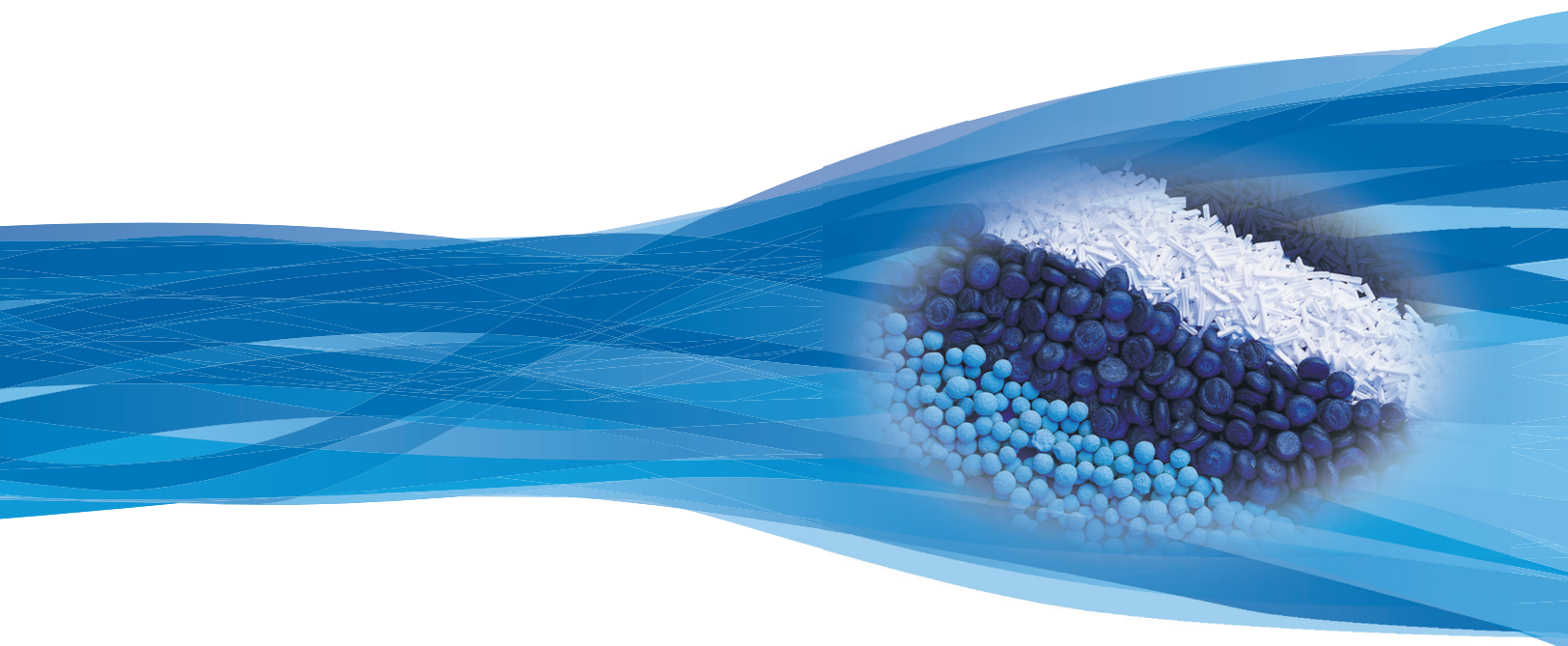


Chemical Catalysts

Products



Johnson Matthey
Catalysts

Name	Composition	Shape	Size (mm)	Application
Alcohols				
HTC NI 400 RP 1.2	Ni, alumina	TE	1.2	hydrogenation
HTC NI 400 RP 2.5	Ni, alumina	TE	2.5	hydrogenation
HTC NI 500 RP 1.2	Ni, alumina	TE	1.2	hydrogenation
HTC NI 600 RP 1.2	Ni, alumina	TE	1.2	hydrogenation
PRICAT CU 60/35	Cu, silica	P		hydrogenation (aldehydes, nitro compounds)
PRICAT CU 60/35	Cu, silica	T	*1)	hydrogenation (aldehydes, nitro compounds)
PRICAT CZ 29/2	Cu, Zn	T	5.4 x 3.7	oxygen removal, aldehyde hydrogenation
PRICAT CZ 30/18	Cu, Zn, alumina	T	*1)	aldehyde hydrogenation
PRICAT CZ 40/18	Cu, Zn, alumina	T	*1)	aldehyde hydrogenation
PRICAT NI 60/15	Ni, alumina, kieselguhr	P		hydrogenation
PRICAT NI 60/15	Ni, alumina, kieselguhr	T	*1)	hydrogenation
PRICAT NI 62/15	Ni, alumina, kieselguhr	P		hydrogenation
Type 349/1	Pd, alumina	TE	2.5	2-ethyl hexenal selective hydrogenation
Type 349/4	Pd, alumina	TE	2.5	2-ethyl hexenal selective hydrogenation
Type 358	Pd, alumina	S	4-6	2-ethyl hexenal selective hydrogenation

Olefins

HTC NI 100 RP 2.5	Ni, alumina	TE	2.5	selective hydrogenation
HTC NI 100 RPS 2.5	Ni, alumina	TE	2.5	selective hydrogenation
HTC NI 200 OX 2.5	Ni, alumina	TE	2.5	selective hydrogenation of dienes
HTC NI 200 OXS 2.5	Ni, alumina	TE	2.5	selective hydrogenation of dienes
HTC NI 200 RPS 2.5	Ni, alumina	TE	2.5	selective hydrogenation of dienes
HTC NI 400 OX 2.5	Ni, alumina	TE	2.5	selective hydrogenation of dienes
HTC NI 400 OXS 2.5	Ni, alumina	TE	2.5	selective hydrogenation of dienes
HTC NI 400 RP 1.2	Ni, alumina	TE	1.2	hydrogenation
HTC NI 400 RP 2.5	Ni, alumina	TE	2.5	hydrogenation
HTC NI 400 RPS 2.5	Ni, alumina	TE	2.5	selective hydrogenation of dienes
HCG 6300	Ni, alumina	4HC	35 x 20	active guard material to hydrogenation catalysts
KATALCO 11-4R	Ni, Ca-aluminate, Mg	T	5.4 x 3.6	hydrogen/carbon oxides methanation
PURASPEC 5158	Cu, Zn, sulphur	S	2-4	mercury removal cracker feed
PURASPEC 7040	ZnO/Fe free cement	S	1.68-3.35	sulphur removal from propylene
PURASPEC 7151	Cu, Zn, alumina	S	2.8-4.75	arsenic removal
PURASPEC 7158	Cu, Zn, sulphur	S	2-4	mercury removal C ₃ /C ₄ fraction
Type 146	Ru, alumina	T	3 x 3	CO or CO ₂ removal from H ₂ by methanation, ultrapurification
Type 306/3P	Pd, alumina, promoter	TE	2.5	MAPD liquid phase
Type 306/4P	Pd, alumina, promoter	TE	2.5	butadiene in C ₄ selective hydrogenation
Type 308/1	Pd, alumina	T	3.2 x 3.2	selective acetylene hydrogenation in ethylene (front end)
Type 308/4	Pd, alumina	T	3.2 x 3.2	selective acetylene hydrogenation in ethylene (tail end)
Type 308/8	Pd, alumina	T	3.2 x 3.2	MAPD vapour phase
Type 309/3	Pd, alumina	TE	2.5	MAPD liquid phase
Type 309/4	Pd, alumina	TE	2.5	C ₄ hydrogenation (selective and full)
Type 309/5	Pd, alumina	TE	2.5	C ₅ hydrogenation (selective and full)
Type 309/6	Pd, alumina	TE	2.5	selective hydrogenation of dienes
Type 309/7	Pd, alumina	TE	2.5	AMS and phenyl acetylene & general ethylene plant
Type 630	Ru, alumina	S	2-4	CO or CO ₂ removal from H ₂ by methanation, ultrapurification

4HC – 4 hole cylinder D – droplet E - extrudate G - granule P - powder R - ring S - sphere TE – trilobe extrudate T – tablet

*1) These tablets are available in the following sizes (d x h in mm) 3.2x3.2, 5 x 4, 6x5, 10x6

Name	Composition	Shape	Size (mm)	Application
Solvents				
HTC 20X	Ni, alumina	TE	1.2	white oil hydrogenation
HTC NI 400 RP 1.2	Ni, alumina	TE	1.2	hydrogenation
HTC NI 400 RP 2.5	Ni, alumina	TE	2.5	hydrogenation
HTC NI 500 RP 1.2	Ni, alumina	TE	1.2	hydrogenation
HTC NI 600 RP 1.2	Ni, alumina	TE	1.2	hydrogenation
Type 309/8	Pd, alumina	TE	2.5	heavy gasoline, PAO
Hydrogen peroxide				
Type A 304 115-1	Pd, alumina	P	D50: 100 μ	slurry anthraquinone hydrogen peroxide process
Type 335	Pd, alumina	P	D50: 45 μ	slurry anthraquinone hydrogen peroxide process
Type 429	Pd, silica/alumina	P	D50: 140 μ	slurry anthraquinone hydrogen peroxide process
Type 460	Pd, alumina	S	2.5	fixed bed anthraquinone hydrogen peroxide process
Fluorochemicals				
PRICAT CP200A	Cr	T	3 x 3, 5.4 x 3	fluorination
Gas purification and VOC destruction				
PURAVOC 48	Pd, alumina	T	3 x 3	hydrogenation, dehydrogenation, O ₂ removal from H ₂ , N ₂ , Ar, CO ₂ by combination with H ₂
PURAVOC 50	Pd, alumina	T	3 x 3	hydrogenation, dehydrogenation, O ₂ removal from H ₂ , N ₂ , Ar, CO ₂ by combination with H ₂ , VOC destruction
PURAVOC 50A	Pd, alumina	S	4-8	hydrogenation, dehydrogenation, O ₂ removal from H ₂ , N ₂ , Ar, CO ₂ by combination with H ₂ , VOC destruction
PURAVOC 50B	Pd, alumina	S	2-4	hydrogenation, dehydrogenation, O ₂ removal from H ₂ , N ₂ , Ar, CO ₂ by combination with H ₂ , VOC destruction
PURAVOC 54	Pd, alumina	T	3 x 3	hydrogenation, dehydrogenation, O ₂ removal from H ₂ , N ₂ , Ar, CO ₂ by combination with H ₂
PURAVOC 73	Pt, alumina	T	3 x 3	VOC destruction, H ₂ removal from CO ₂ (for urea manufacturing)
PURAVOC 73A	Pt, alumina	S	4-8	VOC destruction, H ₂ removal from CO ₂ (for urea manufacturing)
PURAVOC 73B	Pt, alumina	S	2-4	VOC destruction, H ₂ removal from CO ₂ (for urea manufacturing)
PURAVOC 174	Pt, alumina	TE	2.5	VOC destruction
PURAVOC 263	Pt/promoter	S	2-4	VOC destruction
PURAVOC 305	Pd/Pt, alumina	S	2-4	VOC destruction
PURAVOC 517	Rh, alumina	TE	2.5	VOC destruction
Caprolactam				
HTC NI 100 RP 2.5	Ni, alumina	TE	2.5	benzene hydrogenation
HTC NI 400 RP 2.5	Ni, alumina	TE	2.5	benzene hydrogenation
PRICAT CU 60/8	Cu, silica	T	5 x 4, 6 x 5	dehydrogenation (cyclohexanol)
PRICAT CZ 29/3	Cu, Zn, alumina	T	5.3 x 3.1	dehydrogenation (cyclohexanol)
PRICAT CZ 29/8	Cu, Zn, alumina	T	5.3 x 3.1	dehydrogenation (cyclohexanol)
Type 73	Pt, alumina	T	3 x 3	benzene to cyclohexane, dehydrogenation, H ₂ O ₂ decomposition, H ₂ from O ₂ , Ar, N ₂ , CO ₂ , Air, He, He/Ar by combination with O ₂ , O ₂ from N ₂ by combination with CH ₄
Type 352	Pd, alumina	T	3 x 3	hydrogenation of phenol to cyclohexanone
Type 353	Pd, alumina	S	4-6	hydrogenation of phenol to cyclohexanone
Type 355	Pd, alumina	S	5	hydrogenation of phenol to cyclohexanone
Type 373	Pd	P		selective hydrogenation of nitrate to hydroxylamine
Type 454	Pd, alumina	R	4	hydrogenation of phenol to cyclohexanone
Type 464	Pd/Pt	P		selective hydrogenation of nitrate to hydroxylamine
Environmental				
ACCENT	Ni, alumina	TE	1.2	organics removal from aqueous streams
HYDECAT	Ni	E	2	hypochlorite destruction
ODORGARD	Ni	E	3.2	odour abatement from air streams

4HC – 4 hole cylinder D – droplet E - extrudate G - granule P - powder R - ring S - sphere TE – trilobe extrudate T – tablet

*1) These tablets are available in the following sizes (d x h in mm) 3.2 x 3.2, 5 x 4, 6 x 5, 10 x 6

Name	Composition	Shape	Size (mm)	Application
Specialty amines & aniline				
HTC CO 2000 1.2	Co, alumina	TE	1.2	hydrogenation of nitriles, reductive amination of aldehydes and ketones
HTC CO 2000 2.5	Co, alumina	TE	2.5	hydrogenation of nitriles, reductive amination of aldehydes and ketones
PRICAT CO 40/55	Co, Mg, kieselguhr	P	5 x 4, 6 x 5	amination reactions
PRICAT CO 40/55	Co, Mg, kieselguhr	T	5 x 4, 6 x 5	amination reactions
PRICAT NI 20/15	Ni, kieselguhr	D		hydrogenation of nitriles to amines
PRICAT NI 52/35	Ni, Cr, kieselguhr	P		amination reactions
PRICAT NI 52/35	Ni, Cr, kieselguhr	T	*1)	amination reactions
PRICAT NI 55/5	Ni, Mg, kieselguhr	P		hydrogenation
PRICAT NI 55/5	Ni, Mg, kieselguhr	T	*1)	hydrogenation
PRICAT NI 60/15	Ni, alumina, kieselguhr	P		hydrogenation of nitriles to amines
PRICAT NI 62/15	Ni, alumina, kieselguhr	P		hydrogenation of nitriles to amines
Type 310/2	Pd, alumina	TE	1.2, 2.5	aniline polishing

PGM on carbon

Type 38H	Pd	P		hydrogenation, dehalogenation
Type 39	Pd	P		debenzylation, olefin hydrogenation
Type 86	Pd	E	3	olefin hydrogenation, dehalogenation, DCA from MCA
Type 87L	Pd	P		hydrogenation, dehydrogenation, dehalogenation
Type 369	Pd	P		hydrogenation of substituted phenols to cyclohexanones
Type 500	Rh	G	0.5-2.5	Cl ₂ removal from electrolysis processes
Type 619	Ru	P		hydrogenation of aromatics, aliphatic carbonyls, sugars and selective oxidations

Purification

PURASPEC 3020	Zn	S	2.8-4.75	cold desulphurisation gas
PURASPEC 3040	Zn	S	1.68-3.35	cold desulphurisation liquids
PURASPEC 3110	alumina	S	3	chloride removal
PURASPEC 3335	alumina	S	3	caustic carryover trap, to protect acetylene hydrogenation catalyst
PURASPEC 3450	Cu, Zn, alumina	S	2.8-4.7	O ₂ /CO removal
PURASPEC 7030	Cu, Zn, alumina	S	2.8-4.75	cold desulphurisation
PURASPEC 7040	Zn	S	1.68-3.35	cold desulphurisation liquids
PURASPEC 7085	Cu, Zn, alumina	S	1.68-3.35	H ₂ S/RSH removal from naphtha
PURASPEC 7086	Cu, Zn, alumina	E	1.5 x 5	H ₂ S/RSH/sulphide removal from liquid hydrocarbons
PURASPEC 7110	alumina	S	3	chloride removal
PURASPEC 7151	Cu, Zn, alumina	S	2.8-4.75	arsine removal
PURASPEC 7152	proprietary	S	3-5	arsine removal
PURASPEC 7156	Cu, Zn	S	2.8-4.75	mercury removal
PURASPEC 7158	Cu, Zn, sulphur	S	2.0-4.0	mercury removal
PURASPEC 7312	alumina	S	3	COS hydrolysis

Catalyst support bed material

KATALCO 92-1 B	alumina	S	6	
KATALCO 92-1 C	alumina	S	10	
KATALCO 92-1 D	alumina	S	13	
KATALCO 92-2 A to J	alumina/silica	S	various	

Custom catalysts

If the choice of proprietary catalysts we offer does not provide precisely the performance you seek, we can customise products in the portfolio, develop an innovative solution jointly with you or custom manufacture your catalyst.

4HC – 4 hole cylinder D – droplet E – extrudate G – granule P – powder R – ring S – sphere TE – trilobe extrudate T – tablet

*1) These tablets are available in the following sizes (d x h in mm) 3.2 x 3.2, 5 x 4, 6 x 5, 10 x 6

For further information on Johnson Matthey Catalysts, contact your local sales office or visit our website at www.jmcatalysts.com
ACCENT, HYDECAT, ODORGARD, PRICAT, PURASPEC, PURAVOC, Sponge Metal, SMOPEX, KATALCO and PURACARE are trademarks of the Johnson Matthey Group of companies.