g
046665	Dichloro[9,9-dimethyl-4,5-bis(diphenylphosphino)xanthene]palladium(II), Pd 12.1%	1g, 5g
044978	Dichloro[1,1'-bis(diisopropylphosphino)ferrocene]palladium(II), 98%	250mg, 1g
039446	Tetrakis(acetonitrile)palladium(II) tetrafluoroborate, Pd 23.5%	0.25g, 1g
013704	trans-Dibromobis(triphenylphosphine)palladium(II), Pd 13.4%	2g, 10g
044979	Dibromobis(tri-o-tolylphosphine)palladium(II), Pd 12%	1g, 5g
046588	Dichloro[2,2'-bis(diphenylphosphino)-1,1'-binaphthyl]palladium(II)	1g, 5g
039823	trans-Dichlorobis(triethylphosphine)palladium(II)	0.25g, 1g, 5g
044844	Dichlorobis(tricyclohexylphosphine)palladium(II)	1g
044971	Dichloro[bis(1,4-diphenylphosphino)butane]palladium(II), Pd 17.6%	1g, 5g
039233	Bis[1,2-bis(diphenylphosphino)ethane]palladium(0)	0.5g, 1g
012764	Bis(dibenzylideneacetone)palladium(0)	0.25g, 1g, 5g
045792	Bis(tricyclohexylphosphine)palladium(0), 97% min	250mg, 1g
010516	Palladium(II) acetate, Pd 45.9-48.4%	1g, 5g, 25g
043086	Palladium(II) acetate, trimer, 99.98% (metals basis), Pd 47% min	1g, 5g
045453	Dichlorobis(di-tert-butylphenylphosphine)palladium(II), Pd 17.1%	250mg, 1g
046664	Dibromo[2,2'-bis(diphenylphosphino)-1,1'-binaphthyl]palladium(II)	1g
044976	Dichlorobis(tri-o-tolylphosphine)palladium(II), 98%	1g, 5g
039448	Palladium(II) trifluoroacetate, 97%	1g, 5g
041021	Tetraamminepalladium(II) bromide, Premion <sup>®</sup> , 99.95% (metals basis), Pd 31.3% min	1g, 5g
040407	Sodium tetrabromopalladate(II), Premion <sup>®</sup> , 99.95% (metals basis), Pd 22.0% min	1g, 5g, 10g
012760	Tris(dibenzylideneacetone)dipalladium(0), Pd 21.5% min	1g, 5g
045853	Bis(di-tert-butyl-phenylphosphine)palladium(0), Pd 19.3%	250mg, 1g
044969	Tris(dibenzylideneacetone)dipalladium(0), complex with chloroform, Pd 20.6%	1g, 5g
011039	Sodium hexachloropalladate(IV) hydrate, 99.9% (metals basis)	1g, 5g, 25g
045913	Bis[1,2,3,4,5-pentaphenyl-1'-(di-tert-butylphosphino)ferrocene]palladium(0)	250mg, 1g
H26897	Dichloro[bis(1,3-diphenylphosphino)propane]palladium(II)	250mg, 1g
011041	Palladium(II) oxide monohydrate, 99.9% (metals basis), Pd 73% min	2g, 10g
045814	Bis(tri-o-tolylphosphine)palladium(0), Pd 14.9%	250mg, 1g
046503	Dichloro[1,1'-bis(diphenylphosphino)ferrocene]palladium(II), Pd 13.5-15.5%	1g
000659	Palladium black, 99.9% (metals basis)	1g, 5g
011694	Palladium, 5% on activated carbon paste, A503023-5	5g, 25g, 100g
038300	Palladium, 5% on activated carbon paste, A102023-5	5g, 25g, 100g
038303	Palladium, 10% on activated carbon paste, A402028-10	5g, 25g, 50g
044337	Palladium, 5% on activated carbon paste, 5R39	5g, 25g, 100g
045132	Palladium, 5% on activated carbon paste, 5R58	5g, 25g, 100g
045497	Palladium, 5% on activated carbon paste, sulfided, A103038-5	10g, 50g, 250g
045499	Palladium, 5% on activated carbon paste, A405032-5	5g, 25g, 100g

Item No.	Description	Size
045558	Palladium, 10% on activated carbon paste, 10R394	5g, 25g
045921	Palladium, 5% on activated carbon paste, 5R394	5g, 25g
A12012	Palladium, 10% on carbon, Type 487, dry	2g, 5g, 10g, 25g, 50g
A12623	Palladium, 5% on carbon, Type 87L, dry	10g, 50g
H33217	Palladium, 5% on carbon powder, Type 490	10g, 50g
H33537	Palladium, 5% on activated carbon paste, 5R437	1g, 10g, 50g
011034	Palladium(II) chloride, 99.9% (metals basis), Pd 59.0% min	0.5g, 2g, 10g, 50g
012623	Palladium(II) chloride, solution, Pd 9.0-11.0% w/w (cont. Pd)	c1g, c5g
040019	Palladium(II) chloride, solution, Pd 20-25% w/w (cont. Pd)	c1g, c5g
043085	Palladium(II) chloride, Premion <sup>®</sup> , 99.999% (metals basis), Pd 59.5% min	1g, 5g, 25g
011881	Palladium(II) iodide, 99.9% (metals basis), Pd 28% min	2g, 10g
043084	Palladium(II) iodide, Premion <sup>®</sup> , 99.998% (metals basis), Pd 29% min	2g, 10g
044972	Dichloro[1,1'-bis(diphenylphosphino)ferrocene] palladium(II), complex with acetone, Pd 13.0-15.0%	1g, 5g, 25g
045511	Dichlorobis[di-tert-butyl(4-dimethylaminophenyl) phosphine]palladium(II), Pd 15%	1g
046383	Dichloro[1,1'-bis(dicyclohexylphosphino)ferrocene] palladium(II), Pd 14.1%	1g
044829	Dichloro[1,1'-bis(di-tert-butylphosphino)ferrocene] palladium(II), Pd 16.3%	0.1g, 0.25g, 1g
041225	Dichloro[1,1'-bis(diphenylphosphino)ferrocene] palladium(II), complex with dichloromethane (1:1), Pd 13%	1g, 5g, 25g

## 05 Platinum Compounds

Item No.	Description	Size
011797	Platinum, 1% on $\gamma$ alumina powder, reduced	5g, 25g, 100g
035849	Platinum, nominally 20% on carbon black, HiSPEC <sup>™</sup> 3000	1g, 5g
038312	Platinum, 1% on activated carbon powder, standard, reduced, nominally 50% water wet	25g, 100g
038313	Platinum, 1% on activated carbon powder, standard, unreduced, nominally 50% water wet	5g, 25g, 100g
038316	Platinum, 3% on activated carbon powder, standard, reduced, nominally 50% water wet	5g, 25g, 100g
038317	Platinum, 3% on activated carbon powder, standard, unreduced, nominally 50% water wet	5g, 25g, 100g
038325	Platinum, 10% on activated carbon powder, standard, reduced, nominally 50% water wet	5g, 25g, 100g
038326	Platinum, 10% on activated carbon powder, standard, unreduced, nominally 50% water wet	5g, 25g, 100g
038343	Platinum, 1% on granular carbon, reduced, nominally 50% water wet	25g, 100g
038344	Platinum, 0.5% on granular carbon, reduced	5g, 25g
039667	cis-Dichlorobis(ethylenediamine)platinum(II), 99.9% (metals basis)	1g, 5g
039826	Platinum, 0.3% on 2.7-3.3mm (0.11-0.13in) alumina pellets, reduced	25g, 100g
041018	Sodium hexaiodoplatinate(IV) hexahydrate, Premion <sup>®</sup> , 99.95% (metals basis), Pt 17.1% min	1g, 5g
041171	Platinum Ruthenium black, nominally Pt 50%, Ru 50% (Atomic wt%), HiSPEC <sup>™</sup> 6000	250mg, 1g, 5g
042204	Platinum, nominally 40% on carbon black, HiSPEC <sup>™</sup> 4000	1g, 5g
042205	Platinum, 0.1% on 2-4mm alumina spheres	5g, 25g, 100g
043876	Platinum, nominally 10% on carbon black, HiSPEC <sup>™</sup> 2000	0.5g, 2g, 10g
043905	Platinum, 5% on activated carbon powder, sulfided, 0.5% S (as sulfide)	10g, 50g

Item No.	Description	Size
043990	Platinum, nominally 30%, Ruthenium, nominally 15% on carbon black, HiSPEC <sup>™</sup> 7000	1g, 5g
044172	Platinum, nominally 40%, Ruthenium, nominally 20% on carbon black, HiSPEC <sup>™</sup> 10000	2g, 10g
044222	Platinum, 5% on alumina powder, reduced	5g, 25g, 100g
044414	Platinum, 1% on 2.7-3.3mm (0.11-0.13in) alumina pellets, reduced	25g, 100g
044494	Platinum, 10% on alumina, reduced	25g, 100g
044738	Platinum, nominally 40%, Ruthenium, nominally 20% on high surface area advanced carbon support, HiSPEC <sup>™</sup> 10100	1g
044796	Platinum, 0.5% on 1.4-2.8mm (0.055-0.11in) alumina spheres, reduced	1kg, 250g, 50g
045778	Platinum, 2% on 2.5mm alumina trilobes	5g, 25g
046306	Platinum, 5% on activated carbon powder, Type B105022-5, standard, reduced, nominally 50% water wet	5g, 25g, 100g
089106	Platinum, 0.5% on 2.7-3.3mm (0.11-0.13in) alumina pellets, reduced	25g, 100g, 500g
H37737	Platinum(IV) nitrate, solution, Pt 15% w/w	1g, 10g
011044	Platinum(II) chloride, 99.9% (metals basis), Pt 73% min	1g, 5g
043090	Platinum(II) chloride, Premion <sup>®</sup> , 99.99+% (metals basis), Pt 73% min	1g, 5g
011048	Potassium tetrachloroplatinate(II), 99.9% (metals basis), Pt 46.0% min	1g, 5g, 25g
043946	Potassium tetrachloroplatinate(II), Premion <sup>®</sup> , 99.99% (metals basis), Pt 46.4% min	1g, 5g
012627	Dihydrogen dinitrosulfatoplatinate(II) solution, Pt 4-6% (cont. Pt)	c0.5g, c2g, c10g
013992	Platinum(IV) sulfide, Pt 74.8% min	1g, 5g
039285	Di- $\wedge$ m-chlorodichlorobis(ethylene)diplatinum(II), 97%	250mg, 1g
012739	Dichloro(1,5-cyclooctadiene)platinum(II), Pt 51.6-52.6%	0.25g, 1g, 5g
012278	Platinum(IV) oxide monohydrate, Adams Catalyst, Pt 75% min	1g, 5g
039282	Dibromo(1,5-cyclooctadiene)platinum(II), Pt 41.6% min	1g, 5g
044035	Dichloro(norbornadiene)platinum(II), Pt 54.4%	1g, 5g
044041	(1,5-Cyclooctadiene)diiodoplatinum(II)	1g
013735	(1,5-Cyclooctadiene)dimethylplatinum(II), Pt 58.5%	250mg, 1g
044039	Diphenyl(1,5-cyclooctadiene)platinum(II)	1g, 5g
041014	Potassium hexahydroxyplatinate(IV), Premion <sup>®</sup> , 99.95% (metals basis), Pt 51.5% min	1g, 5g
012620	Sodium hexahydroxyplatinate(IV), 99.9% (metals basis)	1g, 5g
044047	Tetraammineplatinum(II) hydrogen phosphate solution, Pt 2% w/w (cont. Pt)	c1g, c5g
044076	Tetraammineplatinum(II) hydrogen phosphate solution, Pt 0.5% w/w (cont. Pt)	c1g, c5g
040402	Platinum(IV) oxide, anhydrous, Premion <sup>®</sup> , 99.95% (metals basis), Pt 84.4% min	0.25g, 1g, 5g
011045	Platinum(IV) chloride, 99.9% (metals basis), Pt 57% min	1g, 5g
043703	Platinum(IV) chloride, Premion <sup>®</sup> , 99.99+% (metals basis), Pt 57% min	1g, 5g
044503	Platinum(IV) chloride, Premion <sup>®</sup> , 99.99+% (metals basis), Pt 57% min	1g, 5g
012172	Platinum(II) bromide, 99.9% (metals basis), Pt 54.5% min	1g, 5g
012679	Barium tetracyanoplatinate(II) tetrahydrate, Pt 38%	1g, 5g
039463	Barium tetracyanoplatinate(II) tetrahydrate, Premion <sup>®</sup> , 99.99% (metals basis)	1g, 5g
010538	Potassium tetranitroplatinate(II), Pt 42.6% min	1g, 5g
011046	Ammonium tetrachloroplatinate(II), 99.9% (metals basis), Pt 51% min	1g, 5g
039444	Tetraammineplatinum(II) tetrachloroplatinate(II)	1g
039433	Potassium trichloroammineplatinate(II)	500mg
044045	Tetraammineplatinum(II) chloride solution, Pt 9-11% w/w (cont. Pt)	c1g, c5g
010544	Tetraammineplatinum(II) chloride monohydrate	1g, 5g

Item No.	Description	Size
010836	Tetraammineplatinum(II) chloride monohydrate, Premion <sup>®</sup> , 99.995% (metals basis)	1g, 5g
010497	Dichloro(ethylenediamine)platinum(II), Pt 59.7% min	0.25g, 1g
010549	Tetrakis(triphenylphosphine)platinum(0), Pt 15.2% min	1g, 5g
010536	Potassium tetracyanoplatinate(II) trihydrate, 99.9% (metals basis), Pt 44.9% min	1g, 5g
039286	Iodotrimethylplatinum(IV)	0.5g, 1g
010004	Bis(benzonitrile)dichloroplatinum(II), Pt 40% min	0.5g, 1g, 5g
010472	trans-Diamminedichloroplatinum(II), Pt 64.5% min	0.25g, 1g, 5g
010526	Platinum(II) 2,4-pentanedionate, Pt 48.0% min	1g, 5g
010484	trans-Dichlorobis(diethylsulfide)platinum(II), Pt 43.7%	1g, 5g
010482	cis-Dichlorobis(diethylsulfide)platinum(II), Pt 43.7%	0.5g, 1g
010492	cis-Dichlorobis(triphenylphosphine)platinum(II), Pt 24.2% min	250mg, 1g
041008	cis-Dichlorobis(triphenylphosphine)platinum(II), Premion <sup>®</sup> , 99.95% (metals basis), Pt 24.2% min	1g, 5g
010471	cis-Diamminedichloroplatinum(II), Pt 64.5% min	0.25g, 1g, 5g
039284	cis-Dichlorobis(triethylphosphine)platinum(II)	500mg
044028	Potassium trichloro(ethylene)platinate(II) monohydrate, Pt 50.5% min	1g
012642	Potassium hexaiodoplatinate(IV), Pt 18.2% min	1g, 5g
012882	Ammonium hexachloroplatinate(IV), Pt 43.4% min	1g, 5g
012678	Potassium hexacyanoplatinate(IV)	250mg, 1g
012169	Potassium hexachloroplatinate(IV), Pt 39.6%	0.25g, 1g, 5g
040177	Dihydrogen hexachloroplatinate(IV) solution, Pt 20% (cont. Pt)	c0.5g, c2g
012619	Ammonium hexabromoplatinate(IV), 99.9% (metals basis), Pt 28%	1g, 5g
036259	Dihydrogen hexachloroplatinate(IV) hexahydrate, ACS, Premion <sup>®</sup> , 99.95% (metals basis), Pt 37.5% min	1g, 5g, 25g
042815	Dihydrogen hexachloroplatinate(IV) hexahydrate, low nitrate, Premion <sup>®</sup> , 99.95% (metals basis), Pt 37.5% min	1g, 5g, 25g
040406	Ammonium hexathiocyanatoplatinate(IV), Premion <sup>®</sup> , 99.95% (metals basis), Pt 33.2% min	1g, 5g
011047	Sodium hexachloroplatinate(IV) hexahydrate	1g, 5g
012617	Dihydrogen hexabromoplatinate(IV) nonahydrate, 99.9% (metals basis), Pt 23.7% min	1g, 5g
012167	Tetraammineplatinum(II) nitrate solution, Pt 3-4% w/w (cont. Pt)	c0.5g, c2g
088960	Tetraammineplatinum(II) nitrate	1g, 5g
012168	Sodium tetrachloroplatinate(II) hydrate, Premion <sup>®</sup> , 99.95% (metals basis), Pt 42.4% min	1g, 5g
039280	Dichlorobis(ethylenediamine)platinum(II), Pt 50%	0.25g, 1g
011051	Dihydrogen hexachloroplatinate(IV) hydrate, 99.9% (metals basis)	1g, 5g, 25g
043696	Dihydrogen hexachloroplatinate(IV) hydrate, Premion <sup>®</sup> , 99.999% (metals basis)	1g, 5g
044038	cis-Dichlorobis(triphenylphosphite)platinum(II)	500mg, 1g, 5g
042918	Tetraammineplatinum(II) hydroxide solution, Pt 8-11% w/w (cont. Pt)	c1g, c5g
088966	Sodium hexabromoplatinate(IV) hexahydrate	1g, 5g
043474	Trimethylbenzylammoniumhexachloroplatinate(IV), Premion <sup>®</sup> , 99.99% (metals basis)	1g, 5g
011052	Dihydrogen hexahydroxyplatinate(IV), 99.9% (metals basis), Pt 61.0% min	0.5g, 1g, 5g
011049	Platinum(IV) oxide hydrate, 99.9% (metals basis), Pt 71-75%	0.25g, 1g, 5g
041508	Platinum (0)-1,3-divinyl-1,1,3,3-tetramethyldisiloxane complex, soln. in vinyl terminated polydimethylsiloxane	1g, 5g, 25g
012171	Platinum(IV) bromide, 99.99% (metals basis), Pt 37.1% min	1g, 5g
040400	Sodium tetracyanoplatinate(II) hydrate, Premion <sup>®</sup> , 99.95% (metals basis), Pt 48.4% min	1g, 5g
012076	Platinum black	0.1g, 1g, 5g
012755	Platinum black, HiSPEC <sup>™</sup> 1000	0.25g, 1g, 5g

Item No.	Description	Size
038318	Platinum, 5% on alumina paste, 5R94	5g, 25g, 100g
043407	Platinum, 1% on polyethyleneimine/SiO <sub>2</sub>	5g, 25g
043408	Platinum, 1% on polyethyleneimine/SiO <sub>2</sub> powder	5g, 25g
043838	Platinum black, high surface area	0.25g, 1g, 5g
044365	Platinum, 5% on graphite, Type 286	5g, 25g, 100g
045445	Platinum, 5% on activated carbon paste, B103032-5	5g, 25g
045519	Platinum, 1% on activated carbon paste, 1R18MA	5g, 25g
047210	Platinum, 5% on graphite, Type 287	5g, 25g
A11186	Platinum, 5% on carbon, dry	1g, 5g, 25g, 100g
L00469	Platinum, 10% on carbon, dry	1g, 5g, 25g
012170	Platinum(II) iodide, Premion <sup>®</sup> , 99.99% (metals basis), Pt 43.0% min	0.25g, 1g, 5g
040401	Platinum(IV) iodide, Premion <sup>®</sup> , 99.95% (metals basis), Pt 27.3% min	0.25g, 1g, 5g
098158	Trimethyl(methylcyclopentadienyl)platinum(IV)	0.5g

## 06 Rhodium Compounds

Item No.	Description	Size
011053	Potassium pentachlororhodate(III) hydrate, 99.9% (metals basis), Rh 29%	1g, 5g
040408	Sodium hexabromorhodate(III) hydrate, Premion <sup>®</sup> , 99.99% (metals basis), Rh 11.4% min	1g, 5g
044113	Rhodium anchored homogeneous catalyst, FibreCat <sup>™</sup> 2003	5g, 25g, 100g
044114	Rhodium anchored homogeneous catalyst, FibreCat <sup>™</sup> 2006	5g, 100g, 25g
044124	Rhodium 10%, Palladium 1% on activated carbon powder	5g, 25g, 100g
044832	Catatax/Rh(COD)/(S,S-Dipamp)	1g, 5g
011815	Rhodium(III) chloride, anhydrous, 99.9% (metals basis), Rh 48.7% min	0.25g, 1g, 5g
012633	Rhodium(III) nitrate solution, Rh 10-15% w/w (cont. Rh)	c0.5g, c2g
012635	Rhodium(III) sulfate, bright plating solution, Rh 5% (cont. Rh)	c0.5g, c2g
011814	Rhodium(III) oxide, anhydrous, 99.9% (metals basis), Rh 80.6% min	0.5g, 2g
H35132	[Rh COD (R)-Binap]BF <sub>4</sub> , Rh 11.2%	1g
039291	Chlorobis(ethylene)rhodium(I) dimer, 99%	1g
039288	Bis(ethylene)(2,4-pentanedionato)rhodium(I), Rh 39.9% min	250mg, 1g
010466	Chloro(1,5-cyclooctadiene)rhodium(I) dimer	250mg, 1g
010467	Di- $\Lambda^m$ -chlorobis(norbornadiene)dirhodium(II), Rh 44% min	0.5g, 1g
011816	Rhodium(III) bromide hydrate	1g, 5g
033657	Dichloro(pentamethylcyclopentadienyl)rhodium(III) dimer, 99%	250mg, 1g
044638	Dirhodium(II) tetrakis(methyl 2-pyrrolidinone-5(S)-carboxylate) acetonitrile, 2-propanol complex, Rh nominally 25.5%	0.1g, 0.5g
010519	Chloropentaamminerhodium(III) chloride, Rh 34.5% min	0.5g, 1g, 5g
041013	Potassium hexachlororhodate(III), Premion <sup>®</sup> , 99.99% (metals basis), Rh 23.3% min	0.25g, 1g, 5g
039822	Carbonylchlorobis(triphenylphosphine)rhodium(I), Rh 14.9% min	0.25g, 1g, 5g
041004	Carbonylbromobis(triphenylphosphine)rhodium(I), Premion <sup>®</sup> , 99.95% (metals basis), Rh 13.5% min	1g, 5g
044546	(+)-1,2-Bis((2S,5S)-2,5-diethylphospholano)benzene (cyclooctadiene)rhodium(I) trifluoromethanesulfonate	0.05g, 0.25g
010561	Rhodium(III) 2,4-pentanedionate, Premion <sup>®</sup> , 99.99% (metals basis), Rh 25.2% min	0.5g, 1g, 5g
010547	Tetracarbonyl-di- $\Lambda^m$ -chlorodirhodium(I), Rh 50.1-52.9%	0.25g, 1g
010468	Chlorotris(triphenylphosphine)rhodium(I), 97%	1g, 5g
039295	Dicarbonyl(2,4-pentanedionato)rhodium(I), 99%	250mg, 1g, 5g
011809	Sodium hexachlororhodate(III) dodecahydrate, Rh 17.1%	1g, 5g
039821	Bromotris(triphenylphosphine)rhodium(I), 99.95% (metals basis), Rh 10.1% min	0.25g, 1g, 5g
010553	Tris(ethylenediamine)rhodium(III) chloride trihydrate, Rh 23.2%	0.5g, 1g, 5g
041016	Rhodium(III) sulfate tetrahydrate, Premion <sup>®</sup> , 99.99% (metals basis), Rh 35.9% min	0.25g, 1g, 5g

Item No.	Description	Size
010849	Ammonium hexachlororhodate(III) hydrate, Premion <sup>®</sup> , 99.995% (metals basis)	0.5g, 1g, 5g
011812	Ammonium hexachlororhodate(III) hydrate, Premion <sup>®</sup> , 99.99% (metals basis)	0.25g, 1g, 5g
011029	Rhodium(III) iodide, 99.9% (metals basis), Rh 20.8% min	0.25g, 1g, 5g
010560	Rhodium(II) acetate, dimer, Premion <sup>®</sup> , 99.99% (metals basis), Rh 46.2% min	0.25g, 1g, 5g
L15152	Rhodium(II) acetate, dimer, 98+%	100mg, 500mg, 2g
010016	Carbonylhydrottris(triphenylphosphine)rhodium(I), Rh 10.0% min	0.1g, 1g, 5g
040410	Potassium hexanitrorhodate(III), Premion <sup>®</sup> , 99.99% (metals basis), Rh 20.2% min	1g, 5g
044030	Hydridotetrakis(triphenylphosphine)rhodium(I), Rh 8.9% min	1g, 5g
011032	Rhodium(III) chloride hydrate, Rh 38.5-45.5%	0.25g, 1g, 5g
043702	Rhodium(III) chloride hydrate, Premion <sup>®</sup> , 99.99% (metals basis)	1g, 5g
H35810	[Rh COD (S)-Binap]BF <sub>4</sub> , Rh 11.2%	1g
010458	Carbonyl-2,4-pentanedionato(triphenylphosphine)rhodium(I), Rh 20%	0.25g, 1g, 5g
044031	Bis(1,5-cyclooctadiene)rhodium(I) tetrafluoroborate	1g, 5g
044036	Bis(norbornadiene)rhodium(I) tetrafluoroborate	1g, 5g
012667	Rhodium(III) oxide pentahydrate, Premion <sup>®</sup> , 99.99% (metals basis), Rh 59% min	0.25g, 1g, 5g
043004	Hexa(acetato)- $\Lambda^m$ -oxotris(aqua)trirhodium(III) acetate	1g, 5g
H35968	[Rh COD (rac)-Binap]BF <sub>4</sub> , Rh 11.2%	1g
012645	Ammonium aquopentachlororhodate(III), Rh 30% min	1g, 5g
040409	Potassium pentachlororhodate(III), Premion <sup>®</sup> , 99.99% (metals basis), Rh 28.2% min	1g, 5g
H35772	(R)-[Rh COD TCFP]BF <sub>4</sub> , Rh 18.4%	1g
039825	Rhodium(II) octanoate dimer	1g, 5g
011761	Rhodium, 5% on activated carbon powder, Type C101038-5, reduced, nominally 50% water wet	1g, 10g, 50g
011769	Rhodium, 1% on alumina powder, reduced	10g, 50g
011770	Rhodium, 5% on alumina powder, reduced	2g, 10g, 50g
012353	Rhodium black, 99.9% (metals basis)	0.5g, 2g
042507	Rhodium, 0.5% on 3mm (0.12in) alumina pellets	10g, 50g
043409	Rhodium, 1% on Polyethyleneimine/SiO <sub>2</sub> powder	5g, 25g
043410	Rhodium, 1% on Polyethyleneimine/SiO <sub>2</sub>	5g, 25g
044863	Rhodium, 5% on activated carbon paste, C101023-5	2g, 10g
045425	Rhodium, 5% on activated carbon powder, Type C101023-5, standard, reduced, nominally 50% water wet	1g, 5g
045639	Rhodium, 0.5% on 1mm (0.040in) alumina spheres	10g, 50g
047040	Rhodium, 1% on 2.5mm alumina spheres	250g, 50g
047120	Rhodium, 5% on alumina powder, Type 526, reduced	10g, 50g
A15965	Rhodium, 5% on carbon, dry	1g, 5g, 25g
H35862	[Rh COD (R)-Phanephos]BF <sub>4</sub> , Rh 11.8%	1g
039289	Bis(1,5-cyclooctadiene)rhodium(I) trifluoromethanesulfonate	500mg, 2g

## 07 Ruthenium Compounds

Item No.	Description	Size
012173	Potassium pentachlororuthenate(III) hydrate, 99.95% (metals basis), Ru 25.4% min	1g, 5g
043435	Ruthenium(III) nitrosylacetate, Premion <sup>®</sup> , 99.99% (metals basis)	1g, 5g
043436	Ruthenium(III) nitrosylsulfate, Premion <sup>®</sup> , 99.99% (metals basis)	1g, 5g
H35482	(R,R)-Teth-MsDPEN-RuCl, Ru 18.5%	1g
011877	Potassium perruthenate(VII), 97%	1g, 5g
011806	Ruthenium(III) chloride oxide, ammoniated, Ru 35.0% min	1g, 5g
B24511	Tetra-n-propylammonium perruthenate(VII), 98%	0.1g, 0.5g, 2.5g
H35703	[(R,R)-MsDPEN-Ru(mesitylene)Cl], Ru 18.5%	1g
H35185	[(R,R)-Teth-TsDPEN-RuCl], Ru 16.3%	1g
011804	Ruthenium(IV) oxide, anhydrous, Premion <sup>®</sup> , 99.95% (metals basis), Ru 75.2% min	0.5g, 2g, 10g
040336	Ruthenium(IV) oxide, Electronic Grade, Premion <sup>®</sup> , 99.95% (metals basis), Ru typically 74%	0.5g, 2g, 10g
043098	Ruthenium(IV) sulfide, 99.9% (metals basis)	1g, 5g
H26891	Bis(2-methylallyl)(1,5-cyclooctadiene)ruthenium(II)	1g
H35115	[(R)-Binap RuCl benzene]Cl	1g
H35609	[(S)-Binap RuCl benzene]Cl	1g
012781	Bis(cyclopentadienyl)ruthenium, Ru 43.2% min	1g, 5g
H35605	DPPF RuCl <sub>2</sub> AMPY	1g
H36851	[(S)-Binap RuCl p-cymene]Cl	250mg, 500mg, 1g
011805	Ruthenium(III) iodide, anhydrous, Ru 20.5% min	1g, 5g
011807	Ruthenium(III) bromide, Ru 29% min	1g, 5g
010511	Hexaammineruthenium(III) chloride, Ru 32.1% min	0.25g, 1g, 5g
010568	Ruthenium(III) 2,4-pentanedionate, Ru 24% min	1g, 5g
H35726	[(S,S)-Teth-MsDPEN-RuCl], Ru 18.5%	1g
041716	Potassium aquapentachlororuthenate(III), Premion <sup>®</sup> , 99.99% (metals basis), Ru 26.4% min	1g, 5g
H36026	[(R)-Binap RuCl p-cymene]Cl	250mg, 500mg, 1g
010534	Potassium pentachloronitrosylruthenate(II), Ru 25.8%	0.25g, 1g
011043	Ruthenium(III) chloride hydrate, 99.9% (PGM basis), Ru 38% min	2g, 10g, 50g
043364	Ruthenium(III) chloride hydrate, Premion <sup>®</sup> , 99.99% (metals basis)	2g, 10g
010507	Dodecacarbonyltriruthenium, 99%	1g, 5g
010504	Dichlorotris(triphenylphosphine)ruthenium(II), Premion <sup>®</sup> , 99.95% (metals basis), Ru 10.2% min	1g, 5g
L00373	Dichlorotris(triphenylphosphine)ruthenium(II), 97%	1g, 5g, 25g
012778	cis-Bis(2,2'-bipyridine)dichlororuthenium(II) dihydrate, Ru 19% min	1g, 5g
H37993	[(R,R)-TsDPEN-Ru(mesitylene)Cl]	1g
010520	Chloropentaammineruthenium(III) chloride, Ru 33.5% min	1g, 5g
011874	Ammonium hexachlororuthenate(IV), Ru 28.4% min	1g, 5g
016622	Ruthenium(III) nitrosylchloride, Ru 42.1% min	1g, 5g
H30264	Chloro(p-cymene)-N-(p-toluenesulfonyl)-(R,R)-1,2-cyclohexanediamineruthenium(I), 97%	250mg, 1g



Item No.	Description	Size
010503	Tricarbonyldichlororuthenium(II) dimer	1g
040399	Potassium hexachlororuthenate(IV), Premion <sup>®</sup> , 99.95% (metal basis), Ru 25.3% min	1g, 5g
040524	Carbonyldihydridotris(triphenylphosphine) ruthenium(II), 99%	0.5g, 2g, 10g
044547	Potassium hexachlororuthenate(III), Premion <sup>®</sup> , 99.99% (metals basis), Ru 23% min	1g, 5g
H35297	[(S,S)-MsDPEN-Ru(mesitylene)Cl], Ru 18.5%	1g
012628	Ruthenium(III) bromide hydrate, Ru 25% min	1g, 5g
044800	(R)-P-Phos Ruthenium (acac) <sub>2</sub>	0.1g
043089	Ruthenium(III) nitrosylchloride hydrate	1g, 5g
011803	Ruthenium(IV) oxide hydrate, Ru 54% min	1g, 5g, 25g
043403	Ruthenium(IV) oxide hydrate, Premion <sup>®</sup> , 99.99% (metals basis), Ru 54-60%	1g, 5g, 25g
H35478	[(S,S)-MsDPEN-Ru(p-cymene)Cl], Ru 18%	1g
046430	Chloro(cyclopentadienyl)bis(triphenylphosphine) ruthenium(II) ethanol adduct	1g, 5g
011876	Potassium hexacyanoruthenate(II) hydrate, Ru 23.0% min	0.2g, 2g, 10g
012175	Ruthenium(III) nitrosylnitrate, Ru 31.3% min	1g, 5g, 25g
012630	Ruthenium(III) nitrosylnitrate solution, Ru 1.5% w/v	50ml, 250ml, 1000ml
044006	Tris(2,2,6,6-tetramethyl-3,5-heptanedionato) ruthenium(III), 99%	0.5g, 2g
044802	(R)-Xyl-P-Phos RuCl <sub>2</sub> (R,R)-DPEN, Ru 8.9%	0.1g
012783	Tris(2,2'-bipyridine)dichlororuthenium(II) hexahydrate, 98+%	0.5g, 2g
010494	Dichloro(1,5-cyclooctadiene)ruthenium(II), polymer	1g, 5g
L19126	Dichloro(p-cymene)ruthenium(II) dimer, 98%	500mg, 2g, 10g
011748	Ruthenium, 5% on activated carbon powder, reduced	5g, 25g, 100g
011749	Ruthenium, 5% on alumina powder	5g, 25g, 100g
011757	Ruthenium, 10% on activated carbon powder, reduced	5g, 25g, 100g
012354	Ruthenium black, 99.9% (metals basis)	2g, 10g
038332	Ruthenium, 0.5% on granular carbon	25g, 100g
043048	Ruthenium, 0.5% on 3 mm alumina tablets	25g, 100g
044338	Ruthenium, 5% on activated carbon powder, reduced, nominally 50% water wet	5g, 25g, 100g
044575	Ruthenium, 2% on 3.18mm (0.125in) alumina pellets	25g, 100g, 500g
044593	Ruthenium, 4% on 6.35mm (0.25in) alumina rings	100g, 500g
039297	Bis(pentamethylcyclopentadienyl)ruthenium	500mg
H36477	[DPPB RuCl <sub>2</sub> AMPY]	1g
H35805	[(S,S)-Teth-TsDPEN-RuCl], Ru 16.3%	1g
H35146	(R)-Tol-Binap RuCl <sub>2</sub> AMPY	1g
046886	Diiodo(p-cymene)ruthenium(II) dimer	1g, 5g
H35347	(R)-Xyl-P-Phos RuCl <sub>2</sub> (R)-Daipen, Ru 8.1%	1g
046629	Chloro(pentamethylcyclopentadienyl) bis(triphenylphosphine)ruthenium(II)	1g
046803	Chloro(1,5-cyclooctadiene) (pentamethylcyclopentadienyl)ruthenium(II)	1g
046348	Dichloro(pentamethylcyclopentadienyl)ruthenium(III) polymer	1g

## 08 Silver Compounds

Item No.	Description	Size
045034	Silver on alumina, 3%-4% Ag	25g, 100g, 500g
011417	Silver sulfate, ACS, 98% min	25g, 100g
012112	Silver sulfate, Premion <sup>®</sup> , 99.999% (metals basis)	5g, 25g, 100g
041443	Silver sulfate, Premion <sup>®</sup> , 99.99% (metals basis), Ag 68.9% min	25g, 100g
011608	Silver hexafluoroarsenate, 98+%	2g, 10g
040129	Silver hydrogen fluoride, 99% min	10g, 50g
044858	Silver lactate solution, Ag 4-5% w/w (cont. Ag)	c1g, c5g, c25g
022695	Silver(II) oxide, 98%	5g, 25g, 100g
040187	Silver(II) oxide, 99.9% (metals basis), Ag 86.6% min	5g, 25g, 100g
039661	Silver tungsten oxide, 99%	10g, 50g
044828	Silver metavanadate	5g, 25g
044228	Silver arsenate, 99.99% (metals basis)	5g, 25g, 100g
039650	Silver molybdenum oxide, 99%	0.25g, 1g
011539	Silver tetrafluoroborate, 99%	10g, 50g
011624	Silver perchlorate monohydrate, 99.9% (metals basis)	2g, 10g, 50g, 250g
011898	Silver diethyldithiocarbamate, ACS	10g, 50g
020835	Silver lactate	10g, 50g
011897	Silver thiocyanate	10g, 50g
044480	Silver perrhenate, 99.99% (metals basis)	1g, 5g, 25g
011407	Silver(I) oxide, 99+% (metals basis)	25g, 100g, 500g
042577	Silver(I) oxide, 99.99% (metals basis)	1g, 5g, 25g, 4x25g
043268	Silver(I) oxide, Electrical Grade	250g, 1kg
045496	Silver(I) citrate hydrate	5g, 25g, 100g
011416	Silver sulfide, 99%	5g, 25g, 100g
012113	Silver sulfide, Premion <sup>®</sup> , 99.995% (metals basis)	5g, 25g
089473	Silver sulfide, 99.9+% (metals basis)	5g, 25g
018641	Silver methanesulfonate	10g, 50g
045494	Silver(I) behenate	5g, 25g, 100g
011538	Silver hexafluoroantimonate, 99%	1g, 5g, 25g
088722	Silver trifluoromethanesulfonate, 98%	2g, 10g, 50g
013933	Silver trifluoroacetate, 98%	5g, 25g
018585	Silver salicylate hydrate	5g, 25g
011896	Silver benzoate hydrate	5g, 25g, 100g
011420	Silver carbonate, 99.5% (metals basis)	25g, 100g
018202	Silver carbonate on Celite, $\Delta=0.7$ mmole Ag <sub>2</sub> CO <sub>3</sub> /g reagent	15mmol, 75mmol
011660	Silver acetate, anhydrous, 99%	25g, 100g
043708	Silver cyclohexanecarboxylate	1g, 5g, 25g
011609	Silver(I) fluoride, 98%	5g, 25g
010857	Silver chloride, Premion <sup>®</sup> , 99.997% (metals basis)	5g, 25g, 100g
011421	Silver chloride, 99.9% (metals basis)	25g, 100g, 500g
035715	Silver chloride, ultra dry, 99.997% (metals basis)	1g, 5g, 100g, 25g
087342	Silver chloride, 95%	25g, 100g, 500g
042209	Silver perchlorate, anhydrous	5g, 25g, 100g
011610	Silver(II) fluoride, 98+%	2g, 10g, 50g
011419	Silver iodide, 99.9% (metals basis)	25g, 100g
012111	Silver iodide, Premion <sup>®</sup> , 99.999% (metals basis)	5g, 25g, 100g
040107	Silver chromate, 99% min	25g, 100g
045495	Silver(I) chromate, 99.9% (metals basis)	5g, 25g, 100g
039306	Mercury(II) silver iodide	5g, 25g, 100g
011415	Silver phosphate, 99%	5g, 25g
011425	Silver bromide, 99.5%	5g, 25g, 100g
012110	Silver bromide, Premion <sup>®</sup> , 99.998% (metals basis)	5g, 25g, 100g

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