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814028	232	815330.25	205	816610.1	234	818422	216
814029	230	815330.5	205	816620.1	234	818423	216
814030	233	815340.1	205	816710.01	234	818432	216
814100	230	815340.5	205	816720.01	234	818442	216
814101	233	815350.1	205	817001	229	818666	233
814102	233	815350.25	205	817002	229	821005	213
814103	233	815350.5	205	817003	229	821010	213
814104	233	815360.1	205	817004	229	821010.200	213
814200	232	815360.25	205	817005	229	821015	213
814201	232	815360.5	205	817006	229	821020	213
814202	232	815380.1	205	817007	229	821025	213
814203	233	815380.25	205	817008	229	821030	213
814204	232	815380.5	205	818001	223	821040	213
814205	232	815381.1	205	818023	224	821040.200	213
814206	233	815381.25	205	818024	224	821050	213
814300	232	815381.5	205	818030.20	215	821060	213
814301	232	815390.1	205	818032	215	821110	217
814302	233	815390.25	205	818033	215	821120	217
814400	232	815390.5	205	818129	215	821140	217
814401	233	815400.1	205	818130.20	215	821150	217
814402	233	815400.25	205	818131	215		
814403	233	815400.5	205	818132	215		
814404	233	815410.1	205	818133	215		
814405	232	815430.1	205	818141	218		
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814407	232	815510.5	205	818144	220		
814500	232	815530.1	205	818145	220		
814919	233	815530.5	205	818146	220		
814920	233	815540.1	205	818147	220		



Trademarks

MACHERY-NAGEL trademarks

ALUGRAM	coated aluminium sheets for TLC
CHROMABOND	columns for solid phase extraction (SPE)
CHROMAFIL	syringe filters (membrane filters)
CHROMAFIX	cartridges for solid phase extraction (SPE)
ChromCart	cartridge system for HPLC
LIPODEX	fused silica capillary columns with cyclodextrin phases for GC enantiomer separation
NUCLEODUR	spherical high purity silica for HPLC
NUCLEOGEL	polymer-based HPLC columns
NUCLEOGEN	HPLC ion exchange columns for nucleic acid analyses
NUCLEOSHELL	core-shell silica phases for HPLC
NUCLEOSIL	spherical standard silica for HPLC
OPTIMA	fused silica high performance capillary columns with immobilized phases
OPTIMA WAXplus	fused silica high performance capillary columns with optimized polyethylene glycol phase
PERMABOND	fused silica capillary columns with immobilized phases
POLYGOSIL	irregular silica for HPLC
POLYGRAM	coated polyester sheets for TLC

Trademarks of other companies

Registered trademarks (®)

Accubond	Agilent Technologies Inc. (USA)	Kromasil	Eka Chemicals AB (Sweden)
Acquity	Waters Corp. (USA)	LiChrolut	Merck KGaA (Germany)
Allure	Restek Corp. (USA)	LiChrospher	Merck KGaA (Germany)
Aqua	Phenomenex Inc. (USA)	Luna	Phenomenex Inc. (USA)
Ascentis	Sigma-Aldrich Co. (USA)	MicroLab	Hamilton Co. (USA)
Atlantis	Waters Corp. (USA)	MultiProbe	PerkinElmer Inc. (USA)
AutoTrace	Caliper Life Sciences Inc. (USA)	Oasis	Waters Corp. (USA)
AVICEL	FMC Corp. (USA)	Polaris	Agilent Technologies Inc. (USA)
Biomek	Beckman Coulter Inc. (USA)	ProntoSil	Bischoff Chromatography (Germany)
Biotage	Biotage AB (Sweden)		
Bond Elut	Varian Inc. (USA)	Purospher	Merck KGaA (Germany)
Celite	Manville Corp. (USA)	Pyrex	Corning Inc. (USA)
Cheminert	Valco Instruments Co. Inc. / VICI AG	Quadra 3	Tomtec Inc. (USA)
ChiralCel	Daicel Chemical Industries Ltd. (Japan)	RapidTrace	Caliper Life Sciences Inc. (USA)
ChiralPak	Daicel Chemical Industries Ltd. (Japan)	Rxi	Restek Corp. (USA)
Clean Screen	UCT United Chemical Technologies Inc. (USA)	Rtx	Restek Corp. (USA)
CLEAN-UP	UCT United Chemical Technologies Inc. (USA)	Sep-Pak	Waters Corp. (USA)
CombiFlash	Teledyne Isco Inc. (USA)	SOTAX	Sotax AG (Schweiz)
Companion	Teledyne Isco Inc. (USA)	Spherisorb	Waters Corp. (USA)
Discovery	Sigma-Aldrich Co. (USA)	Stabilwax	Restek Corp. (USA)
Duran	Schott AG (Germany)	Styre Screen	UCT United Chemical Technologies Inc. (USA)
epMotion	Eppendorf AG (Germany)	Superspher	Merck KGaA (Germany)
Eurocel	Knauer GmbH (Germany)	Symmetry	Waters Corp. (USA)
EXtrelut	Merck KGaA (Germany)	Synergi	Phenomenex Inc. (USA)
Fiolax	Schott AG (Germany)	Vespel	E. I. du Pont de Nemours & Co. (USA)
Florisil	U.S. Silica Co.	VICI	Valco Instruments Co. Inc. / VICI AG
Gemini	Phenomenex Inc. (USA)	Viton	DuPont Performance Elastomers (USA)
Hypersil	Thermo Fisher Scientific Inc. (USA)	Xterra	Waters Corp. (USA)
HyPurity	Thermo Fisher Scientific Inc. (USA)	YMC	YMC Co. Ltd. (Japan)
Inertsil	GL Sciences (Japan)	ZIC	Merck Sequant AB (Sweden)
Isco	Teledyne Isco Inc. (USA)	Zorbax	Agilent Technologies Inc. (USA)
Isolute	Biotage AB (Sweden)	Zymark	Caliper Life Sciences Inc. (USA)
		Zymate	Caliper Life Sciences Inc. (USA)



Common law trademarks (™)

AmyCoat	Eka Chemicals AB (Sweden)	Hypersil	Thermo Fisher Scientific Inc. (USA)
ASPEC	Gilson Inc. (USA)	HyPURITY	Thermo Fisher Scientific Inc. (USA)
AT	Alltech Associates Inc. (USA)	Kinetex	Phenomenex Inc. (USA)
Bakerbond	Mallinckrodt Baker Inc. (USA)	Lux	Phenomenex Inc. (USA)
Benchmate	Caliper Life Sciences Inc. (USA)	Obelisc	Sielc Technologies (USA)
BPX	SGE Analytical Sciences Pty Ltd. (Australien)	Nukol	Sigma-Aldrich Co. (USA)
Carbowax	Union Carbide Corp. (USA)	PEEK	Victrex plc. (UK)
CelluCoat	Eka Chemicals AB (Sweden)	Porapak	Waters Corp. (USA)
Chem Elut	Varian Inc. (USA)	Poroshell	Agilent Technologies Inc. (USA)
DB	J&W Scientific Inc. (USA)	SPB	Sigma-Aldrich Co. (USA)
Equity	Sigma-Aldrich Co. (USA)	Select	Agilent Technologies Inc. (USA)
FlashMaster	Biotage AB (Sweden)	Sequant	Merck Sequant AB (Sweden)
Flash 12i	Biotage AB (Sweden)	Strata	Phenomenex Inc. (USA)
Focus	Varian Inc. (USA)	SunFire	Waters Corp. (USA)
Genesis	Tecan Group AG	Supelclean	Sigma-Aldrich Co. (USA)
Hydromatrix	Varian Inc. (USA)	Supelcosil	Sigma-Aldrich Co. (USA)
HyperSep	Thermo Fisher Scientific Inc. (USA)	Supelcowax	Sigma-Aldrich Co. (USA)
		SymmetryShield	Waters Corp. (USA)

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USP list of MN HPLC phases

Code	Specification	MN HPLC phases	Page
USP L1	Octadecyl silane chemically bonded to porous silica particles, 1.8 to 10 µm diameter	NUCLEODUR [®] C ₁₈ ec	133
		NUCLEODUR [®] C ₁₈ Gravity	116
		NUCLEODUR [®] C ₁₈ HTec	130
		NUCLEODUR [®] C ₁₈ Isis	120
		NUCLEODUR [®] C ₁₈ PAH	168
		NUCLEODUR [®] C ₁₈ Pyramid	122
		NUCLEODUR [®] PolarTec	124
		NUCLEODUR [®] Sphinx RP	128
		NUCLEOSHELL [®] RP 18	148
		NUCLEOSIL [®] C ₁₈	157
		NUCLEOSIL [®] C ₁₈ AB	144
		NUCLEOSIL [®] C ₁₈ HD	158
		NUCLEOSIL [®] C ₁₈ MPN	182
		NUCLEOSIL [®] C ₁₈ PAH	170
NUCLEOSIL [®] C ₁₈ PPN	183		
USP L3	Porous silica particles, 5 to 10 µm diameter	NUCLEODUR [®] SiOH	142
		NUCLEOSIL [®] SiOH	165
USP L7	Octyl silane chemically bonded to totally porous silica particles, 1.8 to 10 µm diameter	NUCLEODUR [®] C ₈ ec	133
		NUCLEODUR [®] C ₈ Gravity	116
		NUCLEOSIL [®] C ₈	160
		NUCLEOSIL [®] C ₈ HD	161
USP L8	An essentially monomolecular layer of aminopropyl silane chemically bonded to totally porous silica gel support, 3 to 10 µm diameter	NUCLEODUR [®] NH ₂ / NH ₂ -RP	161
		NUCLEOSIL [®] Carbohydrate	185
		NUCLEOSIL [®] NH ₂ / NH ₂ -RP	163
USP L9	Irregular or spherical, totally porous silica gel having a chemically bonded, strongly acidic cation exchange coating, 3 to 10 µm diameter	NUCLEOSIL [®] SA	164
USP L10	Nitrile groups chemically bonded to porous silica particles, 3 to 10 µm diameter	NUCLEODUR [®] CN / CN-RP	138
		NUCLEOSIL [®] CN / CN-RP	164
USP L11	Phenyl groups chemically bonded to porous silica particles, 3 to 10 µm diameter	NUCLEODUR [®] Sphinx RP	128
		NUCLEOSIL [®] C ₆ H ₅	162
USP L14	Silica gel having a chemically bonded, strongly basic quaternary ammonium anion exchange coating, 5 to 10 µm diameter	NUCLEOSIL [®] SB	165
USP L16	Dimethyl silane chemically bonded to porous silica particles, 5 to 10 µm dia.	NUCLEOSIL [®] C ₂	162
USP L17	Strong cation exchange resin consisting of sulfonated cross-linked PS/DVB copolymer in the H form, 7 to 11 µm particles	NUCLEOGEL [®] ION 300 OA	187
		NUCLEOGEL [®] SUGAR 810 H	186
USP L19	Strong cation exchange resin consisting of sulfonated cross-linked PS/DVB copolymer in the Ca form, ~ 9 µm particles	NUCLEOGEL [®] SUGAR 810 Ca	186
		NUCLEOGEL [®] SUGAR Ca	187
USP L20	Dihydroxypropane groups chemically bonded to porous silica particles, 5 to 10 µm diameter	NUCLEOSIL [®] OH (Diol)	162
USP L21	A rigid, spherical styrene-divinylbenzene copolymer, 5 to 10 µm particles	NUCLEOGEL [®] RP	184
USP L22	Cation exchange resin with porous polystyrene gel with sulfonic acid groups, ~ 10 µm particles	NUCLEOGEL [®] SCX	181
USP L23	Anion exchange resin of porous polymethacrylate or polyacrylate gel with quaternary ammonium groups, ~ 10 µm particles	NUCLEOGEL [®] SAX	181
USP L26	Butyl silane chemically bonded to totally porous silica particles, 5 to 10 µm diameter	NUCLEOSIL [®] C ₄	161
		NUCLEOSIL [®] C ₄ MPN	182
USP L32	A chiral ligand exchange packing · L-proline copper complex covalently bonded to irregularly shaped silica particles, 5 to 10 µm diameter	NUCLEOSIL [®] CHIRAL-1	176
USP L34	Strong cation exchange resin consisting of sulfonated cross-linked PS/DVB copolymer in the Pb form, ~ 9 µm particles	NUCLEOGEL [®] SUGAR Pb	187
USP L36	A 3,5-dinitrobenzoyl derivative of L-phenylglycine, covalently bonded to 5 µm aminopropyl silica	NUCLEOSIL [®] CHIRAL-3	177
USP L40	Cellulose tris-(3,5-dimethylphenylcarbamate) coated porous silic, 5 to 20 µm particles	NUCLEOCEL DELTA	174
USP L43	Pentafluorophenyl groups chemically bonded to silica particles by a propyl spacer, 5 to 10 µm diameter	NUCLEODUR [®] PFP	126
		NUCLEOSHELL [®] PFP	150
USP L45	Beta-cyclodextrin bonded to porous silica particles, 5 to 10 µm diameter	NUCLEODEX β-OH, β-PM	172

USP list of MN GC phases



Code	Specification	MN HPLC phases	Page
USP L58	Strong cation exchange resin consisting of sulfonated cross-linked PS/DVB copolymer in the Na form, ~ 7 to 11 µm particles	NUCLEOGEL® SUGAR Na	187
USP L60	Spherical porous silica gel, covalently modified with alkyl amide groups and endcapped, 3 or 5 µm particles	NUCLEODUR® PolarTec	124
		NUCLEOSIL® C ₁₈ Nautilus	148

Code	Specification	MN GC phases	Page
USP G1 / G2	Dimethylpolysiloxane oil	OPTIMA® 1	242
		OPTIMA® 1 MS	243
		OPTIMA® 1 MS Accent	244
		OPTIMA® 1-TG	274
		PERMABOND® SE-30	264
		PERMABOND® P-100	277
USP G3	50% phenyl – 50% methylpolysiloxane	OPTIMA® 17	255
		OPTIMA® 17 MS	256
		OPTIMA® 17-TG	274
USP G6	Trifluoropropylmethylpolysiloxane	OPTIMA® 210	257
USP G7	50% 3-cyanopropyl – 50% phenylmethylpolysiloxane	OPTIMA® 225	258
USP G16	Polyethylene glycol (av. mol. weight ~ 15 000); a high molecular weight compound of polyethylene glycol and a diepoxide	OPTIMA® WAX	260
		OPTIMA WAXplus®	261
		PERMABOND® CW 20 M	265
		PERMABOND® CW 20 M-DEG	279
		FS-CW 20 M-AM	277
USP G19	25% phenyl – 25% cyanopropyl – 50% methylpolysiloxane	OPTIMA® 225	258
USP G25	A high molecular weight compound of a polyethylene glycol esterified with terephthalic acid	OPTIMA® FFAP	262
		OPTIMA® FFAPplus	263
		PERMABOND® FFAP	265
USP G27	5% phenyl – 95% methylpolysiloxane	OPTIMA® 5	245
		OPTIMA® 5 Amine	276
		OPTIMA® 5 HT	275
		OPTIMA® 5 MS	246
		OPTIMA® 5 MS Accent	247
		PERMABOND® SE-52	264
USP G28	25% phenyl – 75% methylpolysiloxane	OPTIMA® 35 MS	254
USP G32	20% phenylmethyl – 80% dimethylpolysiloxane	OPTIMA® 35 MS	254
USP G35	A high molecular weight compound of a polyethylene glycol and a diepoxide esterified with nitroterephthalic acid	OPTIMA® FFAP	262
		OPTIMA® FFAPplus	263
		PERMABOND® FFAP	265
USP G36	1% vinyl – 5% phenylmethylpolysiloxane	OPTIMA® 5	245
		OPTIMA® 5 Amine	276
		OPTIMA® 5 HT	275
		OPTIMA® 5 MS	246
		OPTIMA® 5 MS Accent	247
		PERMABOND® SE-54 HKW	278
USP G38	Dimethylpolysiloxane oil	OPTIMA® 1	242
		OPTIMA® 1 MS	243
		OPTIMA® 1 MS Accent	244
		OPTIMA® 1-TG	274
		PERMABOND® SE-30	264
		PERMABOND® P-100	277
USP G42	35% phenyl – 65% dimethylpolysiloxane	OPTIMA® 35 MS	254
USP G43	6% cyanopropylphenyl – 94% dimethylpolysiloxane	OPTIMA® 1301	251
		OPTIMA® 624	252
		OPTIMA® 624 LB	252
USP G46	14% cyanopropylphenyl – 86% methylpolysiloxane	OPTIMA® 1701	253
USP G49	Proprietary derivatized phenyl groups on a polysiloxane backbone	OPTIMA® δ-3	249

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